

*Enclosures . . .*

|                         |
|-------------------------|
| <p>... for Industry</p> |
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**ROSE+BOPLA**

A Phoenix Mecano Company

*We are Dedicated to  
Achieving Customer  
Satisfaction Through  
Continuous  
Improvement.*



Rose+Bopla, the enclosure companies of Phoenix Mecano AG, an international corporation based in Switzerland, has developed a broad range of products for industrial applications. The North American operation is located in Frederick, Maryland.

The Rose division manufactures an extensive line of off-the-shelf and custom enclosures,

machine control enclosures and suspension arm systems suited for industrial applications and harsh environments in a variety of materials including: cast and extruded aluminum; stainless steel; compression molded fiberglass and polyamide; and injection molded polycarbonate and ABS plastic.

Bopla produces a diverse line of modular tabletop, instrumentation, hand-held and wall-mountable plastic enclosures designed to meet today's demands for aesthetic electronic packaging.

Rose+Bopla adheres to DIN Standards in the manufacture of high quality components, and we offer a wide variety of added value services for customizing our products. At our Maryland facility in the US we operate a machine shop for modifying and building product, complete with CNC Machining Centers, powder coat and wet painting operations, as well as silk screening, engraving, and assembly services. In addition, our engineering personnel are available to assist in the design or customization of your product. We employ advanced manufacturing techniques and strict quality control methods. Meticulous internal controls built into our Quality system ensure that every Rose+Bopla enclosure meets critical quality standards. Our workmanship is unsurpassed in the industry.

**Let Rose+Bopla be your partner for  
standard or customized enclosures.**

We have attempted to present the information about our enclosures in this catalog in a straight-forward manner. We offer this information as accurate at the time of publication. Specifications are subject to change without notice. Rose+Bopla is not responsible for inadvertent errors.

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Phoenix Mecano Inc. is ISO 9001:2000 Certified.

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## Choosing an Enclosure

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### *GENERAL CONSIDERATIONS*

Generally, enclosures are intended to protect their contents from outside risks. These risks can be varied in nature and are of extreme importance when choosing an enclosure. In judging whether a particular housing meets the protection requirements of your application, a clear analysis of the environment where the enclosure is to be used should be made.

The following conditions need to be taken into account:

1. Protection against contact with and penetration by foreign bodies;
2. Protection against water ingress;
3. Protection against external or internal radiated noise (RFI Shielding);
4. Chemical resistance;
5. Temperature resistance;
6. Impact resistance;
7. Corrosion resistance.

In electronics/electrical engineering, the functions of enclosures are two-fold:

1. To protect the contents from mechanical risks and radiated noise from the outside.
2. To protect the environment from mechanical and electrical risks, as well as from radiated noise caused by installed components.

With the ever-increasing development of electronic components, the increased packing densities on printed circuit boards, and the increased "contamination" of the environment by electromagnetic interference, electromagnetic compatibility is becoming an issue of growing importance in the choice of an enclosure.

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### *MATERIAL CONSIDERATIONS*

In most applications, material is a major factor in your choice of an enclosure. In general, aluminum is ideal for EMI/RFI applications; fiberglass is ideal for caustic environments and salt-water applications; polycarbonate is good for all indoor and light outdoor applications; and ABS is well suited for indoor instrumentation designs.

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### *PROTECTION CLASSIFICATIONS*

Rose+Bopla enclosures are classified under the generally applicable European protection guidelines of EN 60529 and IEC 144. These protection classifications are indicated by a designation consisting of two unchanging letters, IP, plus two digits for the protection grade. Many of the enclosures in this catalog bear the IP 66 or IP 65 protection classification.

IP 65: Protection against ingress by dust and water jets

IP 66: Protection against ingress by dust and powerful water jets

Specific product lines are classified according to UL 50 and UL 508. These include aluminum, fiberglass, and plastic. Also noted in this catalog are recommended classification types like NEMA and UL, which are commonly used in the USA. Please contact the appropriate association or agency for complete information regarding test requirements and qualifications. Refer to the Technical Information Chapter in this catalog for more information on Protection Classifications.

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### *TEMPERATURE RESISTANCE*

The temperature resistance of enclosures is defined as the maximum permanent temperature at which the stability of the shape and the protection classification are maintained. Permissible short-term peak temperatures are often considerably higher.

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### *CORROSION RESISTANCE OF ALUMINUM ENCLOSURES*

Aluminum enclosures are resistant to corrosion even without a special surface treatment. The use of aluminum alloys with a low copper content increases corrosion resistance. Additional treatments such as irriditing, painting, powder-coating, or a combination of irriditing and painting provide increased corrosion resistance.

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### *IMPACT RESISTANCE*

Impact resistance is a measurement of the maximum impact that will not affect the protection classification. The breaking strength is often far greater. Impact resistance for Rose+Bopla enclosures is determined in an impact test to EN 50014.



## Enclosure Comparison Chart

|                                 | Metal | Plastic | Watertight | Indoor | Outdoor | Industrial | Hazardous Areas | Operator Interface | Wall Mount | Display | Control Panel | Membrane | Terminal | Cabinet | Handheld | Desktop | Console |
|---------------------------------|-------|---------|------------|--------|---------|------------|-----------------|--------------------|------------|---------|---------------|----------|----------|---------|----------|---------|---------|
| Aluminum Watertight 01          | •     |         | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Aluform                         | •     |         | •          | •      | •       | •          |                 | •                  |            |         | •             | •        |          |         |          |         |         |
| Stainless Steel Watertight 37   | •     |         | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Fiberglass Watertight 02        |       | •       | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Polymas Watertight PK           |       | •       | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Polycarbonate 03                |       | •       | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Polycarbonate 33                |       | •       | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Polycarbonate EM                |       | •       | •          | •      | •       | •          |                 | •                  | •          |         | •             | •        |          |         |          |         |         |
| ABS Watertight 09               |       | •       | •          | •      |         | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| ABS Watertight ET               |       | •       | •          | •      |         | •          |                 | •                  | •          |         | •             | •        |          |         |          |         |         |
| Aluminum Ex                     | •     |         | •          | •      | •       | •          | •               | •                  |            |         |               | •        |          |         |          |         |         |
| Polyglas® Ex                    |       | •       | •          | •      | •       | •          | •               | •                  |            |         |               | •        |          |         |          |         |         |
| Okta-Box Ex                     |       | •       | •          | •      | •       | •          | •               | •                  |            |         |               | •        |          |         |          |         |         |
| Stainless Steel Ex              | •     |         | •          | •      | •       | •          | •               | •                  |            |         |               | •        |          |         |          |         |         |
| Fiberglass Modular Flange       |       | •       | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Polycarbonate Modular Flange    |       | •       | •          | •      | •       | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Element                         |       | •       |            | •      |         |            |                 | •                  |            |         |               |          |          | •       | •        |         |         |
| Executive                       |       | •       |            | •      |         |            |                 | •                  | •          |         | •             |          |          | •       | •        | •       |         |
| ECO/PCI Compact                 |       | •       | •          | •      |         | •          |                 | •                  |            |         |               | •        |          |         |          |         |         |
| Build-A-Box                     | •     |         | •          | •      | •       | •          |                 | •                  |            |         |               |          |          |         | •        |         |         |
| ANG Panel Meter Housings        | •     | •       | •          | •      | •       | •          |                 | •                  | •          | •       | •             |          |          |         |          |         |         |
| Alubos                          | •     |         | •          | •      | •       | •          |                 | •                  | •          |         | •             |          |          | •       |          | •       |         |
| TG Handheld Series              |       | •       |            | •      |         |            |                 |                    | •          |         | •             |          |          | •       |          |         |         |
| BG Handheld Series              |       | •       | •          | •      | •       | •          | •               |                    | •          |         | •             |          |          | •       |          |         |         |
| Tastomat                        |       | •       | •          | •      | •       | •          | •               | •                  | •          |         | •             |          |          | •       | •        |         |         |
| Pilot 250                       |       | •       | •          | •      | •       | •          | •               | •                  | •          |         | •             |          |          | •       |          |         |         |
| Mobile Control Units            |       | •       | •          | •      | •       | •          | •               | •                  | •          |         | •             |          |          | •       |          |         |         |
| Arteb                           |       | •       | •          | •      |         |            | •               |                    | •          |         | •             |          |          | •       |          |         |         |
| Databoss                        |       | •       |            | •      |         |            |                 |                    | •          |         | •             |          |          | •       |          |         |         |
| Limanda                         |       | •       | •          | •      | •       | •          | •               |                    | •          |         | •             |          |          | •       |          |         |         |
| CombiCard                       |       | •       | •          | •      |         | •          |                 | •                  | •          | •       | •             | •        |          |         | •        |         |         |
| CombiSet                        |       | •       | •          | •      |         | •          |                 | •                  | •          | •       |               | •        |          |         |          |         |         |
| Intercard                       |       | •       | •          | •      |         |            |                 | •                  |            |         |               | •        |          |         |          |         |         |
| RCP Housings                    |       | •       | •          | •      |         | •          |                 | •                  |            |         | •             | •        |          |         |          |         |         |
| CombiBac                        | •     | •       | •          | •      |         | •          |                 | •                  | •          |         |               | •        |          |         |          |         |         |
| Ultramas                        |       | •       |            | •      |         |            |                 | •                  |            |         |               |          |          |         | •        | •       |         |
| 1300 Machine Control Enclosures | •     |         | •          | •      |         | •          | •               | •                  | •          | •       | •             | •        |          |         |          |         |         |
| 5400 Machine Control Enclosures | •     |         | •          | •      |         | •          | •               |                    | •          | •       |               |          |          |         |          |         |         |
| Slim Line 2000                  | •     |         | •          | •      |         | •          | •               | •                  | •          | •       | •             |          |          |         |          | •       |         |
| Rose Suspension Arm System      | •     |         | •          | •      |         | •          |                 | •                  |            |         |               |          |          |         |          |         |         |
| 4925 Support System             | •     |         |            | •      |         | •          |                 | •                  |            |         |               |          |          |         |          |         |         |
| 8850 Support System             | •     |         |            | •      |         | •          |                 | •                  |            |         |               |          |          |         |          |         |         |
| NGS Panel Meter Housings        |       | •       |            | •      |         |            |                 | •                  | •          | •       | •             |          |          |         |          |         |         |
| Fiberglass Watertight Cabinets  |       | •       | •          | •      | •       | •          |                 | •                  |            |         |               | •        | •        |         |          |         |         |
| ABS Watertight Mini Cabinets    |       | •       | •          | •      |         | •          |                 | •                  |            |         |               | •        | •        |         |          |         |         |
| Mini Console Housings           |       | •       |            | •      |         |            |                 | •                  |            |         | •             |          |          |         | •        | •       |         |
| BP 810 & BP 900 F Housings      |       | •       |            | •      |         |            |                 |                    |            |         | •             |          |          |         | •        | •       |         |
| Futura Sloped Housings          |       | •       |            | •      |         |            |                 |                    | •          |         | •             |          |          | •       | •        | •       |         |
| Profitronic 19                  | •     |         | •          | •      | •       | •          |                 | •                  | •          |         |               | •        |          |         | •        |         |         |
| Profitronic 19 Universal        | •     |         | •          | •      | •       | •          |                 | •                  | •          |         |               | •        |          |         | •        |         |         |

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## Secondary Services

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### *IRRIDITING/ CHROMATING/ ANODIZING*

For greater chemical resistance to corrosion in aluminum housings, consider using a chemical treatment process like irriditing, chromating, or anodizing. Subsequent priming and painting give lasting protection from corrosive attacks. Anodizing is available in black, or clear as standard.



### *RFI/EMC SHIELDING*

RFI spray on plastic and fiberglass housings offers protection for your design against adverse interference or radiation. We can also install RFI gaskets, on request.



### *PAINTING POWDER/COATING*

We routinely paint to customer requirements in smooth or textured finishes, using Federal Standard 595A colors, RAL colors, or other special colors.



### *SCREEN PRINTING*

Using the screen print process, we are able to print your data on all housings and front plates. Silk-screen inks are available in several colors and are resistant to most solvents. Rose+Bopla creates screens in-house and can provide artwork services, if required.



### *ENGRAVING*

Rose+Bopla offers engraving services using any alphabet or outline. Engraving is performed in-house by computer controlled machines.



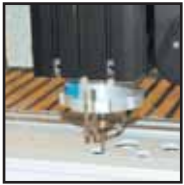
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## Secondary Services

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*DRILLING*

We can drill holes through all housings in tolerances to 0.002 of an inch.



*TAPPING*

Using NPT, Metric, or PG taps, we can thread holes in your housings to your specifications, on request.



*MILLING*

Our CNC processing center enables us to carry out difficult machining work to tight tolerances. The program for your job will be stored ensuring that future orders can be repeated with the same accuracy and quality.



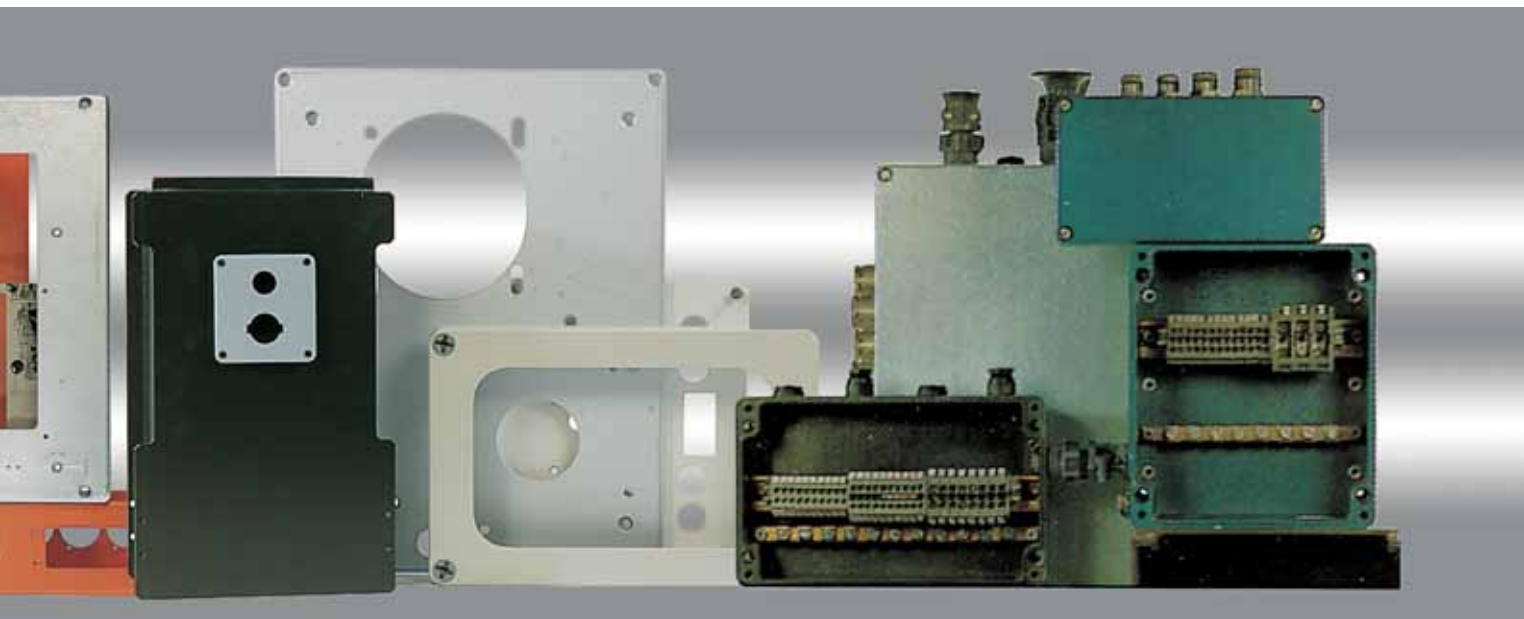
*ASSEMBLY*

On request, we install accessories such as cable grips, conduit hubs, terminal blocks, DIN Rail assemblies, wiring, hinges, optional gaskets, and customer components into your housings.



*PANEL WORK*

Rose+Bopla fabricates panels using various thicknesses of plate aluminum and plastic material, as well as screen printing information on panels..all to your specifications.



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## Terms and Conditions

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This is an overview of our Terms and Conditions. A full written version is available on request. Terms and Conditions are subject to change without notice

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### *CATALOG LISTINGS*

Most products listed in this catalog are available, at our stocking location in Frederick, Maryland. On occasion slow moving items may have to be brought in from our sister company in Germany. All specifications and descriptions are current, as of the time of publication. Product listings, specifications, availability, and pricing are subject to change without notice. Detailed drawings are available on the internet and directly from the company on request.

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### *PRODUCT WARRANTY*

Phoenix Mecano Inc. warrants all its products to be free from defects in materials and workmanship. Phoenix Mecano's liability under this warranty shall be limited to ninety days after delivery of the product to the original purchaser. Disputed product must be returned to Phoenix Mecano with prepaid transportation charges. After examination by Phoenix Mecano, should the product be found to be defective we will repair or replace it from our factory. Any defect is to be determined by accepted testing methods at Phoenix Mecano Inc. Any returned product found to be defective would become the property of Phoenix Mecano, Inc.

Phoenix Mecano Inc. shall not be liable to the purchaser for the cost of repairs, alterations, replacement, or any other expenses (including loss of profits, additional labor costs, or injury to persons or property caused by defective material or parts) incurred by the purchaser, their employees, or agents. One exception would be where Phoenix Mecano had previously authorized such repairs, alterations, or consequential damages.

This warranty shall not apply to products, which have been altered or repaired, except by Phoenix Mecano, Inc., or which have been subjected to misuse, negligence, or accident, including the use or operation of the products while parts are loose, broken, out of order, or damaged by the elements.

This warranty supersedes all other warranties, expressed or implied, including any implied warranty of merchantability, and of all other obligations or liability on the part of Phoenix Mecano, Inc.

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### *PRICING*

Rose+Bopla offers standard OEM pricing based on quantity price breaks. For pricing information please contact the Rose+Bopla sales staff or your local distributor. Prices are subject to change without notice.

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### *RETURNS*

Submit your drawings for pricing information on our secondary services, such as, CNC machining, painting, EMC/RFI spray shielding, silk-screening, chemical coating, and engraving...just to mention a few of the customizing services we offer.

1. All returns must be accompanied by an RMA (return merchandise authorization). Please call your inside salesperson for an RMA number. Invoice or Packing Slip number must accompany return.
  2. All returns due to customer error must be made within 30 days from the date of the invoice.
  3. Warranty returns must be made within 90 days from the date of the invoice.
  4. All returned product must be in resalable condition and in the original carton.
  5. Off-the-shelf parts, returned due to customer error, are subject to a minimum 15% restocking charge.
  6. Defective merchandise returns are evaluated on an individual basis.
  7. Parts that have been modified and special order items are not returnable.
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### *METHODS OF PAYMENT*

Rose+Bopla has four methods of payment; Net 30 day credit, C.O.D, credit card and pre-payment.

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## Terms and Conditions

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|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NET 30 ACCOUNTS</b>                  | Net 30-account status is generally granted to qualified customers with appropriate credit and banking references. Terms of payment are net 30 days. Past due accounts are subject to late payment charge of 1½% per month.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>C.O.D. ACCOUNTS</b>                  | C.O.D. orders for product that has value added operations performed by Rose+Bopla require 50% down payment at time of order. The balance will be collected at time of shipment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>CREDIT CARD ACCOUNTS</b>             | Rose+Bopla accepts American Express, Discover, Master Card, Visa, or electronic funds transfers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>PREPAYMENTS</b>                      | Payments can be made electronically directly to our bank account. Please contact an Accounts Receivable representative for our banking information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>TO OPEN A NEW ACCOUNT</b>            | To open a new account, please complete the credit application form in the back of this catalog. Fill out all references for credit contact. Names, addresses and telephone numbers will speed processing of your application. Rose+Bopla must have the credit application filled out in writing and signed BY CUSTOMER ONLY. Applications may be mailed or faxed (301-696-9493) to our Accounting Department in order to process a credit request. Please allow sufficient processing time.                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>SALES TAX</b>                        | We are required by law to charge and collect Maryland sales tax. If you wish to avoid being charged state sales tax, you must submit a state sales tax exemption certificate annually to Rose+Bopla. Sales tax will always be charged unless otherwise indicated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>MINIMUM ORDER</b>                    | All orders are subject to a minimum order value of \$100.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>SHIPMENT DAMAGE</b>                  | Our products are inspected and carefully packed for shipment. In the event an item is damaged in shipment, you must submit a claim to the carrier within 15 days of delivery. We advise that you unpack and inspect all merchandise immediately upon receiving it. If damage does not become apparent until the shipment is unpacked, keep the shipping carton and make a request within 72 hours for inspection by the carrier's agent and file a claim with the carrier. Any external evidence of loss or damage must be noted on the freight bill. Failure to do this will result in the carrier refusing to honor the claim. Rose+Bopla will not be responsible for shipment damage or lost parts due to such damage.                                                                                                                                                             |
| <b>DELIVERY</b>                         | Items are shipped F.O.B. Frederick, Maryland. All orders are shipped UPS unless the weight prohibits shipment by this method. On heavier shipments we will attempt to ship by the carrier of your choice.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>SAME DAY SHIPMENT</b>                | All orders to be shipped Air and received by 4 p.m. EST are shipped the same day. All UPS shipments are prepaid and charges added to the invoice, unless otherwise requested.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>LARGE ITEMS AND SPECIAL HANDLING</b> | For heavy shipments, common carrier truck is the most economical. Charges are F.O.B. shipping point and the product is shipped freight prepaid and charges are added to your invoice, unless otherwise requested.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>BLANKET ORDERS</b>                   | <ol style="list-style-type: none"><li>1. A "Blanket Purchase Order" is an agreement between two parties, "Seller/Buyer" to purchase a specific quantity of products over a specified period of time "Not to Exceed 12 Months".</li><li>2. Blanket Orders cannot be changed or canceled without 90-day advance written notice. Customer will be responsible for all parts manufactured for shipment within this 90-day period.</li><li>3. Blanket Orders canceled for standard enclosures will result in customer being billed back for the difference between the price break of quantity received, versus total quantity ordered.</li><li>4. Blanket Orders for modified or special order products must state Non-cancelable/Non-returnable on the Purchase Order.</li><li>5. All Blanket Orders must have firm ship dates stated on the Purchase Order for every release.</li></ol> |

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## Drawings & Design Information

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**DESIGNING WITH ROSE+BOPLA** Rose+Bopla offers the engineer faced with packaging requirements an enormous advantage in finding a solution. Electronic products need enclosures. Our ability to deliver off-the-shelf enclosures makes Rose+Bopla one of the most important partners an engineer could ask for when bringing a product to market. We offer both electrical and electronic enclosures and have one of the widest ranges of standard off-the-shelf enclosures in the industry. Rose+Bopla also offers years of expertise in machining and other value added services, as well as technical support from an experienced technical sales force. Rose+Bopla also guarantees all secondary services and machining 100%, thereby eliminating scrap and additional costs.

The benefits of designing with Rose+Bopla enclosures are: cost savings, elimination of custom tool/molding expense, a large off-the-shelf inventory, no scrap, machining expertise and over 30 years experience in enclosure manufacturing. Take advantage of our experience and reduce your frustrations from dealing with multiple vendors. Rose+Bopla can offer you a turnkey solution that is 100% guaranteed.

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**DRAWINGS** Rose+Bopla recognizes that dimensional information is very important to our customers. Therefore, we have taken advantage of other media channels to provide more comprehensive drawing information. For more detailed dimensional information, or for CAD drawings:

1. Contact our inside Rose+Bopla sales staff by telephone at 301-696-9800.
2. Download drawing(s) from our website at [www.rose-bopla.com](http://www.rose-bopla.com). All product drawings are not available on the website. Our internal sales staff has access to a larger library of drawings. Please feel free to call us if you do not find the product drawing you need.
3. Request that the drawing(s) be sent to you via e-mail, by contacting us by phone, 301-696-9800, or fax us at 301-696-9494.

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**CUSTOM DESIGNS** Rose+Bopla not only supplies empty standard enclosures, but can also provide and deliver custom designs. We have skilled technical support personnel in-house that will work with your engineering staff on a custom enclosure design for your next product. By means of direct communications with you, the customer, we can create an individual solution to fit your precise requirements.

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**SPECIAL MATERIALS** Rose+Bopla can injection-mold most plastic enclosures in special colors and/or special materials. Minimum quantities for special injection runs range from 500 to 1,000 units depending on the enclosure. For special colors, please send us a sample of the color you would like to match. Rose+Bopla cannot guarantee an exact color match. If you need a special material for improved flame retardancy, impact resistance, chemical resistance, etc., let us know specifically what specifications you need to meet. We will suggest a material suitable for use in our molds that meets your requirements.

The universal design of ROSE industrial enclosures made from Aluminum, Fiberglass, Stainless Steel, Polycarbonate, ABS, and Polystyrene is the basis of their versatility.

They are designed to accommodate mechanical parts as well as electrical and electronic components. Apart from standard versions, flange enclosures are also available in Aluminum, Fiberglass, and Polycarbonate.



## **Aluform Aluminum Enclosure**

- 14 enclosure sizes from 80 x 80 x 80 mm to 200 x 280 x 70mm
- Application area: its elegant design makes it ideal for use in areas where the visual impression is important.

## **Standard Aluminum Enclosures / Aluminum Flange Enclosures**

- 48 enclosure sizes from 45 x 50 x 30 mm to 600 x 600 x 200 mm
- Application area: standard industrial enclosures

## **Standard Fiberglass Enclosures**

- 26 enclosure sizes from 55 x 55 x 37 mm to 405 x 400 x 120 mm
- Application area: standard industrial enclosures

## **Fiberglass Flange Enclosures**

- 6 enclosure sizes from 170 x 270 x 135 mm to 270 x 540 x 150 mm with two flange openings
- Application area: fieldbus and installation enclosures

## **Standard Polycarbonate/ABS Enclosures**

- 25 enclosure sizes from 50 x 52 x 35 mm to 360 x 400 x 150 mm
- Application area: standard installation enclosures

## **Polycarbonate Flange Enclosures**

- 6 enclosure sizes from 134 x 170 x 130 mm to 369 x 440 x 130 mm with 2 to 6 flange openings
- Application area: standard installation enclosures

## **ECO/PCI Compact Enclosures**

- 47 enclosure sizes from 65 x 65 x 57 mm to 254 x 355 x 165 mm

## **GRP 3040/4060 Fiberglass Cabinets**

- 5 enclosure sizes from 300 x 400 x 200 mm to 400 x 600 x 250 mm
- Application area: robust universal cabinet with hinged lid

## **GFK Fiberglass/ABS Mini Cabinets**

- 4 enclosure sizes from 199 x 248.5 x 149 mm to 250 x 300 x 170 mm
- Application area: universal cabinet with hinged lid for measurement/control technology

## **GRP Fiberglass Mini Cabinets**

- 6 enclosure sizes from 120 x 200 x 100 mm to 200 x 300 x 170 mm
- Application area: robust mini-cabinets with hinged lid for measurement/control technology

## Aluform, Painted



- Aluminum enclosure system for automation engineering
- Lid designed for membrane keypads and overlays
- Rectangular dome sequence in cover and base

### Included in delivery

Aluminum enclosure consisting of lid, base, captive stainless steel lid screws, and removable polyurethane gasket



### Technical Data

|                        |                                                                                                                                       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Material               | Al Si 12, DIN 1725                                                                                                                    |
| Ingress Protection     | IP 66 to EN 60529                                                                                                                     |
| Impact Resistance      | >7 Nm, EN 50014                                                                                                                       |
| Temperature Resistance | Polyurethane seal: -40°F to +194°F<br>Neoprene seal: -40°F to +212°F<br>Silicone seal: -76°F to +266°F<br>RFI gasket: -40°F to +392°F |
| Painting               | Powdercoating                                                                                                                         |
| Color                  | Agate gray, similar to RAL 7038, special colors on request                                                                            |

| Part Number | Dimensions<br>mm | Dimensions<br>Inches | TS<br>DIN rails for<br>terminals | Mounting<br>Plate <sup>1)</sup> | External<br>brackets<br>pair | External<br>aluminum<br>hinges, pair <sup>3)</sup> | EMC<br>screening | Corrosion<br>resistant | Allen lid<br>screws <sup>2)</sup> |
|-------------|------------------|----------------------|----------------------------------|---------------------------------|------------------------------|----------------------------------------------------|------------------|------------------------|-----------------------------------|
|             | W x L x H        | W x L x H            | TS 15                            | TS 35                           |                              |                                                    |                  |                        |                                   |
| 04080808 00 | 80 x 80 x 80     | 3.15 x 3.15 x 3.15   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04081208 00 | 80 x 120 x 80    | 4.72 x 3.15 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04101006 00 | 100 x 100 x 60   | 3.94 x 3.94 x 2.40   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04101606 00 | 100 x 160 x 60   | 3.94 x 6.30 x 2.40   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04102006 00 | 100 x 200 x 60   | 3.94 x 7.87 x 2.40   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04121208 00 | 120 x 120 x 80   | 4.72 x 4.72 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04121608 00 | 120 x 160 x 80   | 6.30 x 4.72 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04141407 00 | 140 x 140 x 70   | 5.51 x 5.51 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04141807 00 | 140 x 180 x 70   | 5.51 x 7.09 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04142207 00 | 140 x 220 x 70   | 5.51 x 8.66 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04161608 00 | 160 x 160 x 80   | 6.30 x 6.30 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04162408 00 | 160 x 240 x 80   | 9.45 x 6.30 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04202007 00 | 200 x 200 x 70   | 7.87 x 7.87 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04202807 00 | 200 x 280 x 70   | 7.87 x 11.02 x 2.80  | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |

<sup>1)</sup> Phenolic

<sup>2)</sup> Stainless steel

<sup>3)</sup> Cast aluminum

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

|                                                                      |             |
|----------------------------------------------------------------------|-------------|
| External brackets, pair for 0408                                     | 04000080 00 |
| External brackets, pair for 0410                                     | 04000001 00 |
| External brackets, pair for 0412                                     | 04002001 00 |
| External brackets, pair for 0414                                     | 04004001 00 |
| External brackets, pair for 0416                                     | 04006001 00 |
| External brackets, pair for 0420                                     | 04000002 00 |
| Console holder for wall or table mounting 98 mm wide, for type 0410  | 04300009 00 |
| Console holder for wall or table mounting 138 mm wide, for type 0414 | 04300014 00 |
| External hinges, pair, painted                                       | 04000010 00 |



## Aluform, Unpainted



- Aluminum enclosure system for automation engineering
- Lid designed for membrane keypads and overlays
- Rectangular dome sequence in cover and base

### Included in delivery

Aluminum enclosure consisting of lid, base, captive stainless steel lid screws, and removable polyurethane gasket



### Technical Data

|                        |                                                                                                                                       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Material               | Al Si 12, DIN 1725                                                                                                                    |
| Ingress Protection     | IP 66 to EN 60529                                                                                                                     |
| Impact Resistance      | >7 Nm, EN 50014                                                                                                                       |
| Temperature Resistance | Polyurethane seal: -40°F to +194°F<br>Neoprene seal: -40°F to +212°F<br>Silicone seal: -76°F to +266°F<br>RFI gasket: -40°F to +392°F |
| Painting               | Powdercoating                                                                                                                         |
| Color                  | Agate gray, similar to RAL 7038, special colors on request                                                                            |

| Part Number | Dimensions<br>mm | Dimensions<br>Inches | TS<br>DIN rails for<br>terminals | Mounting<br>Plate <sup>1)</sup> | External<br>brackets<br>pair | External<br>aluminum<br>hinges, pair <sup>3)</sup> | EMC<br>screening | Corrosion<br>resistant | Allen lid<br>screws <sup>2)</sup> |
|-------------|------------------|----------------------|----------------------------------|---------------------------------|------------------------------|----------------------------------------------------|------------------|------------------------|-----------------------------------|
|             | W x L x H        | W x L x H            | TS 15                            | TS 35                           |                              |                                                    |                  |                        |                                   |
| 04080808 85 | 80 x 80 x 80     | 3.15 x 3.15 x 3.15   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04081208 85 | 80 x 120 x 80    | 4.72 x 3.15 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04101006 85 | 100 x 100 x 60   | 3.94 x 3.94 x 2.40   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04101606 85 | 100 x 160 x 60   | 3.94 x 6.30 x 2.40   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04102006 85 | 100 x 200 x 60   | 3.94 x 7.87 x 2.40   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04121208 85 | 120 x 120 x 80   | 4.72 x 4.72 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04121608 85 | 120 x 160 x 80   | 6.30 x 4.72 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04141407 85 | 140 x 140 x 70   | 5.51 x 5.51 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04141807 85 | 140 x 180 x 70   | 5.51 x 7.09 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04142207 85 | 140 x 220 x 70   | 5.51 x 8.66 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04161608 85 | 160 x 160 x 80   | 6.30 x 6.30 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04162408 85 | 160 x 240 x 80   | 9.45 x 6.30 x 3.19   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04202007 85 | 200 x 200 x 70   | 7.87 x 7.87 x 2.80   | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |
| 04202807 85 | 200 x 280 x 70   | 7.87 x 11.02 x 2.80  | •                                | •                               | •                            | •                                                  | •                | •                      | •                                 |

<sup>1)</sup> Phenolic

<sup>2)</sup> Stainless steel

<sup>3)</sup> Cast aluminum

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories (Painted)

|                                                                      |             |
|----------------------------------------------------------------------|-------------|
| External brackets, pair for 0408                                     | 04000080 00 |
| External brackets, pair for 0410                                     | 04000001 00 |
| External brackets, pair for 0412                                     | 04002001 00 |
| External brackets, pair for 0414                                     | 04004001 00 |
| External brackets, pair for 0416                                     | 04006001 00 |
| External brackets, pair for 0420                                     | 04000002 00 |
| Console holder for wall or table mounting 98 mm wide, for type 0410  | 04300009 00 |
| Console holder for wall or table mounting 138 mm wide, for type 0414 | 04300014 00 |
| External hinges, pair, unpainted                                     | 04000010 85 |

## Standard & Flange Aluminum Enclosures, Painted



- Robust aluminum enclosure for mechanical and automation engineering
- Standard enclosures prepared for acceptance of DIN rail and mounting plates
- Flange enclosures with 4, 6, or 8 flange openings

### Included in delivery

Aluminum diecast enclosure consisting of lid with seal and captive stainless steel screws; base with 2 or 4 ground screws; flange enclosures with flange openings (please order flange plates separately).



UL 508

UL 50

### Technical Data

|                        |                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Material               | Al Si 12, DIN 1725                                                                                                                  |
| Ingress Protection     | IP 66 to EN 60529. Flange: IP 65 EN 60526                                                                                           |
| Impact Resistance      | >7 Nm, EN 50014                                                                                                                     |
| Temperature Resistance | Neoprene gasket: -40°F to +212°F<br>Silicone gasket: -76°F to +266°F<br>RFI gasket: -40°F to +392°F<br>Polyurethane -40°F to +194°F |
| Painting               | Powdercoating                                                                                                                       |
| Color                  | Silver gray, similar to RAL 7001, special colors on request                                                                         |

| Part Number                                                  | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number     | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H |
|--------------------------------------------------------------|-------------------------------|-----------------------------------|-----------------|-------------------------------|-----------------------------------|-------------|-------------------------------|-----------------------------------|
| Standard enclosures                                          |                               |                                   |                 |                               |                                   |             |                               |                                   |
| 01050503 00                                                  | 45 x 50 x 30                  | 1.77 x .97 x .45                  | 01122208 00     | 120 x 220 x 80                | 4.72 x 8.66 x 3.19                | 01232018 00 | 230 x 200 x 180               | 9.13 x 7.95 x 7.09                |
| 01060603 00                                                  | 64 x 58 x 34                  | 2.52 x 2.28 x 1.34                | 01122209 00     | 120 x 220 x 90                | 4.72 x 8.66 x 3.58                | 01232811 00 | 230 x 280 x 110               | 9.06 x 11.02 x 4.37               |
| 01061003 00                                                  | 64 x 98 x 34                  | 3.86 x 2.52 x 1.34                | 01122212 00     | 120 x 220 x 120               | 4.72 x 14.17 x 3.19               | 01233311 00 | 230 x 330 x 110               | 9.06 x 12.99 x 4.37               |
| 01061503 00                                                  | 64 x 150 x 34                 | 2.52 x 5.91 x 1.34                | 01123608 00     | 120 x 360 x 80                | 5.51 x 5.51 x 3.58                | 01233318 00 | 230 x 330 x 180               | 9.06 x 12.99 x 7.13               |
| 01061903 00                                                  | 64 x 185 x 34                 | 2.52 x 7.28 x 1.34                | 01141409 00     | 140 x 140 x 90                | 5.51 x 7.87 x 3.58                | 01234011 00 | 230 x 400 x 110               | 9.06 x 15.75 x 4.37               |
| 01080806 00                                                  | 80 x 75 x 57                  | 3.15 x 2.95 x 2.24                | 01142009 00     | 140 x 200 x 90                | 5.51 x 7.87 x 3.58                | 01234023 00 | 230 x 400 x 224               | 9.06 x 15.75 x 8.86               |
| 01081306 00                                                  | 80 x 125 x 57                 | 3.15 x 4.92 x 2.24                | 01161609 00     | 160 x 160 x 90                | 6.30 x 6.30 x 3.58                | 01236011 00 | 230 x 600 x 110               | 9.06 x 23.62 x 4.37               |
| 01081806 00                                                  | 80 x 175 x 57                 | 3.15 x 6.89 x 2.24                | 01162609 00     | 160 x 260 x 90                | 6.30 x 10.24 x 3.58               | 01314011 00 | 310 x 400 x 110               | 12.32 x 15.91 x 4.37              |
| 01082505 00                                                  | 80 x 250 x 52                 | 3.15 x 9.84 x 2.05                | 01163609 00     | 160 x 360 x 90                | 6.30 x 14.17 x 3.58               | 01314014 00 | 310 x 400 x 140               | 12.32 x 15.91 x 5.55              |
| 01101008 00                                                  | 100 x 100 x 80                | 3.94 x 3.94 x 3.19                | 01165609 00     | 160 x 560 x 90                | 6.30 x 22.05 x 3.58               | 01314018 00 | 310 x 400 x 180               | 12.32 x 15.91 x 7.13              |
| 01101608 00                                                  | 100 x 160 x 80                | 3.94 x 6.30 x 3.19                | 01181810 00     | 180 x 180 x 100               | 7.09 x 7.09 x 3.98                | 01314023 00 | 310 x 400 x 226               | 12.32 x 15.91 x 8.94              |
| 01102008 00                                                  | 100 x 200 x 80                | 3.94 x 7.87 x 3.19                | 01182810 00     | 180 x 280 x 100               | 11.02 x 7.09 x 3.98               | 01316011 00 | 310 x 600 x 110               | 12.20 x 23.62 x 4.37              |
| 01121208 00                                                  | 120 x 122 x 80                | 4.72 x 4.80 x 3.19                | 01231011 00     | 100 x 230 x 110               | 3.94 x 9.06 x 4.33                | 01316018 00 | 310 x 600 x 180               | 12.20 x 23.62 x 7.13              |
| 01121209 00                                                  | 120 x 122 x 90                | 4.72 x 4.80 x 3.58                | 01232011 00     | 230 x 200 x 110               | 9.13 x 7.95 x 4.37                | 01606020 00 | 600 x 600 x 200               | 23.62 x 23.62 x 7.95              |
| Flange Enclosures                                            |                               |                                   | Flange openings |                               |                                   |             |                               |                                   |
| 11232011 00                                                  | 230 x 200 x 110               | 9.05 x 7.78 x 4.33                | 4               |                               |                                   |             |                               |                                   |
| 11232811 00                                                  | 230 x 280 x 110               | 9.05 x 11.02 x 4.33               | 4               |                               |                                   |             |                               |                                   |
| 11234011 00                                                  | 230 x 400 x 110               | 9.05 x 15.75 x 4.33               | 6               |                               |                                   |             |                               |                                   |
| 11236011 00                                                  | 230 x 600 x 110               | 9.05 x 23.62 x 4.33               | 8               |                               |                                   |             |                               |                                   |
| Aluminum Watertight Enclosures With External Mounting Flange |                               |                                   |                 |                               |                                   |             |                               |                                   |
| 01061200 00                                                  | 64 x 115 x 34.5               | 2.52 x 4.53 x 1.36                |                 |                               |                                   |             |                               |                                   |
| 01061900 00                                                  | 64 x 186 x 34.5               | 2.52 x 7.32 x 1.36                |                 |                               |                                   |             |                               |                                   |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Part Number                                                         | TS<br>DIN rails for<br>terminals | Mounting plate<br>thickness<br>in mm | External brackets<br>pair set <sup>1)</sup> | External<br>aluminum<br>hinges, pair <sup>3)</sup> | Hinges inside<br>pair <sup>2)</sup> | Corrosion<br>resistant | Allen lid<br>screws <sup>2)</sup> | Silicon lid seal up<br>to +266° F | Lead-sealable<br>steel lid screws |
|---------------------------------------------------------------------|----------------------------------|--------------------------------------|---------------------------------------------|----------------------------------------------------|-------------------------------------|------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| TS 15 TS 35 <sup>5)</sup>                                           |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| <b>Standard Enclosures</b>                                          |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| 01050503 00                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 |                                   |                                   |
| 01060603 00                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01061003 00                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01061503 00                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01061903 00                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01080806 00                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01081306 00                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01081806 00                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01082505 00                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 | •                                 |
| 01101008 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01101608 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01102008 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01121208 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01121209 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01122208 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01122209 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 0112221200                                                          | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01123608 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01141409 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01142009 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01161609 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01162609 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01163609 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01165609 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01181810 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01182810 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01231011 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01232011 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01232018 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01232811 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01233311 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01233318 00                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01234011 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01234023 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01236011 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314011 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314014 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314018 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314023 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01316011 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01316018 00                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01606020 00                                                         | •                                | 2.5                                  |                                             |                                                    |                                     | •                      |                                   | •                                 |                                   |
| <b>Flange Enclosures</b>                                            |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| 11232011 00                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 11232811 00                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 11234011 00                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 11236011 00                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| <b>Aluminum Watertight Enclosures With External Mounting Flange</b> |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| 01061200 00                                                         |                                  |                                      |                                             |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 01061900 00                                                         |                                  |                                      |                                             |                                                    |                                     | •                      | •                                 | •                                 | •                                 |

<sup>1)</sup> Galvanized Steel    <sup>2)</sup> Stainless Steel    <sup>3)</sup> Die Cast Aluminum    <sup>5)</sup> TS 32 on Request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories for Flange Enclosures

|              |          |
|--------------|----------|
| Blank flange | 10006001 |
|--------------|----------|

## Standard & Flange Aluminum Enclosures, Unpainted



- Robust aluminum enclosure for mechanical and automation engineering
- Standard enclosures prepared for acceptance of DIN rail and mounting plates
- Flange enclosures with 4, 6 or 8 flange openings

### Included in delivery

Aluminum diecast enclosure consisting of lid with seal and captive stainless steel screws; base with 2 or 4 ground screws; flange enclosures with flange openings (please order flange plates separately).



UL 508

UL 50

### Technical Data

|                        |                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Material               | Al Si 12, DIN 1725                                                                                                                  |
| Ingress Protection     | IP 66 to EN 60529. Flange: IP 65 EN 60526                                                                                           |
| Impact Resistance      | >7 Nm, EN 50014                                                                                                                     |
| Temperature Resistance | Neoprene gasket: -40°F to +212°F<br>Silicone gasket: -76°F to +266°F<br>RFI gasket: -40°F to +392°F<br>Polyurethane -40°F to +194°F |
| Painting               | Powdercoating                                                                                                                       |
| Color                  | Silver gray, similar to RAL 7001, special colors on request                                                                         |

| Part Number                                                         | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H |
|---------------------------------------------------------------------|-------------------------------|-----------------------------------|-------------|-------------------------------|-----------------------------------|-------------|-------------------------------|-----------------------------------|
| <b>Standard enclosures</b>                                          |                               |                                   |             |                               |                                   |             |                               |                                   |
| 01050503 85                                                         | 45 x 50 x 30                  | 1.77 x .97 x .45                  | 01122208 85 | 120 x 220 x 80                | 4.72 x 8.66 x 3.19                | 01232018 85 | 230 x 200 x 180               | 9.13 x 7.95 x 7.09                |
| 01060603 85                                                         | 64 x 58 x 34                  | 2.52 x 2.28 x 1.34                | 01122209 85 | 120 x 220 x 90                | 4.72 x 8.66 x 3.58                | 01232811 85 | 230 x 280 x 110               | 9.06 x 11.02 x 4.37               |
| 01061003 85                                                         | 64 x 98 x 34                  | 3.86 x 2.52 x 1.34                | 01122212 85 | 120 x 220 x 120               | 4.72 x 14.17 x 3.19               | 01233311 85 | 230 x 330 x 110               | 9.06 x 12.99 x 4.37               |
| 01061503 85                                                         | 64 x 150 x 34                 | 2.52 x 5.91 x 1.34                | 01123608 85 | 120 x 360 x 80                | 5.51 x 5.51 x 3.58                | 01233318 85 | 230 x 330 x 180               | 9.06 x 12.99 x 7.13               |
| 01061903 85                                                         | 64 x 185 x 34                 | 2.52 x 7.28 x 1.34                | 01141409 85 | 140 x 140 x 90                | 5.51 x 7.87 x 3.58                | 01234011 85 | 230 x 400 x 110               | 9.06 x 15.75 x 4.37               |
| 01080806 85                                                         | 80 x 75 x 57                  | 3.15 x 2.95 x 2.24                | 01142009 85 | 140 x 200 x 90                | 5.51 x 7.87 x 3.58                | 01234023 85 | 230 x 400 x 224               | 9.06 x 15.75 x 8.86               |
| 01081306 85                                                         | 80 x 125 x 57                 | 3.15 x 4.92 x 2.24                | 01161609 85 | 160 x 160 x 90                | 6.30 x 6.30 x 3.58                | 01236011 85 | 230 x 600 x 110               | 9.06 x 23.62 x 4.37               |
| 01081806 85                                                         | 80 x 175 x 57                 | 3.15 x 6.89 x 2.24                | 01162609 85 | 160 x 260 x 90                | 6.30 x 10.24 x 3.58               | 01314011 85 | 310 x 400 x 110               | 12.32 x 15.91 x 4.37              |
| 01082505 85                                                         | 80 x 250 x 52                 | 3.15 x 9.84 x 2.05                | 01163609 85 | 160 x 360 x 90                | 6.30 x 14.17 x 3.58               | 01314014 85 | 310 x 400 x 140               | 12.32 x 15.91 x 5.55              |
| 01101008 85                                                         | 100 x 100 x 80                | 3.94 x 3.94 x 3.19                | 01165609 85 | 160 x 560 x 90                | 6.30 x 22.05 x 3.58               | 01314018 85 | 310 x 400 x 180               | 12.32 x 15.91 x 7.13              |
| 01101608 85                                                         | 100 x 160 x 80                | 3.94 x 6.30 x 3.19                | 01181810 85 | 180 x 180 x 100               | 7.09 x 7.09 x 3.98                | 01314023 85 | 310 x 400 x 226               | 12.32 x 15.91 x 8.94              |
| 01102008 85                                                         | 100 x 200 x 80                | 3.94 x 7.87 x 3.19                | 01182810 85 | 180 x 280 x 100               | 11.02 x 7.09 x 3.98               | 01316011 85 | 310 x 600 x 110               | 12.20 x 23.62 x 4.37              |
| 01121208 85                                                         | 120 x 122 x 80                | 4.72 x 4.80 x 3.19                | 01231011 85 | 100 x 230 x 110               | 3.94 x 9.06 x 4.33                | 01316018 85 | 310 x 600 x 180               | 12.20 x 23.62 x 7.13              |
| 01121209 85                                                         | 120 x 122 x 90                | 4.72 x 4.80 x 3.58                | 01232011 85 | 230 x 200 x 110               | 9.13 x 7.95 x 4.37                | 01606020 85 | 600 x 600 x 200               | 23.62 x 23.62 x 7.95              |
| <b>Flange Enclosures</b>                                            |                               |                                   |             |                               |                                   |             |                               |                                   |
| <b>Flange openings</b>                                              |                               |                                   |             |                               |                                   |             |                               |                                   |
| 11232011 85                                                         | 230 x 200 x 110               | 9.05 x 7.78 x 4.33                | 4           |                               |                                   |             |                               |                                   |
| 11232811 85                                                         | 230 x 280 x 110               | 9.05 x 11.02 x 4.33               | 4           |                               |                                   |             |                               |                                   |
| 11234011 85                                                         | 230 x 400 x 110               | 9.05 x 15.75 x 4.33               | 6           |                               |                                   |             |                               |                                   |
| 11236011 85                                                         | 230 x 600 x 110               | 9.05 x 23.62 x 4.33               | 8           |                               |                                   |             |                               |                                   |
| <b>Aluminum Watertight Enclosures with External Mounting Flange</b> |                               |                                   |             |                               |                                   |             |                               |                                   |
| 01061200 85                                                         | 64 x 115 x 34.5               | 2.52 x 4.53 x 1.36                |             |                               |                                   |             |                               |                                   |
| 01061900 85                                                         | 64 x 186 x 34.5               | 2.52 x 7.32 x 1.36                |             |                               |                                   |             |                               |                                   |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Part Number                                                         | TS<br>DIN rails for<br>terminals | Mounting plate<br>thickness<br>in mm | External brackets<br>pair set <sup>1)</sup> | External<br>aluminum<br>hinges, pair <sup>3)</sup> | Hinges inside<br>pair <sup>2)</sup> | Corrosion<br>resistant | Allen lid<br>screws <sup>2)</sup> | Silicon lid seal up<br>to +266° F | Lead-sealable<br>steel lid screws |
|---------------------------------------------------------------------|----------------------------------|--------------------------------------|---------------------------------------------|----------------------------------------------------|-------------------------------------|------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| TS 15 TS 35 <sup>3)</sup>                                           |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| <b>Standard Enclosures</b>                                          |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| 01050503 85                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 |                                   |                                   |
| 01060603 85                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01061003 85                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01061503 85                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01061903 85                                                         |                                  |                                      |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01080806 85                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01081306 85                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01081806 85                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01082505 85                                                         | •                                | 1.5                                  |                                             |                                                    | •                                   | •                      | •                                 | •                                 |                                   |
| 01101008 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01101608 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01102008 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01121208 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01121209 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01122208 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01122209 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01122212 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01123608 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01141409 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01142009 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01161609 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01162609 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01163609 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01165609 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01181810 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01182810 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01231011 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01232011 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01232018 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01232811 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01233311 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01233318 85                                                         | •                                | 1.5                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01234011 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01234023 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01236011 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314011 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314014 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314018 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01314023 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01316011 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01316018 85                                                         | •                                | 2.0                                  | •                                           | •                                                  | •                                   | •                      | •                                 | •                                 | •                                 |
| 01606020 85                                                         | •                                | 2.5                                  |                                             |                                                    |                                     | •                      |                                   | •                                 |                                   |
| <b>Flange Enclosures</b>                                            |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| 11232011 85                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 11232811 85                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 11234011 85                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 11236011 85                                                         | •                                |                                      | •                                           |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| <b>Aluminum Watertight Enclosures With External Mounting Flange</b> |                                  |                                      |                                             |                                                    |                                     |                        |                                   |                                   |                                   |
| 01061200 85                                                         |                                  |                                      |                                             |                                                    |                                     | •                      | •                                 | •                                 | •                                 |
| 01061900 85                                                         |                                  |                                      |                                             |                                                    |                                     | •                      | •                                 | •                                 | •                                 |

<sup>1)</sup> Galvanized Steel    <sup>2)</sup> Stainless Steel    <sup>3)</sup> Die Cast Aluminum    <sup>5)</sup> TS 32 on Request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories for Flange Enclosures

|              |             |
|--------------|-------------|
| Blank flange | 10006001 85 |
|--------------|-------------|



## Fiberglass Watertight 02



- Robust enclosure for automation engineering
- Universal construction

### Included in delivery

Fiberglass enclosure consisting of lid, base, seal, and captive stainless steel lid screws.



### Technical Data

|                        |                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------|
| Material               | Glassfiber-reinforced, duroplastic Polyester                                                                 |
| Ingress Protection     | IP 66 to EN 60529                                                                                            |
| Impact Resistance      | >7 Nm, EN 50014                                                                                              |
| Flammability           | UL 94 V0                                                                                                     |
| Insulation             | Fully insulated to VDE 100                                                                                   |
| Temperature Resistance | Neoprene gasket: -40°F to +212°F<br>Silicone gasket: -76°F to +266°F<br>Polyurethane gasket: -40°F to +194°F |
| Disruptive Strength    | 18 KV/mm                                                                                                     |
| Toxicity               | Halogen-free                                                                                                 |
| Surface Resistance     | >10 <sup>12</sup> Ohm VDE 0303 DIN 53482                                                                     |
| Color                  | Gray, similar to RAL 7000, special colors on request                                                         |

| Part Number | Dimensions<br>mm | Dimensions<br>Inches | TS<br>DIN rails for<br>terminals |                     | Mounting<br>Plate<br>Thickness<br>in mm | External<br>brackets<br>pair <sup>2)</sup> | External<br>aluminum<br>hinges, pair <sup>3)</sup> | Allen lid<br>screws <sup>2)</sup> | Silicone lid<br>seal up to<br>257°F |
|-------------|------------------|----------------------|----------------------------------|---------------------|-----------------------------------------|--------------------------------------------|----------------------------------------------------|-----------------------------------|-------------------------------------|
|             | W x L x H        | W x L x H            | TS 15                            | TS 35 <sup>6)</sup> |                                         |                                            |                                                    |                                   |                                     |
| 02060603 00 | 55 x 55 x 37     | 2.17 x 2.17 x 1.46   |                                  |                     |                                         |                                            |                                                    |                                   |                                     |
| 02060606 00 | 55 x 55 x 59     | 2.17 x 2.17 x 2.32   |                                  |                     |                                         |                                            |                                                    |                                   |                                     |
| 02080806 00 | 75 x 80 x 55     | 2.95 x 3.15 x 2.20   | •                                |                     | 2 <sup>5)</sup>                         | •                                          |                                                    | •                                 | •                                   |
| 02080808 00 | 75 x 80 x 75     | 2.95 x 3.15 x 2.95   | •                                |                     |                                         | •                                          |                                                    | •                                 | •                                   |
| 02081106 00 | 75 x 110 x 55    | 2.95 x 4.33 x 2.20   | •                                |                     | 2 <sup>5)</sup>                         | •                                          |                                                    | •                                 | •                                   |
| 02081108 00 | 75 x 110 x 75    | 2.95 x 4.33 x 2.95   | •                                |                     |                                         | •                                          |                                                    | •                                 | •                                   |
| 02081606 00 | 75 x 160 x 55    | 2.95 x 6.30 x 2.20   | •                                |                     | 2 <sup>5)</sup>                         | •                                          |                                                    | •                                 | •                                   |
| 02081608 00 | 75 x 160 x 75    | 2.95 x 6.30 x 2.95   | •                                |                     |                                         | •                                          |                                                    | •                                 | •                                   |
| 02081906 00 | 75 x 190 x 55    | 2.95 x 7.48 x 2.20   | •                                |                     | 2 <sup>5)</sup>                         | •                                          |                                                    | •                                 | •                                   |
| 02081908 00 | 75 x 190 x 75    | 2.95 x 7.48 x 2.95   | •                                |                     |                                         | •                                          |                                                    | •                                 | •                                   |
| 02082306 00 | 75 x 230 x 55    | 2.95 x 9.06 x 2.20   | •                                |                     |                                         | •                                          |                                                    | •                                 | •                                   |
| 02082308 00 | 75 x 230 x 75    | 2.95 x 9.06 x 2.95   | •                                |                     |                                         | •                                          |                                                    | •                                 | •                                   |
| 02103208 00 | 100 x 320 x 80   | 2.95 x 12.60 x 3.19  | •                                |                     | 1.5 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02121209 00 | 120 x 122 x 90   | 4.72 x 4.80 x 3.58   |                                  | •                   | 1.5 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02122209 00 | 120 x 220 x 90   | 4.72 x 8.66 x 3.58   |                                  | •                   | 1.5 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02161609 00 | 160 x 160 x 90   | 6.30 x 6.30 x 3.58   |                                  | •                   | 2.5 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02162609 00 | 160 x 260 x 90   | 6.30 x 10.24 x 3.58  |                                  | •                   | 2.5 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02163609 00 | 160 x 360 x 90   | 6.30 x 14.17 x 3.58  |                                  | •                   | 2.5 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02165609 00 | 160 x 560 x 90   | 6.30 x 22.05 x 3.58  |                                  | •                   | 2.5 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02252612 00 | 250 x 255 x 120  | 9.84 x 10.04 x 4.76  |                                  | •                   | 2.0 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02252616 00 | 250 x 255 x 160  | 9.84 x 10.04 x 6.34  |                                  | •                   | 2.0 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02254012 00 | 250 x 400 x 120  | 9.84 x 15.75 x 4.76  |                                  | •                   | 2.0 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02254016 00 | 250 x 400 x 160  | 9.84 x 15.75 x 6.34  |                                  | •                   | 2.0 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02256012 00 | 250 x 600 x 120  | 9.84 x 23.62 x 4.76  |                                  | •                   | 2.0 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02363609 00 | 360 x 360 x 90   | 14.17 x 14.17 x 3.58 |                                  | •                   | 2.0 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |
| 02414012 00 | 405 x 400 x 120  | 15.94 x 15.94 x 4.76 |                                  | •                   | 2.0 <sup>1)</sup>                       | •                                          | •                                                  | •                                 | •                                   |

<sup>1)</sup> Galvanized steel

<sup>2)</sup> Stainless steel

<sup>3)</sup> Plastic cover insulated

<sup>5)</sup> Laminated paper

<sup>6)</sup> TS 32 on request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Polyester Flange Enclosures



- Enclosures with flange openings for automation engineering
- Multiple configurations possible by combining with other Fiberglass Flange enclosures.

### Included in delivery

Enclosure in Fiberglass consisting of lid with seal, and plastic quick-release lock screws; base with flange openings, threaded insert set (4 pcs.). Please order flange plates separately.



### Technical Data

|                        | Standard Version                                                                                                                            | With Polycarbonate Transparent Lid                   |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Material               | Glassfiber-reinforced, duroplastic Polyester                                                                                                |                                                      |
| Ingress Protection     | IP 65 to EN 60529                                                                                                                           | IP 65 to EN 60529                                    |
| Impact Resistance      | >7 Nm, EN 50014                                                                                                                             |                                                      |
| Flammability           | UL 94 V0                                                                                                                                    | V2 / UL 94                                           |
| Insulation             | Fully insulated to VDE 010                                                                                                                  | Fully insulated to VDE 0100                          |
| Temperature Resistance | Neoprene gasket: -40°F to +212°F<br>Silicone gasket: -76°F to +266°F<br>Polyurethane gasket: -40°F to +194°F<br>RFI gasket: -40°F to +392°F | Polyurethane gasket: -40°F to +194°F                 |
| Water Absorption       | max. 0.7% downstream of ASTM D 570                                                                                                          | max 0.2% DIN 53405 ISO/R62                           |
| Disruptive Strength    | 18 KV/mm                                                                                                                                    | >30 Kv/mm VDE 0303 DIN 53481                         |
| Toxicity               | Halogen-free                                                                                                                                | Halogen-free                                         |
| Surface Resistance     | >10 <sup>12</sup> Ohm VDE 0303 DIN 53482                                                                                                    | >10 <sup>15</sup> Ohm VDE 0303 DIN 53482             |
| Color                  | Gray, similar to RAL 7032, special colors on request                                                                                        | Gray, similar to RAL 7000, special colors on request |

| Part Number                                       | Dimensions<br>mm | Dimensions<br>Inches | Flange<br>Openings | Mounting<br>Plate | Front<br>Plate | * DIN Rail<br>TS 35 | Silicone Seal<br>for Lid |
|---------------------------------------------------|------------------|----------------------|--------------------|-------------------|----------------|---------------------|--------------------------|
|                                                   | W x L x H        | W x L x H            |                    |                   |                |                     |                          |
| 14010000 00                                       | 170 x 270 x 135  | 6.69 x 10.63 x 5.31  | 2                  | 14000011 00       | 14000027 00    | 10061721 00         | 10051501 00              |
| 14020000 00                                       | 270 x 270 x 135  | 10.63 x 10.63 x 5.91 | 4                  | 14000012 00       | 14000028 00    | 10061722 00         | 10051502 00              |
| 14030000 00                                       | 270 x 540 x 135  | 10.63 x 21.26 x 5.31 | 6                  | 14000013 00       | 14000029 00    | 10061723 00         | 10051503 00              |
| <b>Version with Polycarbonate Transparent Lid</b> |                  |                      |                    |                   |                |                     |                          |
| 14010001 00                                       | 270 x 270 x 150  | 6.69 x 10.63 x 5.91  | 2                  | 14000011 00       | 14000027 00    | 10061721 00         | 10051501 00              |
| 14020001 00                                       | 270 x 270 x 150  | 10.63 x 10.63 x 5.91 | 4                  | 14000012 00       | 14000028 00    | 10061722 00         | 10051502 00              |
| 14030001 00                                       | 270 x 540 x 150  | 10.63 x 21.26 x 5.91 | 6                  | 14000013 00       | 14000029 00    | 10061723 00         | 10051503 00              |

\*TS 32 on request

Note: Standard delivery is without flanges, please order flange plates separately.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Flanges and Accessories

|                                                  |             |
|--------------------------------------------------|-------------|
| Blind Flange                                     | 14000020 00 |
| Threaded flange (17 x PG 11)                     | 14000030 00 |
| Threaded flange (14 x PG 13.5)                   | 14000022 00 |
| Threaded flange (11 x PG 16)                     | 14000021 00 |
| Threaded flange (4 x PG 16, 2 x PG 21.1 x PG 29) | 14000023 00 |
| Connecting flange (11 x PG 16)                   | 14000025 00 |
| Lid hinges (2 pcs.) for all types                | 14000026 00 |
| External brackets (4 pcs.)                       | 10031102 00 |
| Threaded insert, additional (10 pcs.)            | 10035002 00 |
| Silicone seal for flanges                        | 10051402 00 |
| Silicone seal for connecting flange              | 10051403 00 |

## Standard Polycarbonate / ABS Enclosures



- Light-weight plastic enclosures for industrial applications
- Polycarbonate enclosure with standard or transparent lid
- Optional RFI version with coating

### Included in delivery

Plastic enclosure consisting of lid with seal and captive stainless steel lid screws; base with 2 self-tapping screws for fastening internal components.



UL 508



UL 50



### Technical Data

|                     | Polycarbonate                                               | ABS                                                         |
|---------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| Material            | Polycarbonate                                               | ABS                                                         |
| Ingress Protection  | IP 66 EN 60529                                              | IP 66 to EN 60529                                           |
| Surface Resistance  | >10 <sup>12</sup> OHm, DIN 53481                            | 4x10 <sup>14</sup> Ohm, VDE 0303 DIN 53486                  |
| Disruptive Strength | > 18 KV/mm, DIN 53481                                       | 24 Kv/mm VDE 03032 DIN 53481                                |
| Insulation          | Fully insulated, VDE 0100                                   | Fully insulated VDE 0100                                    |
| Flammability        | UL 94 V0                                                    | UL 94 HB                                                    |
| Impact Resistance   | >7Nm to EN 50014                                            |                                                             |
| Temperature Range   | -40°F to +212°F (neoprene gasket)                           | -40°F to +212°F (neoprene gasket)                           |
| Color               | Light gray, similar to RAL 7035. Special colors on request. | Light gray, similar to RAL 7035. Special colors on request. |
| Toxicity            | Halogen-free                                                | Halogen-free                                                |

| Polycarbonate Enclosure Part Number | Polycarbonate Enclosure with Transparent Lid Part Number | ABS Enclosure Part Number | Dimensions mm   | Dimensions Inches   | External Brackets | Mounting Plate    | Silicone Lid Seal | Rubber Feet | PC External Hinge approx. 150° |
|-------------------------------------|----------------------------------------------------------|---------------------------|-----------------|---------------------|-------------------|-------------------|-------------------|-------------|--------------------------------|
|                                     |                                                          |                           | W x L x H       | W x L x H           |                   |                   |                   |             |                                |
| 03050504 00                         | 33050504 00                                              | 09050504 00               | 50 x 52 x 35    | 1.97 x 2.05 x 1.38  |                   | 1.5               |                   |             |                                |
| 03050704 00                         | 33050704 00                                              | 09050704 00               | 50 x 65 x 35    | 1.97 x 2.56 x 1.38  |                   | 1.5               | •                 |             |                                |
| 03080806 00                         | 33080806 00                                              | 09080806 00               | 80 x 82 x 55    | 3.18 x 3.23 x 2.17  | •                 | 1.5               | •                 | •           |                                |
| 03080809 00                         | 33080809 00                                              | 09080809 00               | 80 x 82 x 85    | 3.15 x 3.23 x 3.35  | •                 | 1.5               | •                 | •           |                                |
| 03081206 00                         | 33081206 00                                              | 09081206 00               | 80 x 120 x 55   | 3.15 x 4.72 x 2.17  | •                 | 1.5               | •                 | •           | •                              |
| 03081209 00                         | 33081209 00                                              | 09081209 00               | 80 x 120 x 85   | 3.15 x 4.72 x 3.35  | •                 | 1.5               | •                 | •           | •                              |
| 03081606 00                         | 33081606 00                                              | 09081606 00               | 80 x 160 x 55   | 3.15 x 6.30 x 2.17  | •                 | 1.5               | •                 | •           | •                              |
| 03081609 00                         | 33081609 00                                              | 09081609 00               | 80 x 160 x 85   | 3.15 x 6.30 x 3.35  | •                 | 1.5               | •                 | •           | •                              |
| 03082309 00                         | -                                                        | 09082309 00               | 80 x 230 x 85   | 3.15 x 9.06 x 3.35  | •                 | 1.5               | •                 | •           | •                              |
| 03121206 00                         | 33121206 00                                              | 09121206 00               | 120 x 122 x 55  | 4.72 x 4.80 x 2.17  | •                 | 2                 | •                 | •           | •                              |
| 03121209 00                         | 33121209 00                                              | 09121209 00               | 120 x 122 x 90  | 4.72 x 4.80 x 3.35  | •                 | 2                 | •                 | •           | •                              |
| 03121211 00                         | 33121211 00                                              | 09121211 00               | 120 x 122 x 105 | 4.72 x 4.80 x 3.35  | •                 | 2                 | •                 | •           | •                              |
| 03121609 00                         | 33121609 00                                              | 09121609 00               | 120 x 160 x 90  | 4.72 x 4.80 x 4.13  | •                 | 2                 | •                 | •           | •                              |
| 03121614 00                         | 33121614 00                                              | 09121614 00               | 120 x 160 x 140 | 4.72 x 6.30 x 3.54  | •                 | 2                 | •                 | •           | •                              |
| 03122008 00                         | 33122008 00                                              | 09122008 00               | 120 x 200 x 75  | 4.72 x 6.30 x 5.51  | •                 | 2                 | •                 | •           | •                              |
| 03122009 00                         | 33122008 00                                              | 09122009 00               | 120 x 200 x 90  | 4.72 x 7.87 x 2.95  | •                 | 2                 | •                 | •           | •                              |
| 03122410 00                         | 33122410 00                                              | 09122410 00               | 120 x 240 x 100 | 4.72 x 7.87 x 3.54  | •                 | 2                 | •                 | •           | •                              |
| 03152008 00                         | 33152008 00                                              | 09152008 00               | 150 x 200 x 75  | 4.72 x 9.45 x 3.94  | •                 | 2.5               | •                 | •           | •                              |
| 03162409 00                         | 33162409 00                                              | 09162409 00               | 160 x 240 x 90  | 5.91 x 7.87 x 2.95  | •                 | 2.5 <sup>3)</sup> | •                 | •           | •                              |
| 03162412 00                         | 33162412 00                                              | 09162412 00               | 160 x 240 x 120 | 6.30 x 9.45 x 3.54  | •                 | 2.5               | •                 | •           | •                              |
| 03163610 00                         | -                                                        | 09163610 00               | 160 x 360 x 100 | 6.30 x 9.45 x 4.72  | •                 | 2.5               | •                 | •           | •                              |
| 03203615 00                         | 33203615 00                                              | 09203615 00               | 200 x 360 x 150 | 6.30 x 14.17 x 3.98 |                   | 2.5               | •                 |             | •                              |
| 03233009 00                         | 33233009 00                                              | 09233009 00               | 230 x 300 x 85  | 7.87 x 14.17 x 5.87 | •                 | 2                 | •                 | •           | •                              |
| 03233011 00                         | 33233011 00                                              | 09233011 00               | 230 x 300 x 110 | 9.06 x 11.81 x 3.35 | •                 | 2                 | •                 | •           | •                              |
| -                                   | -                                                        | 09403615 00               | 360 x 400 x 150 | 9.06 x 11.81 x 4.33 |                   | 2 <sup>3)</sup>   | •                 |             |                                |

<sup>3)</sup> Galvanized sheet steel

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Polycarbonate Flange Enclosures



- Light plastic enclosure for industrial applications with flange pre-embossing
- Multiple configurations possible by combining with other Polycarbonate Flange Enclosures
- Snap lock technology and flange quick-fixing system

### Included in delivery

Completely closed enclosure body with flange break-out points; lid with plastic quick-release lock; 4 threaded inserts for internal mounting.



### Technical Data

|                     | Enclosure base, flanges, opaque enclosure lids | Transparent Lids                 |
|---------------------|------------------------------------------------|----------------------------------|
| Impact Resistance   | > 7 Nm, EN 50014                               | >7 Nm, EN 50014                  |
| Flammability        | UL 94 V0/ self-extinguishing                   | UL 94 V2                         |
| Disruptive Strength | > 18 kV / mm, DIN 53482                        | > 30 kV / mm, DIN 53481          |
| Surface Resistance  | >10 <sup>15</sup> Ohm, DIN 53482               | >10 <sup>15</sup> ohm, DIN 53482 |
| Temperature Range   | -40°F up to +212°F                             | -40°F to + 212°F                 |
| Ingress Protection  | IP 65 to #N 60529                              | IP 65 to EN 60529                |
| Sealing             | Neoprene                                       | Neoprene                         |
| Toxicity            | Low-halogen                                    | Low-halogen                      |
| Weather Resistance  | UV stabilized                                  | -                                |
| Insulation          | Fully insulated VDE 0100                       | Fully insulated VDE 0100         |
| Color               | Gray, similar to RAL 7032                      | Transparent                      |

| Enclosure with Lid<br>Part Number | Enclosure with Transparent Lid<br>Part Number | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Flange<br>Opening | TS 35* | DIN<br>Rail | Mounting<br>Plate |
|-----------------------------------|-----------------------------------------------|-------------------------------|-----------------------------------|-------------------|--------|-------------|-------------------|
| 17011000 00                       | 17011010 00                                   | 134 x 170 x 130               | 5.12 x 6.69 x 5.12                | 2                 | •      | •           | •                 |
| 17021000 00                       | 17021010 00                                   | 170 x 170 x 130               | 6.69 x 6.69 x 5.12                | 4                 | •      | •           | •                 |
| 17031000 00                       | 17031010 00                                   | 170 x 269 x 130               | 6.69 x 10.59 x 5.12               | 4                 | •      | •           | •                 |
| 17041000 00                       | 17041010 00                                   | 269 x 269 x 130               | 10.59 x 10.59 x 5.12              | 4                 | •      | •           | •                 |
| 17051000 00                       | 17051100 00                                   | 269 x 540 x 130               | 10.59 x 21.26 x 5.12              | 6                 | •      | •           | •                 |
| 17061000 00                       | -                                             | 369 x 440 x 130               | 10.59 x 17.32 x 5.12              | 4                 | •      | •           | •                 |

\*TS 32 on request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Flanges and Accessories

|                                                                     | Part Number |
|---------------------------------------------------------------------|-------------|
| Blind flange I                                                      | 17003100 00 |
| Blind flange II                                                     | 17003200 00 |
| Flange 11 PG, 19 x PG9/PG 13.5                                      | 17003400 00 |
| Flange 11 PG, 16 x PG11/PG 16                                       | 17003500 00 |
| Flange 11 PG, 10 x PG9/PG 13.5; 4 x PG 11/PG16; 2 x PG21/PG29       | 17003300 00 |
| Connecting flange I                                                 | 17003600 00 |
| Connecting flange II                                                | 17003700 00 |
| Internal Mounting Bracket (set of 4), for type 1705 2 sets required | 17004200 00 |
| Additional threaded inserts (set of 10)                             | 10035003 00 |
| External brackets (set of 4)                                        | 10031104 00 |
| Spare fixing wedges (set of 10)                                     | 17004100 00 |
| Internal hinges (set of 2)                                          | 17005500 00 |

## ECO/PCI Compact Enclosures



- Light-weight thermoplastic enclosure for industrial applications
- ECO version: base with smooth side walls, lid version standard or transparent
- PCI version: base with knock-outs for cable connections

### Included in delivery

Enclosure consisting of lid, base, seal, captive lid screws, and screws for fastening including spacer inserts.



### Technical Data

|                     |                                                                           |
|---------------------|---------------------------------------------------------------------------|
| Material            | Flame-resistant Polystyrene                                               |
| Ingress Protection  | IP 65 to EN 60529                                                         |
| Impact Resistance   | 2 Nm, EN 60068-2-75                                                       |
| Insulation          | Fully insulated to VDE 0100                                               |
| Temperature Range   | +14°F to + 158°F                                                          |
| Flammability        | UL 94 HB                                                                  |
| Toxicity            | Low-halogen                                                               |
| Weather Resistance  | Do not expose to direct sunlight                                          |
| Chemical Resistance | Not resistant to benzine, diesel, oils, and fats as well as strong acids. |
| Color               | Gray, similar to RAL 7035. Special colors on request                      |



## ECO Series

| Enclosure Type | Part Number | Dimensions<br>mm | Dimensions<br>Inches | TS<br>Din Rails for Terminals |        | Mounting<br>Plate | External<br>Bracket | External<br>Hinges | Knurled<br>Screw |
|----------------|-------------|------------------|----------------------|-------------------------------|--------|-------------------|---------------------|--------------------|------------------|
|                |             | W x L x H        | W x L x H            | TS 15                         | TS 35* |                   |                     |                    |                  |
| ECO 01-6       | 60070711 00 | 65 x 65 x 57     | 2.56 x 2.56 x 2.24   | •                             |        | •                 | •                   | •                  | •                |
| ECO 01-8       | 60070721 00 | 65 x 65 x 81     | 2.56 x 2.56 x 3.49   | •                             |        | •                 | •                   | •                  | •                |
| ECO 02-6       | 60070911 00 | 65 x 94 x 57     | 2.56 x 3.70 x 2.24   | •                             |        | •                 | •                   | •                  | •                |
| ECO 02-8       | 60070921 00 | 65 x 94 x 81     | 2.56 x 3.70 x 3.19   | •                             |        | •                 | •                   | •                  | •                |
| ECO 03-6       | 60090911 00 | 94 x 94 x 57     | 3.70 x 3.70 x 2.24   | •                             |        | •                 | •                   | •                  | •                |
| ECO 03-8       | 60090921 00 | 94 x 94 x 81     | 3.70 x 3.70 x 3.19   | •                             |        | •                 | •                   | •                  | •                |
| ECO 03-6t      | 60090912 00 | 94 x 94 x 57     | 3.70 x 3.70 x 2.24   | •                             |        | •                 | •                   | •                  | •                |
| ECO 03-8t      | 60090922 00 | 94 x 94 x 81     | 3.70 x 3.70 x 3.19   | •                             |        | •                 | •                   | •                  | •                |
| ECO 04-6       | 60091311 00 | 94 x 130 x 57    | 3.58 x 5.12 x 2.24   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 04-8       | 60091321 00 | 94 x 130 x 81    | 3.70 x 5.12 x 3.19   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 04-6t      | 60091312 00 | 94 x 130 x 57    | 3.58 x 5.12 x 2.24   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 04-8t      | 60091322 00 | 94 x 130 x 81    | 3.70 x 5.12 x 3.19   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 05-7       | 60111111 00 | 110 x 110 x 66   | 4.33 x 4.33 x 2.60   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 05-9       | 60111121 00 | 110 x 110 x 90   | 4.33 x 4.33 x 3.54   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 05-7t      | 60111112 00 | 110 x 110 x 66   | 4.33 x 4.33 x 2.60   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 05-9t      | 60111122 00 | 110 x 110 x 90   | 4.33 x 4.33 x 3.54   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 06-7       | 60131311 00 | 130 x 130 x 75   | 4.33 x 4.33 x 2.95   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 06-10      | 60131321 00 | 130 x 130 x 99   | 4.33 x 4.33 x 3.90   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 06-7t      | 60131312 00 | 130 x 130 x 75   | 4.33 x 4.33 x 2.95   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 06-10t     | 60131322 00 | 130 x 130 x 99   | 4.33 x 4.33 x 3.90   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 07-6       | 60091811 00 | 94 x 180 x 57    | 3.70 x 7.09 x 2.24   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 07-8       | 60091821 00 | 94 x 180 x 81    | 3.70 x 7.09 x 3.19   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 07-6t      | 60091812 00 | 94 x 180 x 57    | 3.70 x 7.09 x 2.24   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 07-8t      | 60091822 00 | 94 x 180 x 81    | 3.70 x 7.09 x 3.19   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 08-9       | 60111811 00 | 110 x 180 x 90   | 4.33 x 7.09 x 3.54   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 08-11      | 60111821 00 | 110 x 180 x 111  | 4.33 x 7.09 x 4.37   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 08-9t      | 60111812 00 | 110 x 180 x 90   | 4.33 x 7.09 x 3.54   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 08-11t     | 60111822 00 | 110 x 180 x 111  | 7.33 x 7.09 x 4.37   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 09-9       | 60181811 00 | 180 x 182 x 90   | 7.09 x 7.16 x 3.54   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 09-11      | 60181821 00 | 180 x 182 x 111  | 7.09 x 7.16 x 4.37   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 09-16      | 60181831 00 | 180 x 182 x 165  | 7.09 x 7.19 x 6.50   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 09-9t      | 60181812 00 | 180 x 182 x 90   | 7.09 x 7.16 x 3.54   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 09-11t     | 60181822 00 | 180 x 182 x 111  | 7.09 x 7.16 x 4.37   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 09-16t     | 60181832 00 | 180 x 182 x 165  | 7.09 x 7.16 x 6.50   | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-6t      | 60182509 00 | 180 x 254 x 63   | 7.09 x 10.00 x 2.48  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-6       | 60182510 00 | 180 x 254 x 63   | 7.09 x 10.00 x 2.48  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-9       | 60182511 00 | 180 x 254 x 90   | 7.09 x 10.00 x 3.54  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-11      | 60182521 00 | 180 x 254 x 111  | 7.09 x 10.00 x 4.37  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-16      | 60182531 00 | 180 x 254 x 165  | 7.09 x 10.00 x 6.50  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-9t      | 60182512 00 | 180 x 254 x 90   | 7.09 x 10.00 x 3.15  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-11t     | 60182522 00 | 180 x 254 x 111  | 7.09 x 10.00 x 4.37  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 10-16t     | 60182532 00 | 180 x 254 x 165  | 7.09 x 10.00 x 6.50  | •                             | •      | •                 | •                   | •                  | •                |
| ECO 11-11      | 60253611 00 | 254 x 355 x 111  | 10.00 x 13.98 x 4.37 | •                             | •      | •                 | •                   | •                  | •                |
| ECO 11-16      | 60253621 00 | 254 x 355 x 165  | 10.00 x 13.98 x 6.50 | •                             | •      | •                 | •                   | •                  | •                |
| ECO 11-11t     | 60253612 00 | 254 x 355 x 111  | 10.00 x 13.98 x 4.37 | •                             | •      | •                 | •                   | •                  | •                |
| ECO 11-16t     | 60253622 00 | 254 x 355 x 165  | 10.00 x 13.98 x 6.50 | •                             | •      | •                 | •                   | •                  | •                |

## PCI Series

|            |             |                 |                      |   |   |   |   |   |   |
|------------|-------------|-----------------|----------------------|---|---|---|---|---|---|
| PCI 06-1M  | 60070715 00 | 65 x 65 x 57    | 2.56 x 2.56 x 2.24   | • |   | • | • | • | • |
| PCI 02-6M  | 60070915 00 | 65 x 95 x 57    | 2.56 x 3.74 x 2.24   | • |   | • | • | • | • |
| PCI 03-6M  | 60090915 00 | 94 x 94 x 57    | 3.70 x 3.70 x 2.24   | • |   | • | • | • | • |
| PCI 04-6M  | 60091315 00 | 94 x 130 x 57   | 3.70 x 5.12 x 2.24   | • | • | • | • | • | • |
| PCI 05-9M  | 60111115 00 | 110 x 110 x 90  | 4.33 x 4.33 x 3.54   | • | • | • | • | • | • |
| PCI 06-7M  | 60131315 00 | 130 x 130 x 75  | 5.12 x 5.12 x 2.95   | • | • | • | • | • | • |
| PCI 07-6M  | 60091815 00 | 94 x 180 x 57   | 3.70 x 7.09 x 2.24   | • | • | • | • | • | • |
| PCI 08-9M  | 60111815 00 | 110 x 180 x 90  | 4.33 x 7.09 x 3.54   | • | • | • | • | • | • |
| PCI 08-11M | 60111825 00 | 110 x 180 x 111 | 4.33 x 7.09 x 4.37   | • | • | • | • | • | • |
| PCI 09-9M  | 60181815 00 | 180 x 182 x 90  | 7.09 x 7.16 x 3.54   | • | • | • | • | • | • |
| PCI 09-11M | 60181825 00 | 180 x 182 x 111 | 7.09 x 7.16 x 4.37   | • | • | • | • | • | • |
| PCI 10-6M  | 60182505 00 | 180 x 254 x 63  | 7.09 x 10.00 x 2.48  | • | • | • | • | • | • |
| PCI 10-9M  | 60182515 00 | 180 x 254 x 90  | 7.09 x 10.00 x 3.54  | • | • | • | • | • | • |
| PCI 10-11M | 60182525 00 | 180 x 254 x 111 | 7.09 x 10.00 x 4.37  | • | • | • | • | • | • |
| PCI 11-11M | 60253615 00 | 254 x 355 x 111 | 10.00 x 13.98 x 4.37 | • | • | • | • | • | • |

t = Transparent lid

\* TS 32 available on request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



## Polymas Watertight Enclosures



- Especially suitable for fitting small electronic components and terminal blocks
- Available with or without molded-on cable glands and with or without quick-release lid screws
- Mounting bosses for self-tapping screws provided for the assembly of terminal blocks, DIN rails or PCBs

### Included in delivery

Enclosure consisting of lid and base; lid screws, or quick-release lid screws; depending on design with molded-on cable glands PG 11 including clamping cage, pressure screw, and closed sealing ring.



### Technical Data

|                    |                                                                  |
|--------------------|------------------------------------------------------------------|
| Material           | Polyamide 6, 30% glassbead-reinforced. UV stabilized             |
| Ingress Protection | IP 65 DIN EN 60529. Increased protection up to IP x7 on request. |
| Color              | Gray, similar to RAL 7001                                        |
| Lid Seal           | Neoprene                                                         |

| Enclosure Type | Part Number | Dimensions      | Dimensions          |
|----------------|-------------|-----------------|---------------------|
|                |             | mm<br>W x L x H | Inches<br>W x L x H |
| PK 101*        | 38101000 00 | 58 x 64 x 34    | 2.28 x 2.52 x 1.34  |
| PK 101-111*    | 38101100 00 | 58 x 64 x 34    | 2.28 x 2.52 x 1.34  |
| PK 101-211*    | 38101200 00 | 58 x 64 x 34    | 2.28 x 2.52 x 1.34  |
| PK 101 SV      | 38101500 00 | 58 x 64 x 34    | 2.28 x 2.25 x 1.34  |
| PK 101 SV-111  | 38101600 00 | 58 x 64 x 34    | 2.28 x 2.25 x 1.34  |
| PK 101 SV-211  | 38101700 00 | 58 x 64 x 34    | 2.28 x 2.25 x 1.34  |
| PK 102*        | 38102000 00 | 98 x 64 x 34    | 3.86 x 2.52 x 1.34  |
| PK 102-211*    | 38102200 00 | 98 x 64 x 34    | 3.86 x 2.52 x 1.34  |
| PK 102-411*    | 38102400 00 | 98 x 64 x 34    | 3.86 x 2.52 x 1.34  |
| PK 102 SV      | 38102500 00 | 98 x 64 x 34    | 3.86 x 2.52 x 1.34  |
| PK 102 SV-211  | 38102700 00 | 98 x 64 x 34    | 3.86 x 2.52 x 1.34  |
| PK 102 SV-411  | 38102900 00 | 98 x 64 x 34    | 3.86 x 2.52 x 1.34  |
| PK 105*        | 38105000 00 | 75 x 80 x 57    | 2.95 x 2.52 x 2.24  |
| PK 105 SV      | 38105500 00 | 75 x 80 x 57    | 2.95 x 2.52 x 2.24  |
| PK 110*        | 38110000 00 | 125 x 80 x 57   | 4.91 x 2.52 x 2.24  |
| PK 110 SV      | 38110500 00 | 125 x 80 x 57   | 4.91 x 2.52 x 2.24  |
| PK 115*        | 38115000 00 | 175 x 80 x 57   | 6.89 x 2.52 x 2.24  |
| PK 115 SV      | 38115500 00 | 175 x 80 x 57   | 6.89 x 2.52 x 2.24  |

\*Available with transparent polycarbonate lid for quantities exceeding 500 pieces.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

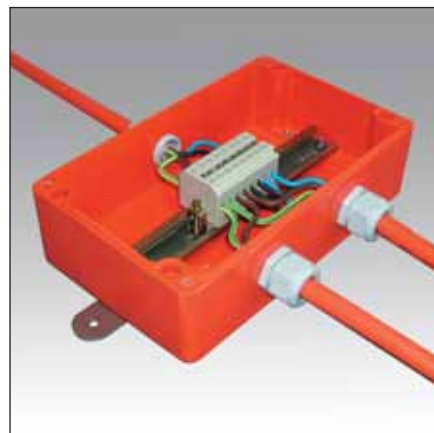
## E30 Fire Protection Enclosures



- Fire protection enclosures from special halogen-free fiberglass material
- Individually fitted with ceramic terminals and cable glands to customer specifications

### Included in delivery

Enclosure system with DIN rail and external brackets.  
Optional, approved terminals and cable glands



### Technical Data

|                            |                                                        |
|----------------------------|--------------------------------------------------------|
| Material                   | Glassfiber-reinforced polyester                        |
| Ingress Protection         | IP 66, EN 60529                                        |
| Seal/Temperature Stability | CR round seal -40° to +90°F                            |
| Test Certificate           | DIN 4102 Part 12. General building test certification. |
| EMC                        | Optional EMC version                                   |

| Part Number  | Dimensions<br>mm | Dimensions<br>Inches | Ceramic Terminal Blocks |               |
|--------------|------------------|----------------------|-------------------------|---------------|
|              | W x L x H        | W x L x H            | SAKK4                   | SAKK10        |
| E30121209 00 | 120 x 120 x 90   | 4.72 x 4.72 x 3.54   | 7 pieces                | 4 pieces      |
| E30122209 00 | 120 x 220 x 90   | 4.72 x 8.66 x 3.54   | 18 pieces               | 12 pieces     |
| E30161609 00 | 160 x 160 x 90   | 6.30 x 6.30 x 3.54   | 11 pieces               | 8 pieces      |
| E30162609 00 | 160 x 260 x 90   | 6.30 x 10.24 x 3.54  | 23 pieces               | 16 pieces     |
| E30252612 00 | 250 x 260 x 120  | 9.84 x 10.24 x 4.72  | 2 x 23 pieces           | 2 x 16 pieces |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

#### Terminals

|              |             |                           |                                                                                   |
|--------------|-------------|---------------------------|-----------------------------------------------------------------------------------|
| E30000104 00 | SAKK4       | ceramic terminal block    | 0.5 to 6 mm <sup>2</sup> (single strip)<br>0.5 to 4 mm <sup>2</sup> (multi strip) |
| E30000116 00 | SAKK 10     | ceramic terminal block    | 2.5 to 16mm <sup>2</sup> (single strip)<br>2.5 to 10mm <sup>2</sup> (multi strip) |
| E30000191 00 | AP/SAKK4/10 | lid                       |                                                                                   |
| E30000192 00 | QL2/SAKK4   | bridge, 2 pole to SAKK 4  |                                                                                   |
| E30000193 00 | QL3/SAKK4   | bridge, 3 pole to SAKK 4  |                                                                                   |
| E30000194 00 | QL 4/SAKK4  | bridge, 4 pole to SAKK 4  |                                                                                   |
| E30000196 00 | QL 2/SAKK10 | bridge, 2 pole to SAKK 10 |                                                                                   |
| E30000197 00 | QL 3/SAKK10 | bridge, 3 pole to SAKK 10 |                                                                                   |
| E30000198 00 | QL 4/SAKK10 | bridge, 4 pole to SAKK 10 |                                                                                   |
| E30000201 00 | EW 1        | end clamp TS 32           |                                                                                   |

#### Cable Glands

|             |            |                  |
|-------------|------------|------------------|
| 08080512 00 | M 12 x 1.5 | range 3 - 7 mm   |
| 08080516 00 | M 16 x 1.5 | range 5 - 10 mm  |
| 08080520 00 | M 20 x 1.5 | range 8 - 13 mm  |
| 08080525 00 | M 25 x 1.5 | range 11 - 17 mm |
| 08080532 00 | M 32 x 1.5 | range 15 - 21 mm |
| 08080540 00 | M 40 x 1.5 | range 19 - 28 mm |

## Polycarbonate Watertight EM/ABS Watertight ET



- Four new flat versions round off this innovative and successful IP 65 enclosure line.
- Made from either high-quality polycarbonate or cost-effective ABS, this enclosure line offers a wide range of benefits due to its easy-to-use screw-mounting system and additional mounting bosses in the base.
- Versions with a recessed membrane keypad area (F) and/or PCB plug-in-slots (LP/FLP) are ideal for use as electronic enclosures.
- This enclosure is especially easy to recycle because there are no molded-in metal parts, and in each case only one type of plastic is used.

### Included in delivery

Enclosure base with lid; self-tapping coarse thread lid screws made of V2A; max. screwing force 45 Ncm.



### Technical Data

|                     |                                                            |                                                            |
|---------------------|------------------------------------------------------------|------------------------------------------------------------|
| Material            | Polycarbonate                                              | ABS                                                        |
| Ingress Protection  | IP 65 DIN EN 60529                                         | IP 65 DIN EN 60529                                         |
| Color               | Light gray, similar to RAL 7035. Special colors on request | Light gray, similar to RAL 7035. Special colors on request |
| Flammability        | UL V2/1.14                                                 | UL 94 HB/1.6                                               |
| Temperature Range   | Neoprene Gasket -40°F to +212°F                            | Neoprene Gasket -40°F to +212°F                            |
|                     | Silicone Gasket -76°F to +266°F                            | Silicone Gasket -76°F to +266°F                            |
|                     | RFI Gasket -40°F to +392°F                                 | RFI Gasket -40°F to +392°F                                 |
| Surface Resistance  | >10 <sup>15</sup> Ohm to DIN 53482                         | >10 <sup>14</sup> Ohm DIN 53482                            |
| Disruptive Strength | 28 KV/mm DIN 53481                                         | -                                                          |

## Polycarbonate

## ABS

| Model       | Part Number | Dimensions<br>mm<br>L x W x H | Dimensions<br>Inches<br>L x W x H | Model       | Part Number | Dimensions<br>mm<br>L x W x H | Dimensions<br>Inches<br>L x W x H |
|-------------|-------------|-------------------------------|-----------------------------------|-------------|-------------|-------------------------------|-----------------------------------|
| EM 205      | 62205000 00 | 52 x 50 x 37                  | 2.05 x 1.97 x 1.46                | ET 205      | 63205000 00 | 52 x 50 x 37                  | 2.05 x 1.97 x 1.46                |
| EM 250 F    | 62205200 00 | 52 x 50 x 37                  | 2.05 x 1.97 x 1.46                | ET 205 F    | 63205200 00 | 52 x 50 x 37                  | 2.05 x 1.97 x 1.46                |
| EM 206      | 62206000 00 | 65 x 50 x 37                  | 2.56 x 1.97 x 1.46                | ET 206      | 63206000 00 | 65 x 50 x 37                  | 2.56 x 1.97 x 1.46                |
| EM 206 F    | 62206200 00 | 65 x 50 x 37                  | 2.56 x 1.97 x 1.46                | ET 206 F    | 63206200 00 | 65 x 50 x 37                  | 2.56 x 1.97 x 1.46                |
| EM 207 LP   | 62207300 00 | 82 x 60 x 57                  | 3.23 x 2.36 x 2.24                | ET 207 LP   | 63207300 00 | 82 x 60 x 57                  | 3.23 x 2.36 x 2.24                |
| EM 207 F-LP | 62207400 00 | 82 x 60 x 57                  | 3.23 x 2.36 x 2.24                | ET 207 F-LP | 63207400 00 | 82 x 60 x 57                  | 3.23 x 2.36 x 2.24                |
| EM 208      | 62208000 00 | 98 x 64 x 38                  | 3.86 x 2.52 x 1.50                | ET 208      | 63208000 00 | 98 x 64 x 38                  | 3.86 x 2.52 x 1.50                |
| EM 208 F    | 62208200 00 | 98 x 64 x 38                  | 3.86 x 2.52 x 1.50                | ET 208 F    | 63208200 00 | 98 x 64 x 38                  | 3.86 x 2.52 x 1.50                |
| EM 210      | 62210000 00 | 82 x 80 x 57                  | 3.23 x 3.15 x 2.24                | ET 210      | 63210000 00 | 82 x 80 x 57                  | 3.23 x 3.15 x 2.24                |
| EM 210 F    | 62210200 00 | 82 x 80 x 57                  | 3.23 x 3.15 x 2.24                | ET 210 F    | 63210200 00 | 82 x 80 x 57                  | 3.23 x 3.15 x 2.24                |
| EM 212      | 62212000 00 | 100 x 100 x 57                | 3.94 x 3.94 x 2.24                | ET 212      | 63212000 00 | 100 x 100 x 57                | 3.94 x 3.94 x 2.24                |
| EM 212 F    | 62212200 00 | 100 x 100 x 57                | 3.94 x 3.94 x 2.24                | ET 212 F    | 63212200 00 | 100 x 100 x 57                | 3.94 x 3.94 x 2.24                |
| EM 213*     | 62213000 00 | 122 x 120 x 37                | 4.80 x 4.72 x 1.46                | ET 213      | 63213000 00 | 122 x 120 x 37                | 4.80 x 4.72 x 1.46                |
| EM 213 F*   | 62213200 00 | 122 x 120 x 37                | 4.80 x 4.72 x 1.46                | ET 213 F    | 63213200 00 | 122 x 120 x 37                | 4.80 x 4.72 x 1.46                |
| EM 214 LP   | 62214300 00 | 200 x 120 x 57                | 7.87 x 4.72 x 2.24                | ET 214 LP   | 63214300 00 | 200 x 120 x 57                | 7.87 x 4.72 x 2.24                |
| EM 214 F-LP | 62214400 00 | 200 x 120 x 57                | 7.87 x 4.72 x 2.24                | ET 214 F-LP | 63214400 00 | 200 x 120 x 57                | 7.87 x 4.72 x 2.24                |
| EM 215      | 62215000 00 | 120 x 80 x 57                 | 4.72 x 3.15 x 2.24                | ET 215      | 63215000 00 | 120 x 80 x 57                 | 4.72 x 3.15 x 2.24                |
| EM 215 F    | 62215200 00 | 120 x 80 x 57                 | 4.72 x 3.15 x 2.24                | ET 215 F    | 63215200 00 | 120 x 80 x 57                 | 4.72 x 3.15 x 2.24                |
| EM 217      | 62217000 00 | 122 x 120 x 57                | 4.80 x 4.72 x 2.24                | ET 217      | 63217000 00 | 122 x 120 x 57                | 4.80 x 4.72 x 2.24                |
| EM 217 F    | 62217200 00 | 122 x 120 x 57                | 4.80 x 4.72 x 2.24                | ET 217 F    | 63217200 00 | 122 x 120 x 57                | 4.80 x 4.72 x 2.24                |
| EM 218 LP   | 62218300 00 | 150 x 150 x 57                | 5.90 x 5.90 x 2.24                | ET 218 LP   | 63218300 00 | 150 x 150 x 57                | 5.90 x 5.90 x 2.24                |
| EM 218 F-LP | 62218400 00 | 150 x 150 x 57                | 5.90 x 5.90 x 2.24                | ET 218 F-LP | 63218400 00 | 150 x 150 x 57                | 5.90 x 5.90 x 2.24                |
| EM 220      | 62220000 00 | 160 x 80 x 57                 | 6.30 x 3.15 x 2.24                | ET 220      | 63220000 00 | 160 x 80 x 57                 | 6.30 x 3.15 x 2.24                |
| EM 220 F    | 62220200 00 | 160 x 80 x 57                 | 6.30 x 3.15 x 2.24                | ET 220 F    | 63220200 00 | 160 x 80 x 57                 | 6.30 x 3.15 x 2.24                |
| EM 221      | 62221000 00 | 200 x 120 x 77                | 7.87 x 4.72 x 3.03                | ET 221      | 63221000 00 | 200 x 120 x 77                | 7.87 x 4.72 x 3.03                |
| EM 221 F    | 62221200 00 | 200 x 120 x 77                | 7.87 x 4.72 x 3.03                | ET 221 F    | 63221200 00 | 200 x 120 x 77                | 7.87 x 4.72 x 3.03                |
| EM 223      | 62223000 00 | 200 x 150 x 77                | 7.87 x 5.90 x 3.03                | ET 223      | 63223000 00 | 200 x 150 x 77                | 7.87 x 5.90 x 3.03                |
| EM 223 F    | 62223200 00 | 200 x 150 x 77                | 7.87 x 5.90 x 3.03                | ET 223 F    | 63223200 00 | 200 x 150 x 77                | 7.87 x 5.90 x 3.03                |
| EM 224 LP   | 62224300 00 | 240 x 80 x 60                 | 9.45 x 3.15 x 2.36                | ET 224 LP   | 63224300 00 | 240 x 80 x 60                 | 9.45 x 3.15 x 2.36                |
| EM 224 F-LP | 62224400 00 | 240 x 80 x 60                 | 9.45 x 3.15 x 2.36                | ET 224 F-LP | 63224400 00 | 240 x 80 x 60                 | 9.45 x 3.15 x 2.36                |
| EM 225      | 62225000 00 | 82 x 80 x 87                  | 3.23 x 3.15 x 3.42                | ET 225      | 63225000 00 | 82 x 80 x 87                  | 3.23 x 3.15 x 3.42                |
| EM 225 F    | 62225200 00 | 82 x 80 x 87                  | 3.23 x 3.15 x 3.42                | ET 225 F    | 63225200 00 | 82 x 80 x 87                  | 3.23 x 3.15 x 3.42                |
| EM 227      | 62227000 00 | 122 x 120 x 87                | 4.80 x 4.72 x 3.42                | ET 227      | 63227000 00 | 122 x 120 x 87                | 4.80 x 4.72 x 3.42                |
| EM 227 F    | 62227200 00 | 122 x 120 x 87                | 4.80 x 4.72 x 3.42                | ET 227 F    | 63227200 00 | 122 x 120 x 87                | 4.80 x 4.72 x 3.42                |
| EM 229*     | 62229000 00 | 160 x 80 x 37                 | 6.30 x 3.15 x 1.46                | ET 229      | 63229000 00 | 160 x 80 x 37                 | 6.30 x 3.15 x 1.46                |
| EM 229 F*   | 62229200 00 | 160 x 80 x 37                 | 6.30 x 3.15 x 1.46                | ET 229 F    | 63229200 00 | 160 x 80 x 37                 | 6.30 x 3.15 x 1.46                |
| EM 231      | 62231000 00 | 160 x 80 x 87                 | 6.30 x 3.15 x 3.42                | ET 231      | 63231000 00 | 160 x 80 x 87                 | 6.30 x 3.15 x 3.42                |
| EM 231 F*   | 62231200 00 | 160 x 80 x 87                 | 6.30 x 3.15 x 3.42                | ET 231 F    | 63231200 00 | 160 x 80 x 87                 | 6.30 x 3.15 x 3.42                |
| EM 232*     | 62232000 00 | 200 x 150 x 37                | 7.87 x 5.90 x 1.46                | ET 232      | 63232000 00 | 200 x 150 x 37                | 7.87 x 5.90 x 1.46                |
| EM 232 F*   | 62232200 00 | 200 x 150 x 37                | 7.87 x 5.90 x 1.46                | ET 232 F    | 63232200 00 | 200 x 150 x 37                | 7.87 x 5.90 x 1.46                |
| EM 233*     | 62233000 00 | 250 x 160 x 37                | 9.84 x 6.30 x 1.46                | ET 233*     | 63233000 00 | 250 x 160 x 37                | 9.84 x 6.30 x 1.46                |
| EM 233 F*   | 62233200 00 | 250 x 160 x 37                | 9.84 x 6.30 x 1.46                | ET 233 F    | 63233200 00 | 250 x 160 x 37                | 9.84 x 6.30 x 1.46                |
| EM 236 LP   | 62236300 00 | 240 x 80 x 80                 | 9.45 x 3.15 x 3.15                | ET 236 LP   | 63236300 00 | 240 x 80 x 80                 | 9.45 x 3.15 x 3.15                |
| EM 236 F-LP | 62236400 00 | 240 x 80 x 80                 | 9.45 x 3.15 x 3.15                | ET 236 F-LP | 63236400 00 | 240 x 80 x 80                 | 9.45 x 3.15 x 3.15                |
| EM 237      | 62237000 00 | 200 x 120 x 92                | 7.87 x 4.72 x 3.62                | ET 237      | 63237000 00 | 200 x 120 x 92                | 7.87 x 4.72 x 3.62                |
| EM 237 F    | 62237200 00 | 200 x 120 x 92                | 7.87 x 4.72 x 3.62                | ET 237 F    | 63237200 00 | 200 x 120 x 92                | 7.87 x 4.72 x 3.62                |
| EM 238      | 62238000 00 | 160 x 120 x 92                | 6.30 x 4.72 x 3.62                | ET 238      | 63238000 00 | 160 x 120 x 92                | 6.30 x 4.72 x 3.62                |
| EM 238 F    | 62238200 00 | 160 x 120 x 92                | 6.30 x 4.72 x 3.62                | ET 238 F    | 63238200 00 | 160 x 120 x 92                | 6.30 x 4.72 x 3.62                |
| EM 239      | 62239000 00 | 250 x 160 x 57                | 9.84 x 6.30 x 2.24                | ET 239      | 63239000 00 | 250 x 160 x 57                | 9.84 x 6.30 x 2.24                |
| EM 239 F    | 62239200 00 | 250 x 160 x 57                | 9.84 x 6.30 x 2.24                | ET 239 F    | 63239200 00 | 250 x 160 x 57                | 9.84 x 6.30 x 2.24                |
| EM 240      | 62240000 00 | 250 x 160 x 92                | 9.84 x 6.30 x 3.62                | ET 240      | 63240000 00 | 250 x 160 x 92                | 9.84 x 6.30 x 3.62                |
| EM 240 F    | 62240200 00 | 250 x 160 x 92                | 9.84 x 6.30 x 3.62                | ET 240 F    | 63240200 00 | 250 x 160 x 92                | 9.84 x 6.30 x 3.62                |
| EM 241      | 62241000 00 | 250 x 160 x 122               | 9.84 x 6.30 x 4.80                | ET 241      | 63241000 00 | 250 x 160 x 122               | 9.84 x 6.30 x 4.80                |
| FM 241 F    | 62241200 00 | 250 x 160 x 122               | 9.84 x 6.30 x 4.80                | ET 241 F    | 63241200 00 | 250 x 160 x 122               | 9.84 x 6.30 x 4.80                |
| EM 242      | 62242000 00 | 240 x 120 x 102               | 9.45 x 4.72 x 4.01                | ET 242      | 63242000 00 | 240 x 120 x 102               | 9.45 x 4.72 x 4.01                |
| EM 242 F    | 62242200 00 | 240 x 120 x 102               | 9.45 x 4.72 x 4.01                | ET 242 F    | 63242200 00 | 240 x 120 x 102               | 9.45 x 4.72 x 4.01                |
| FM 247 LP   | 62247300 00 | 300 x 160 x 120               | 11.81 x 6.30 x 4.72               | ET 247 LP   | 63247300 00 | 300 x 160 x 120               | 11.81 x 6.30 x 4.72               |
| EM 247 F-LP | 62247400 00 | 360 x 160 x 120               | 11.81 x 6.30 x 4.72               | ET 247 F-LP | 63247400 00 | 300 x 160 x 120               | 11.81 x 6.30 x 4.72               |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

\*An additional model with PCB slots EM/ET...LP is available on request.

F = with recessed area in upper section for flush-fitting of membrane keypads

LP/F=LP = with slots for PCBs

## Accessories

| Model          | Mounting<br>Plate<br>Part Number | Terminal Rail<br>TS 15<br>Part Number | Terminal Rail<br>TS 32<br>Part Number | Terminal Rail<br>TS 35<br>Part Number | Screw Covers<br>EM-SA<br>Part Number | Rubber Feet<br>EM-GF<br>Part Number | Wall Bracket<br>EM-WL<br>Part Number |
|----------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|
| EM/ET 205      | 22000100 00                      | -                                     | -                                     | -                                     | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ ET 250 F   | 22000100 00                      | -                                     | -                                     | -                                     | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM / ET 206    | 22000200 00                      | 22150501 00                           | -                                     | -                                     | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 206 F    | 22000200 00                      | 22150501 00                           | -                                     | -                                     | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 207 LP   | 22207001 00*                     | 22150701 00                           | -                                     | -                                     | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 207 F-LP | 22207001 00*                     | 22150701 00                           | -                                     | -                                     | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 208      | -                                | 22150701 00                           | 22320701 00                           | 22350701 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 208 F    | -                                | 22150701 00                           | 22320701 00                           | 22350701 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 210      | 22000300 00                      | 22150701 00                           | 22320701 00                           | 22350701 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 210 F    | 22000300 00                      | 22150701 00                           | 22320701 00                           | 22350701 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 212      | 22212000 00*                     | 22150901 00                           | 22320901 00                           | 22350901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 212 F    | 22212000 00*                     | 22150901 00                           | 22320901 00                           | 22350901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 213      | -                                | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 213 F    | -                                | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 214 LP   | 22214001 00*                     | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 214 F-LP | 22214001 00*                     | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 215      | 22000400 00                      | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 215 F    | 22000400 00                      | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 217      | 22000500 00                      | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 217 F    | 22000500 00                      | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 218 LP   | 22218001 00*                     | 22151401 00                           | 22321401 00                           | 22351401 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 218 F-LP | 22218001 00*                     | 22151401 00                           | 22321401 00                           | 22351401 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 220      | 22000600 00                      | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 220 F    | 22000600 00                      | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 221      | 22000700 00                      | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 221 F    | 22000700 00                      | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 223      | 22000800 00                      | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 223 F    | 22000800 00                      | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 224 LP   | 22224001 00*                     | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 224 F-LP | 22224001 00*                     | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 225      | 22000300 00                      | 22150701 00                           | 22320701 00                           | 22350701 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 225 F    | 22000300 00                      | 22150701 00                           | 22320701 00                           | 22350701 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 227      | 22000500 00                      | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 227 F    | 22000500 00                      | 22151101 00                           | 22321101 00                           | 22351101 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 229      | -                                | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 229 F    | -                                | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 231      | 22000600 00                      | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 231 F    | 22000600 00                      | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 232      | -                                | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 232 F    | -                                | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 233      | -                                | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 233 F    | -                                | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 236 LP   | 22224001 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 236 F-LP | 22224001 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 237      | 22000700 00                      | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 237 F    | 22000700 00                      | 22151901 00                           | 22321901 00                           | 22351901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 238      | 22001100 00                      | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 238 F    | 22001100 00                      | 22151501 00                           | 22321501 00                           | 22351501 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 239      | 22000900 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 239 F    | 22000900 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 240      | 22000900 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 240 F    | 22000900 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 241      | 22000900 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 241 F    | 22000900 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 242      | 22001200 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 242 F    | 22001200 00                      | 22152301 00                           | 22322301 00                           | 22352301 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 247 LP   | 22247001 00*                     | 22152901 00                           | 22322901 00                           | 22352901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |
| EM/ET 247 F-LP | 22247001 00*                     | 22152901 00                           | 22322901 00                           | 22352901 00                           | 22080000 00                          | 22009000 00                         | 22010000 00                          |

\*Can also be fitted in lids

## Fiberglass 3040/4060 Cabinets



- Enclosure system with hidden external hinge
- Standard version or with window
- Version with handle

### Included in delivery

Enclosure consisting of lower section and door; **please order door lock separately**, press-in inserts in base for internal and external fitting.



### Technical Data

|                     |                                                             |
|---------------------|-------------------------------------------------------------|
| Material            | Glassfiber-reinforced, duroplastic Polyester                |
| Ingress Protection  | IP 66 to EN 60529                                           |
| Door Opening Angle  | 135°                                                        |
| Temperature Range   | -40°F to +212°F<br>window version -40°F to +176°F           |
| Impact Resistance   | >7 Nm, EN 50014                                             |
| Surface Resistance  | >10 <sup>12</sup> Ohm, DIN 53482                            |
| Disruptive Strength | 18 kV/mm, VDE 0303 / DIN 53481                              |
| Insulation          | fully insulated, VDE 0100                                   |
| Flammability        | UL 94 V0, self-extinguishing                                |
| Water Absorption    | max. 0.6%                                                   |
| Toxicity            | halogen free                                                |
| Color               | Agate gray, similar to RAL 7038. Special colors on request. |

| Polyglas/Polycase | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number<br>Polyglas | Part Number<br>Polyglas with<br>Window | Part Number<br>with Carrying<br>Handle | Part Number<br>with Window and<br>Carrying Handle |
|-------------------|-------------------------------|-----------------------------------|-------------------------|----------------------------------------|----------------------------------------|---------------------------------------------------|
| Size 1            | 300 x 400 x 200               | 11.81 x 15.75 x 7.87              | 21304000 00             | 22304000 00                            | 23304000 00                            | 24304000 00                                       |
| Size 2            | 400 x 600 x 250               | 15.75 x 23.62 x 9.84              | 21406000 00             | 22406000 00                            | 23406000 00                            | 24406000 00                                       |

**Note: Standard delivery enclosure without lock, please order separately.**

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Optional lock types (loose)        | Part Number |
|------------------------------------|-------------|
| Square lock 8 mm (2 pieces)        | 21610004 00 |
| Square lock 7 mm (2 pieces)        | 21610014 00 |
| Double ward lock 3 mm (2 pieces)   | 21610007 00 |
| Knob (2 pieces)                    | 21610001 00 |
| Knob, to lock with keys (2 pieces) | 21610002 00 |

| Accessories                                                  | Part Number |
|--------------------------------------------------------------|-------------|
| Mounting plate for size 1 (galvanized sheet steel)           | 10011203 00 |
| Mounting plate for size 2 (galvanized sheet steel)           | 10011204 00 |
| External brackets (4 pieces)                                 | 10031009 00 |
| Hole covers for mounting through the cabinet base (4 pieces) | 10039001 00 |
| Key, triangular 8 mm                                         | 10047003 00 |
| Key, square 8mm                                              | 10047004 00 |
| Key, square 7mm                                              | 10047014 00 |
| Key double ward 3 mm                                         | 10047007 00 |



## GFK Fiberglass/ABS Mini Cabinets



- Enclosure system with hinged lid
- Standard version or with window panel or transparent door (ABS)

### Included in delivery

Enclosure consisting of base and door; **please order door lock and keys separately**, press-in inserts in base for internal and external fitting. Door locks and keys sold separately.



### Technical Data

|                     |                                                             |                                                             |
|---------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| Material            | Glassfiber-reinforced, duroplastic Polyester                | ABS                                                         |
| Ingress Protection  | IP 65 to EN 60529                                           | IP 65 to EN 60529                                           |
| Door Opening Angle  | 135°                                                        | 135°                                                        |
| Temperature Range   | -67°F to +194°F<br>window version -67°F to +176°F           | -40°F to +158°F                                             |
| Impact Resistance   | >7 Nm, EN 50014                                             | >7 Nm, EN 50014                                             |
| Surface Resistance  | >10 <sup>12</sup> Ohm, DIN 53482                            | >10 <sup>12</sup> Ohm VDE 0303 / DIN 53482                  |
| Disruptive Strength | 18 kV/mm, VDE 0303 / DIN 53481                              | 18 kV/mm, VDE 0303 / DIN 53481                              |
| Insulation          | fully insulated, VDE 0100                                   | fully insulated, VDE 0100                                   |
| Flammability        | UL 94 V0, self-extinguishing                                | UL 94 HB                                                    |
| Water Absorption    | max. 0.2% DIN 53495 / ISO R 62                              | max. 0.2% DIN 53495 / ISO R62                               |
| Toxicity            | halogen free                                                | halogen free                                                |
| Color               | Agate gray, similar to RAL 7038. Special colors on request. | Light gray, similar to RAL 7035. Special colors on request. |

| Polyglass/Polycase | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number<br>ABS | Part Number<br>ABS with<br>Transparent Door | Part Number<br>GFK | Part Number<br>GFK<br>with Window |
|--------------------|-------------------------------|-----------------------------------|--------------------|---------------------------------------------|--------------------|-----------------------------------|
| Size 1             | 200 x 250 x 150               | 7.87 x 9.84 x 5.90                | 21202590 00        | 22202590 00                                 | -                  | -                                 |
| Size 2             | 250 x 300 x 170               | 9.84 x 11.81 x 6.69               | 21253090 00        | 22253090 00                                 | -                  | -                                 |
| Size 1             | 199 x 248.5 x 149             | 7.83 x 9.78 x 5.87                | -                  | -                                           | 21202500 00        | 22202500 00                       |
| Size 2             | 248.5 x 298.0 x 166           | 9.78 x 11.73 x 6.53               | -                  | -                                           | 21253000 00        | 22253000 00                       |

Note: Standard delivery enclosure without lock, please order separately.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Locking screws optional (loose) | Part Number |
|---------------------------------|-------------|
| Triangular lock 8 mm (1 piece)  | 21620003 00 |
| Square lock 8 mm (1 piece)      | 21620004 00 |
| Door handle                     | 21620001 00 |
| Locking door handle with key    | 21620002 00 |

| Accessories                                                     | Part Number |
|-----------------------------------------------------------------|-------------|
| Mounting plate for size 1 (2025) galvanized steel               | 10089040 00 |
| Mounting plate for size 2 (2035) galvanized steel               | 10089041 00 |
| Internal aluminum front panel with stud bolts for size 1 (2025) | 10095320 00 |
| Internal aluminum front panel with stud bolts for size 2 (2035) | 10095321 00 |
| Wall mount brackets (4 pieces)                                  | 10052010 00 |
| Triangular metal key                                            | 10094325 00 |
| Square metal key                                                | 10094326 00 |
| Mounting plate screws with washers (set of 4)                   | 10051059 00 |

## Fiberglass Mini Cabinets



- Mini enclosure system with hidden external hinge for MCR technology
- Standard version or with window panel

### Included in delivery

Enclosure consisting of base and door; **please order door locks and keys separately**, press-in inserts in the base for internal fitting.



UL 508

### Technical Data

|                     |                                                             |
|---------------------|-------------------------------------------------------------|
| Material            | Glassfiber-reinforced, duroplastic Polyester                |
| Ingress Protection  | IP 66 to EN 60529                                           |
| Door Opening Angle  | 120°                                                        |
| Temperature Range   | -40°F to +212°F<br>window version -40°F to +176°F           |
| Impact Resistance   | >7 Nm, EN 50014                                             |
| Surface Resistance  | >10 <sup>12</sup> Ohm, DIN 53482                            |
| Disruptive Strength | 18 kV/mm, VDE 0303 / DIN 53481                              |
| Insulation          | fully insulated, VDE 0100                                   |
| Flammability        | UL 94 V0, self-extinguishing                                |
| Water Absorption    | max. 0.6%                                                   |
| Toxicity            | halogen free                                                |
| Color               | Agate gray, similar to RAL 7038. Special colors on request. |

| Polyglass/Polycase | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number<br>Mini-Polyglas | Part Number<br>Mini-Polyglas<br>with window | Part Number<br>Mounting<br>Plate |
|--------------------|-------------------------------|-----------------------------------|------------------------------|---------------------------------------------|----------------------------------|
| Size 1             | 120 x 200 x 100               | 4.72 x 7.87 x 3.94                | 21122000 00                  | 22122000 00                                 | 10011207 00                      |
| Size 2             | 160 x 260 x 100               | 6.30 x 10.24 x 3.94               | 21162600 00                  | 22162600 00                                 | 10011208 00                      |
| Size 3             | 160 x 340 x 100               | 6.30 x 13.38 x 3.94               | 21163400 00                  | 22163400 00                                 | 10011209 00                      |
| Size 4             | 200 x 150 x 100               | 7.87 x 5.90 x 3.94                | 21201500 00                  | 22201500 00                                 | 10011210 00                      |
| Size 5             | 200 x 200 x 170               | 7.87 x 7.87 x 6.69                | 21202000 00                  | 22202000 00                                 | 10011201 00                      |
| Size 6             | 200 x 300 x 170               | 7.87 x 11.81 x 6.69               | 21203000 00                  | 22203000 00                                 | 10011202 00                      |

Note: Standard delivery enclosure without locking screws, please order separately.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Accessories                                                  | Part Number |
|--------------------------------------------------------------|-------------|
| Phillips lock (set of 2 with key)                            | 10093312 00 |
| Triangular lock (set of 2). Key must be order separately     | 10093313 00 |
| Square lock (set of 2). Key must be order separately         | 10093314 00 |
| Extra Phillips lock key                                      | 10094320 00 |
| Triangular metal key                                         | 10094325 00 |
| Square metal key                                             | 10094326 00 |
| Internal galvanized steel mounting plate for 2020            | 10089202 00 |
| Internal galvanized steel mounting plate for 1220            | 10011207 00 |
| Internal galvanized steel mounting plate for 1626            | 10011208 00 |
| Internal galvanized steel mounting plate for 1634            | 10011209 00 |
| Internal galvanized steel mounting plate for 2015            | 10011210 00 |
| Internal galvanized steel mounting plate for 2030            | 10089204 00 |
| Wall mount brackets for 2020 & 2030 (set of 4)               | 10052008 00 |
| Wall mount brackets for 1220, 1626, 1634 and 2015 (set of 4) | 10031008 00 |
| Mounting plate screws and washers (set of 4)                 | 10051051 00 |

## Element



- Components can be mounted quickly and easily through side-opening of the base.
- Easy access to electronic components for servicing
- Enclosure with air vents E...L available to ensure optimal heat dissipation

### Included in delivery

Lid and base, 4 mounting screws, (E 434 S without screws-with molded-on snap lock). E 430 A: includes aluminum panel in lid.



## Technical Data

|                    |                                                                                                   |
|--------------------|---------------------------------------------------------------------------------------------------|
| Color              | Upper section, light gray, similar to RAL 7035. Lower section, graphite gray, similar to RAL 7024 |
| Material           | Polystyrene                                                                                       |
| Ingress Protection | IP 40, DIN EN 60529 Dusttight. With air vents: IP 30 DIN EN 60529                                 |
| Flammability       | UL 94 HB/1.47                                                                                     |
| Surface Resistance | >10 <sup>13</sup> Ohm to DIN 53482                                                                |

| Model Number | Part Number | Dimensions mm<br>L x W x H | Dimensions Inches<br>L x W x H | Model Number | Part Number | Dimensions mm<br>L x W x H | Dimensions Inches<br>L x W x H |
|--------------|-------------|----------------------------|--------------------------------|--------------|-------------|----------------------------|--------------------------------|
| E 406        | 05406000 00 | 65 x 50 x 30               | 2.56 x 1.97 x 1.18             | E 434 S      | 05434000 00 | 188 x 110 x 40             | 7.40 x 4.33 x 1.57             |
| E 406 F      | 05406700 00 | 65 x 50 x 31               | 2.56 x 1.97 x 1.22             | E 435        | 05435000 00 | 120 x 65 x 65              | 4.72 x 2.56 x 2.56             |
| E 406 VL     | 05406900 00 | 65 x 50 x 30               | 2.56 x 1.97 x 1.18             | E 440        | 05440002 00 | 150 x 80 x 55              | 5.90 x 3.15 x 2.16             |
| E 408        | 05408000 00 | 65 x 50 x 45               | 2.56 x 1.97 x 1.77             | E 440 F      | 05440700 00 | 150 x 80 x 56              | 5.90 x 3.15 x 2.20             |
| E 410        | 05410002 00 | 100 x 50 x 25              | 3.94 x 1.97 x 0.98             | E 440 FVL    | 05440800 00 | 150 x 80 x 56              | 5.90 x 3.15 x 2.20             |
| E 410 F      | 05410700 00 | 100 x 50 x 26              | 3.94 x 1.97 x 1.02             | E 440 VL     | 05440200 00 | 150 x 80 x 55              | 5.90 x 3.15 x 2.16             |
| E 410 FVL    | 05410800 00 | 100 x 50 x 26              | 3.94 x 1.97 x 1.02             | E 445        | 05445000 00 | 150 x 80 x 80              | 7.40 x 4.33 x 3.15             |
| E 420        | 05420002 00 | 100 x 50 x 40              | 3.94 x 1.97 x 1.57             | E 450        | 05450002 00 | 188 x 110 x 70             | 7.40 x 4.33 x 2.75             |
| E 420 F      | 05420700 00 | 100 x 50 x 41              | 3.94 x 1.97 x 1.61             | E 450 F      | 05450700 00 | 188 x 110 x 71             | 7.40 x 4.33 x 2.79             |
| E 420 FVL    | 05420800 00 | 100 x 50 x 41              | 3.94 x 1.97 x 1.61             | E 450 FVL    | 05450800 00 | 188 x 110 x 71             | 7.40 x 4.33 x 2.75             |
| E 430        | 05430002 00 | 120 x 65 x 40              | 4.72 x 2.56 x 1.57             | E 450 VL     | 05450200 00 | 188 x 110 x 70             | 7.40 x 4.33 x 2.75             |
| E 430 A      | 05430500 00 | 120 x 65 x 40              | 4.72 x 2.56 x 1.57             | E 460        | 05460000 00 | 188 x 110 x 100            | 7.40 x 4.33 x 3.94             |
| E 430 F      | 05430700 00 | 120 x 65 x 41              | 4.72 x 2.56 x 1.61             | E 470        | 05470000 00 | 188 x 100 x 120            | 7.40 x 4.33 x 4.72             |
| E 430 FVL    | 05430800 00 | 120 x 65 x 41              | 4.72 x 2.56 x 1.61             |              |             |                            |                                |

F = Recessed for membrane keypad

VL = Ventilation slots

FVL = With membrane area for membrane keypads or front membranes and with vertically molded-in air vents

A = Recessed aluminum top plate

S = Snap fitting lid

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Part Number | Description                           |
|-------------|---------------------------------------|
| SMP 1230 G  | Mounting boss screws. Self-tapping    |
| TF 1230     | Rubber table feet (set of 4)          |
| MP430E      | Mounting plate for E430, E435         |
| DO430E      | Lid access screws for E430 (set of 4) |
| DO435E      | Lid access screws for E435 (set of 4) |
| HS440E      | Carry handle for E440                 |
| MP440E      | Mounting plate for E440, E445         |
| DO440E      | Lid access screws for E440 (set of 4) |
| DO445E      | Lid access screws for E445E           |
| HS450E      | Carry handle for E450                 |
| MP450E      | Mounting plate for E450, 460, 470     |
| DO450E      | Lid access screws for E450 (set of 4) |
| DO460E      | Lid access screws for E460 (set of 4) |
| DO470E      | Lid access screws for E470 (set of 4) |

## Executive Enclosures



- Provides optimal protection for your electronic products
- Versions available with or without ventilation
- Design covers and front panels made of aluminum or plastic also available

### Included in delivery

Lid and base, screws and cover or front panel depending on model.



### Technical Data

|                    |                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------|
| Color              | Upper section, light gray, similar to RAL 7035. Lower section, agate gray, similar to RAL 7038. |
| Material           | Impact resistant polystyrene                                                                    |
| Ingress Protection | IP 40 DIN EN 60529, dusttight                                                                   |
| Flammability       | UL 94 HB/1.47                                                                                   |
| Surface Resistance | >10 <sup>13</sup> Ohm to DIN 53482                                                              |

| Model Number     | Part Number | Dimensions mm<br>L x W x H | Dimensions Inches<br>L x W x H | Model Number     | Part Number | Dimensions mm<br>L x W x H | Dimensions Inches<br>L x W x H | Model Number     | Part Number | Dimensions mm<br>L x W x H | Dimensions Inches<br>L x W x H |
|------------------|-------------|----------------------------|--------------------------------|------------------|-------------|----------------------------|--------------------------------|------------------|-------------|----------------------------|--------------------------------|
| EG 1030          | 32103000 00 | 100 x 54 x 30              | 3.94 x 2.12 x 1.18             | EG 1530          | 32153002 00 | 150 x 82 x 30              | 5.90 x 3.23 x 1.18             | EG 2030          | 32203002 00 | 200 x 112 x 30             | 7.87 x 4.41 x 1.18             |
| EG 1030 L        | 32103010 00 | 100 x 54 x 30              | 3.94 x 2.12 x 1.18             | EG 1530 L        | 32153012 00 | 150 x 82 x 30              | 5.90 x 3.23 x 1.18             | EG 2030 L        | 32203012 00 | 200 x 112 x 30             | 7.87 x 4.41 x 1.18             |
| EG 1040          | 32104000 00 | 100 x 54 x 40              | 3.94 x 2.12 x 1.54             | EG 1530 B*       | 32153032 00 | 150 x 82 x 30              | 5.90 x 3.13 x 1.18             | EG 2030 B*       | 32203032 00 | 200 x 112 x 30             | 7.87 x 4.41 x 1.18             |
| EG 1040 L        | 32104010 00 | 100 x 54 x 40              | 3.94 x 2.12 x 1.54             | EG 1530 L-BL*    | 32153022 00 | 150 x 82 x 30              | 5.90 x 3.13 x 1.18             | EG 2030 L-BL*    | 32203022 00 | 200 x 112 x 30             | 7.87 x 4.41 x 1.18             |
| EG 1230          | 32123002 00 | 125 x 67 x 30              | 4.92 x 2.64 x 1.18             | EG 1530 F        | 32153062 00 | 150 x 82 x 31              | 5.90 x 3.23 x 1.22             | EG 2030 F        | 32203062 00 | 200 x 112 x 31             | 7.87 x 4.41 x 1.22             |
| EG-AL 1230       | 32123090 00 | 129 x 71 x 30              | 5.08 x 2.79 x 1.18             | EG 1530 FL*      | 32153067 00 | 150 x 82 x 31              | 5.90 x 3.23 x 1.22             | EG 2030 FL*      | 32203067 00 | 200 x 112 x 31             | 7.87 x 4.41 x 1.22             |
| EG 1230 L        | 32123012 00 | 125 x 67 x 30              | 4.92 x 2.67 x 1.18             | EG 1545          | 32154502 00 | 150 x 82 x 45              | 5.90 x 3.23 x 1.77             | EG 2050          | 32205002 00 | 200 x 112 x 50             | 7.87 x 4.41 x 1.97             |
| EG 1230 B*       | 32123032 00 | 125 x 67 x 30              | 4.92 x 2.64 x 1.18             | EG 1545 L        | 32154512 00 | 150 x 82 x 45              | 5.90 x 3.23 x 1.77             | EG 2050 L        | 32205012 00 | 200 x 112 x 50             | 7.87 x 4.41 x 1.97             |
| EG 1230 L-BL*    | 32123022 00 | 125 x 67 x 30              | 4.92 x 2.64 x 1.18             | EG 1545 B*       | 32154532 00 | 150 x 82 x 45              | 5.90 x 3.23 x 1.77             | EG 2050 B*       | 32205032 00 | 200 x 112 x 50             | 7.87 x 4.41 x 1.97             |
| EG 1230 F        | 32123062 00 | 125 x 67 x 31              | 4.92 x 2.64 x 1.22             | EG 1545 L-BL*    | 32154522 00 | 150 x 82 x 45              | 5.90 x 3.23 x 1.77             | EG 2050 L-BL*    | 32205022 00 | 200 x 112 x 50             | 7.87 x 4.41 x 1.97             |
| EG 1230 FL*      | 32123067 00 | 125 x 67 x 31              | 4.92 x 2.64 x 1.22             | EG 1545 FK       | 32154542 00 | 150 x 82 x 45              | 5.90 x 3.23 x 1.77             | EG 2050 FK       | 32205042 00 | 200 x 112 x 50             | 7.87 x 4.41 x 1.97             |
| EG 1240          | 32124002 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.57             | EG 1545 L-BL-FK* | 32154557 00 | 150 x 82 x 45              | 5.90 x 3.23 x 1.77             | EG 2050 L-BL-FK* | 32205055 00 | 200 x 112 x 50             | 7.87 x 4.41 x 1.97             |
| EG-AL 1240       | 32124090 00 | 129 x 71 x 40              | 5.08 x 2.79 x 1.57             | EG 1545 B-FK*    | 32154552 00 | 150 x 82 x 45              | 5.90 x 3.23 x 1.77             | EG 2050 B-FK*    | 32205052 00 | 200 x 112 x 50             | 7.87 x 4.41 x 1.97             |
| EG 1240 L        | 32124012 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.57             | EG 1545 F        | 32154563 00 | 150 x 82 x 46              | 5.90 x 3.23 x 1.81             | EG 2050 F        | 32205062 00 | 200 x 112 x 51             | 7.87 x 4.41 x 2.01             |
| EG 1240 B*       | 32124032 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.57             | EG 1545 FL*      | 32154567 00 | 150 x 82 x 46              | 5.90 x 3.23 x 1.81             | EG 2050 FL*      | 32205067 00 | 200 x 112 x 51             | 7.87 x 4.41 x 2.01             |
| EG 1240 L-BL*    | 32124022 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.57             | EG 1560          | 32156002 00 | 150 x 82 x 60              | 5.90 x 3.23 x 2.36             | EG 2070          | 32207002 00 | 200 x 112 x 70             | 7.87 x 4.41 x 2.75             |
| EG 1240 FK       | 32124042 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.57             | EG 1560 L        | 32156012 00 | 150 x 82 x 60              | 5.90 x 3.23 x 2.36             | EG 2070 L        | 32207012 00 | 200 x 112 x 70             | 7.87 x 4.41 x 2.75             |
| EG 1240 F-BL-FK* | 32124057 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.57             | EG 1560 B*       | 32156032 00 | 150 x 82 x 60              | 5.90 x 3.23 x 2.36             | EG 2070 B*       | 32207032 00 | 200 x 112 x 70             | 7.87 x 4.41 x 2.75             |
| EG 1240 B-FK*    | 32124052 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.57             | EG 1560 L-BL*    | 32156022 00 | 150 x 82 x 60              | 5.90 x 3.23 x 2.36             | EG 2070 L-BL*    | 32207022 00 | 200 x 112 x 70             | 7.87 x 4.41 x 2.75             |
| EG 1240 F        | 32124062 00 | 125 x 67 x 40              | 4.92 x 2.64 x 1.61             | EG 1560 FK       | 32156042 00 | 150 x 82 x 60              | 5.90 x 3.23 x 2.36             | EG 2070 FK       | 32207042 00 | 200 x 112 x 70             | 7.87 x 4.41 x 2.75             |
| EG 1240 F-L*     | 32124067 00 | 125 x 67 x 41              | 4.92 x 2.64 x 1.61             | EG 1560 L-BL-FK* | 32156057 00 | 150 x 82 x 60              | 5.90 x 3.23 x 2.36             | EG 2070 L-BL-FK* | 32207057 00 | 200 x 112 x 70             | 7.87 x 4.41 x 2.75             |
| EG 1250          | 32125002 00 | 125 x 67 x 50              | 4.92 x 2.64 x 1.97             | EG 1560 B-FK*    | 32156052 00 | 150 x 82 x 60              | 5.90 x 3.23 x 2.36             | EG 2070 B-FK*    | 32207052 00 | 200 x 112 x 70             | 7.87 x 4.41 x 2.75             |
| EG-AL 1250       | 32125090 00 | 129 x 71 x 50              | 5.08 x 2.79 x 1.97             | EG 1560 F        | 32156062 00 | 150 x 82 x 61              | 5.90 x 3.23 x 2.40             | EG 2070 F        | 32207062 00 | 200 x 112 x 71             | 7.87 x 4.41 x 2.79             |
| EG 1250 L        | 32125012 00 | 125 x 67 x 50              | 4.92 x 2.64 x 1.97             | EG 1560 FL*      | 32156067 00 | 150 x 82 x 61              | 5.90 x 3.23 x 2.40             | EG 2070 FL*      | 32207067 00 | 200 x 112 x 71             | 7.87 x 4.41 x 2.79             |
| EG 1250 B*       | 32125032 00 | 125 x 67 x 50              | 4.92 x 2.64 x 1.97             |                  |             |                            |                                |                  |             |                            |                                |
| EG 1250 L-BL*    | 32125022 00 | 125 x 67 x 50              | 4.92 x 2.64 x 1.97             |                  |             |                            |                                |                  |             |                            |                                |
| EG 1250 FK       | 32125042 00 | 125 x 67 x 50              | 4.92 x 2.64 x 1.97             |                  |             |                            |                                |                  |             |                            |                                |
| EG 1250 L-BL-FK* | 32125057 00 | 125 x 67 x 50              | 4.92 x 2.64 x 1.97             |                  |             |                            |                                |                  |             |                            |                                |
| EG 1250 B-FK*    | 32125052 00 | 125 x 67 x 50              | 4.92 x 2.64 x 1.97             |                  |             |                            |                                |                  |             |                            |                                |
| EG 1250 F        | 32125062 00 | 125 x 67 x 51              | 4.92 x 2.64 x 2.01             |                  |             |                            |                                |                  |             |                            |                                |
| EG 1250 FL*      | 32125067 00 | 125 x 67 x 51              | 4.92 x 2.64 x 2.01             |                  |             |                            |                                |                  |             |                            |                                |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

\*Available on request  
 L = Enclosure with air vents  
 B = Cover panel closed  
 BL = Cover panel with air vents  
 F = Membrane keypad ared  
 FK = Plastic front panel  
 FKL = Plastic front panel with integrated ventilation  
 DOB = Front access lid screws (factory installation recommended)

### Accessories

| Model Number | Description                        |
|--------------|------------------------------------|
| WL 1230 EG   | Wall mounting brackets (set of 4)  |
| SA 1230 EG   | Base screw covers (set of 4)       |
| AK 1230 EG   | Keyhole knockout covers (set of 4) |
| MP 10 EG     | Mounting plate for EG 1030-1040    |
| MP 12 EG     | Mounting plate for EG 1230-1250    |
| S 1230 EG    | 4 assembly screws                  |
| MP 15 EG     | Mounting plate for EG 1530-1560    |
| MP 20 EG     | Mounting plate for EG 2030-2070    |

## Futura Sloped Housings



- Enclosures designed for keypads with a ergonomic sloped front
- Designs in which half-shells are assembled either as a console type or with the top shell inverted as a parallel design.

### Included in delivery

Lid, base, assembly screws, and 4 rubber feet  
RO Version with aluminum front panel



### Technical Data

|                    |                                                                                                                                     |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Color              | Light gray, similar to RAL 7035. T 900, black, similar to RAL 9005. Special colors on request.<br>500 piece minimum order required. |
| Material           | ABS plastic                                                                                                                         |
| Ingress Protection | IP 40 DIN EN 60529                                                                                                                  |
| Surface Resistance | $>10^{14}$ Ohm to DIN 53482                                                                                                         |
| Flammability       | UL 94 HB/1.6                                                                                                                        |

| Model Number | Part Number | External Dimensions<br>mm<br>L x W | External Dimensions<br>Inches<br>L x W | External Dimensions<br>mm<br>Height Console | External Dimensions<br>Inches<br>Height Console | External Dimensions<br>mm<br>Height Parallel | External Dimensions<br>Inches<br>Height Parallel | Design Console | Design Parallel |
|--------------|-------------|------------------------------------|----------------------------------------|---------------------------------------------|-------------------------------------------------|----------------------------------------------|--------------------------------------------------|----------------|-----------------|
| T 888 F      | 47888200 00 | 195 x 275                          | 7.68 x 10.83                           | 24.5 / 48.0                                 | 0.96 / 1.90                                     | 36.3                                         | 1.43                                             |                |                 |
| T 889 F      | 47889200 00 | 170 x 132                          | 6.69 x 5.20                            | 24.5 / 44.9                                 | 0.96 / 1.77                                     | 36.3                                         | 1.43                                             |                |                 |
| T 898        | 47898000 00 | 195 x 151                          | 7.68 x 5.94                            | 24.5 / 44.9                                 | 0.86 / 1.77                                     | 36.3                                         | 1.43                                             |                |                 |
| T 898 F      | 47898200 00 | 195 x 151                          | 7.68 x 5.94                            | 24.5 / 44.9                                 | 0.96 / 1.77                                     | 36.3                                         | 1.43                                             |                |                 |
| T 898 RO     | 47898100 00 | 195 x 151                          | 7.68 x 5.94                            | 24.5 / 44.9                                 | 0.96 / 1.77                                     |                                              |                                                  |                |                 |
| T 898 F-RO   | 47898300 00 | 195 x 151                          | 7.68 x 5.94                            | 24.5 / 44.9                                 | 0.96 / 1.44                                     |                                              |                                                  |                |                 |
| T 899        | 47899001 00 | 125 x 150                          | 7.68 x 5.94                            | 15.0 / 30.7                                 | 0.59 / 1.21                                     | 22.8                                         | 0.90                                             |                |                 |
| T 890        | 47890001 00 | 300 x 225                          | 4.92 x 5.91                            | 17.0 / 48.7                                 | 0.67 / 1.92                                     |                                              |                                                  |                |                 |
| T 893        | 47893001 00 | 500 x 225                          | 19.68 x 8.86                           | 17.0 / 48.7                                 | 0.67 / 1.92                                     |                                              |                                                  |                |                 |
| T 895 P      | 47895101 00 | 480 x 330                          | 19.00 x 8.86                           | 89.3                                        | 3.51                                            |                                              |                                                  |                |                 |
| T 900        | 47900000 00 | 280 x 240                          | 11.02 x 9.45                           | 33.0                                        | 1.30                                            |                                              |                                                  |                |                 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

F = Console with continuous area

RO = Console with rear wall open, split key area

F-RO = Console with rear wall open, continuous key area

P = Console with molded-on section for digital display

## BP 810 & BP 900 F Housings



### BP 810

- Can be used as a console or handheld unit.
- Elegant ergonomic design, large membrane keypad area, single PC board technology, clamp between lid and base, large front panel area, recessed installation area for cable glands.
- Front panels can be processed separately without any problems and provides adequate space for a wide range of connector designs.

#### Included in delivery

Lid, base, assembly screws, front panel, and rubber feet.



### Technical Data

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Color              | Light gray, similar to RAL 7035. Special colors on request. Minimum order quantities apply. |
| Material           | ABS plastic                                                                                 |
| Ingress Protection | IP 40/DIN EN 60529                                                                          |
| Surface Resistance | $>10^{14}$ Ohm to DIN 53482                                                                 |
| Flammability       | UL 94 HB/1.6                                                                                |

| Model Number | Part Number | Dimensions<br>mm  | Dimensions<br>Inches    |
|--------------|-------------|-------------------|-------------------------|
|              |             | L x D x H         | L x D x H               |
| BP 810       | 45810000 00 | 176 x 106 x 54/24 | 6.93 x 4.17 x 2.13/0.94 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### BP 900-F

- Ideal for use as a charging operation terminal
- Base can be attached parallel to STD 900
- Enclosure ideally suited for use under extreme environmental conditions
- Have three different uses: flat position on a table, angled position on a table, or wall mounted.

#### Included in delivery

Lid, base, assembly screws, lid seal in groove (in horizontal position), and 2 cover panels



Left - BP 900 F

### Technical Data

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Color              | Agate gray, similar to RAL 7038. Special colors on request. Minimum order quantities apply. |
| Material           | ABS plastic                                                                                 |
| Ingress Protection | IP 65/DIN EN 60529                                                                          |
| Surface Resistance | $>10^{14}$ Ohm to DIN 53482                                                                 |
| Flammability       | UL 94 HB/1.6                                                                                |

| Model Number | Part Number | Dimensions<br>mm | Dimensions<br>Inches |
|--------------|-------------|------------------|----------------------|
|              |             | L x D x H        | L x D x H            |
| BP 900 F     | 45900600 00 | 211 x 100 x 118  | 8.31 x 3.94 x 1.65   |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



## Mini Console Housings



- Two basic sizes, each with opened or closed console surface and open rear section that will accept a 2mm thick slide-in panel
- Console can be easily adapted to meet your requirements by using aluminum front panels.
- Internal mounting bosses in base for self-tapping screws

### Included in delivery

Lid, base, 4 screw covers, 4 rubber feet, and 4 assembly screws  
(front panels not included)



## Technical Data

|                    |                                                                                                                                                                |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color              | Light gray, similar to RAL 7035. Screws, covers and wall brackets, agate gray, similar to RAL 7038. Special colors on request. Minimum order quantities apply. |
| Material           | ABS plastic                                                                                                                                                    |
| Ingress Protection | IP 40/DIN EN 60529                                                                                                                                             |
| Surface Resistance | $>10^{14}$ Ohm to DIN 53482                                                                                                                                    |
| Flammability       | UL 94 HB/1.6                                                                                                                                                   |

| Model Number | Part Number | Dimensions mm   | Dimensions Inches   |
|--------------|-------------|-----------------|---------------------|
|              |             | W x D x H rear  | W x D x H rear      |
| UM 32014     | 45320140 00 | 157 x 199 x 100 | 6.18 x 7.83 x 3.94  |
| UMP 32014 FP | 45320145 00 | 157 x 199 x 100 | 6.18 x 7.83 x 3.94  |
| UMP 32018    | 45320180 00 | 157 x 199 x 120 | 6.18 x 7.83 x 4.72  |
| UMP 32018 FP | 45320185 00 | 157 x 199 x 120 | 6.18 x 7.83 x 4.72  |
| UMP 62014    | 45620140 00 | 291 x 199 x 100 | 11.46 x 7.83 x 3.94 |
| UMP 62014 FP | 45620145 00 | 291 x 199 x 100 | 11.46 x 7.83 x 3.94 |
| UMP 62018    | 45620180 00 | 291 x 199 x 120 | 11.46 x 7.83 x 4.72 |
| UMP 62018 FP | 45620185 00 | 291 x 199 x 120 | 11.46 x 7.83 x 4.72 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Model Number | Part Number | Description                                                                |
|--------------|-------------|----------------------------------------------------------------------------|
| FP 30014     | 56031400 00 | Rear panel, aluminum for UMP 32014 / UMP 32014 FP                          |
| FPK 30014    | 56031410 00 | Rear panel, plastic for UMP 32014 / UMP 32014 FP                           |
| FPP 32000    | 29320180 00 | Aluminum front panel for console areas                                     |
| UM 1230 WLN  | 56002100 00 | Wall brackets for UMP 32014 and UMP 32016                                  |
| FP 60014     | 56061400 00 | Rear panel aluminum for UMP 62014 / UMP 62014 FP                           |
| FPK 60014    | 56061410 00 | Rear panel plastic for UMP 62014 / UMP 62014 FP                            |
| FPP 62000    | 29620180 00 | Aluminum front panel for UMP 62014 / UMP 62014FP, UMP 32018 / UMP 32018 FP |
| FP 30018     | 56031800 00 | Rear panel aluminum for UMP 32018 / UMP 32018 FP                           |
| FPK 30018    | 56031810 00 | Rear panel plastic for UMP 32018 / UMP 32018 FP                            |
| UM 1230 WLH  | 56002000 00 | Wall brackets for UMP 32018 and UMP 62018                                  |
| FP 60018     | 56061800 00 | Rear panel, aluminum for UMP 32018 / UMP 32018 FP                          |
| FPK 60018    | 56061810 00 | Rear panel, plastic for UMP 32018 / 32018 FP                               |

## Executive Sloped Front Housings



- Console type housing suited for use as a desktop or wall-mount enclosure
- PD version features recessed display window for LCD displays and recessed membrane keypads
- Wall mountable
- PC boards or mounting plates can be attached on mounting bosses in lid and base
- P version features a console-type lid with recessed continuous membrane keypad area

### Included in delivery

Lid, base, 4 screws, and rear panel. PD version includes display screen.



### Technical Data

|                    |                                                                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color              | Lid, light gray, similar to RAL 7035. Base, covers and rear panels, agate gray, similar to RAL 7038. Special colors on request. Minimum order quantity 500+ pieces. |
| Material           | Impact-resistant polystyrene                                                                                                                                        |
| Ingress Protection | Closed version: IP 40/DIN EN 60529                                                                                                                                  |
| Surface Resistance | >10 <sup>13</sup> Ohm to DIN 53482                                                                                                                                  |
| Flammability       | UL 94 HB/1.47                                                                                                                                                       |

| Model Number | Part Number | Dimensions<br>mm | Dimensions<br>Inches |
|--------------|-------------|------------------|----------------------|
|              |             | L x W x H        | L x W x H            |
| EG 1240 P    | 32124070 00 | 125 x 67.0 x 40  | 4.92 x 2.64 x 1.57   |
| EG 1240 PD   | 32124080 00 | 125 x 67.0 x 40  | 4.92 x 1.64 x 1.57   |
| EG 1545 P    | 32154570 00 | 150 x 82.0 x 45  | 5.91 x 3.23 x 1.77   |
| EG 1545 PD   | 32154580 00 | 150 x 82.0 x 45  | 5.91 x 3.23 x 1.77   |
| EG 2060 P    | 32206010 00 | 200 x 112 x 64   | 7.87 x 4.41 x 2.52   |
| EG 2060 PD   | 32206000 00 | 200 x 112 x 64   | 7.87 x 4.41 x 2.52   |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

P = Version with console-type lid

PD = Version with console-type lid and display opening

### Accessories

| Model Number | Part Number | Description                                           |
|--------------|-------------|-------------------------------------------------------|
| EG-SA        | 33000300 00 | Set of screw covers for assembly screws, 4 piece pack |
| EG-AK        | 33000100 00 | Covers for keyhole suspension, 2 piece pack           |
| EG-GF        | 25002100 00 | Rubber feet, pack of 4                                |
| EG-M-12      | 33012000 00 | Mounting plate for EG 1240                            |
| EG-M 15      | 33015000 00 | Mounting plate for EG 1545                            |
| EG-M 20      | 33020000 00 | Mounting plate for EG 2060                            |

Build-A-Box® extrusions are sold in meter lengths and cut to custom lengths to meet your exact design requirements.

Developments in electronics are progressing faster and faster. Whereas complete modules could be housed in large standard enclosures just a few years ago, for added space, today's enclosures must adapt themselves permanently to new requirements.

In addition to conventional protection requirements such as the ingress protection classification (IP), the toughness against electro-magnet interfering radiation is now an important selection criteria.

Rose electronic enclosures comply with all current requirements for quality electronic enclosures:

- EMC or standard protection version
- for external, switchgear cabinet and internal use
- implementation as table, wall or regulator enclosure
- ingress protection up to IP 65
- design and functionality



### **Alubos**

- 20 profiles are available with profiles that are closed, split horizontally, and/or open on one side
- High mechanical loading capacity of the profile and EMC screening ensure high level of protective functions

### **Multitronic Build-A-Box®**

- 8 enclosure profile configurations from 105W x 36H mm to 208W x 54H mm
- Application area: EMC mounting enclosure in measurement and control engineering

### **Multitronic TS Build-A-Box®**

- 8 enclosure profile configurations from 46/72W x 61H mm to 105W x 84H mm
- Application area: EMC enclosure for measurement/control engineering and DIN rail mounting

### **Custom Build-A-Box®**

- 8 enclosure profile configurations from 105W x 85H mm to 196W x 167H mm
- Application area: PCB slot-in enclosure in measurement and control engineering

### **Profitronic**

- 39 enclosures in sizes from 148 x 235 x 149 mm to 265 x 276 x 241 mm
- Application area: mechanical engineering, MCR-technology, Bus-technology

### **Profitronic Universal**

- 12 enclosures in sizes from 148 x 258 x 149 mm to 265 x 285 x 241 mm
- Application area: mechanical engineering, measurement and control

- Ergonomic, individual hand-held enclosure in your design
- Available with profiles which are closed, divided horizontally, and open on one side
- High mechanical loading capacity of the profile and EMC screening ensure high level of protective functions

## Included in delivery

**ABP:** Closed extrusion only. Black powder-coated Aluminum sold by the meter

**ABPH:** Split extrusion only. Black powder-coated Aluminum sold by the meter

**ABPU:** Extrusion open on one side. Black powder-coated Aluminum sold by the meter



## Technical Data

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Material           | Aluminum extrusion, Al Mg Si 0.5, powder-coated aluminum diecast lid GD-Al Si 12                                              |
| Color              | Powdercoated Satin Black, similar to RAL 9005, fine texture finish. Special colors on request. Minimum order quantities apply |
| Ingress Protection | IP 65, EN 60529<br>IP 40 when using parallel adapters (AB-AP) with 600, 800 and 1000 extrusions                               |

| Model Number   | Part Number | Dimensions mm   | Dimensions Inches   |
|----------------|-------------|-----------------|---------------------|
|                |             | L x W x H       | L x W x H           |
| ABP 600-1000   | 84060000 00 | 1000 x 57 x 32  | 39.37 x 2.24 x 1.26 |
| ABP 800-1000   | 84080000 00 | 1000 x 82 x 32  | 39.37 x 3.23 x 1.26 |
| ABP 820-1000   | 84820000 00 | 1000 x 82 x 22  | 39.37 x 3.23 x 0.87 |
| ABP 1000-1000  | 84100000 00 | 1000 x 106 x 32 | 39.37 x 4.17 x 1.26 |
| ABP 1040-1000  | 84040000 00 | 1000 x 108 x 32 | 39.37 x 4.25 x 1.26 |
| ABP 1300-1000  | 84130000 00 | 1000 x 138 x 34 | 39.37 x 5.43 x 1.34 |
| ABP 1600-1000  | 84160001 00 | 1000 x 169 x 52 | 39.37 x 6.65 x 2.05 |
| ABP 1680-1000  | 84680000 00 | 1000 x 169 x 82 | 39.37 x 6.65 x 3.23 |
| ABP 2070-1000  | 84207000 00 | 1000 x 210 x 74 | 39.37 x 8.27 x 2.91 |
| ABPH 600-1000  | 84066001 00 | 1000 x 57 x 32  | 39.37 x 2.24 x 1.26 |
| ABPH 800-1000  | 84086001 00 | 1000 x 82 x 32  | 39.37 x 3.23 x 1.26 |
| ABPH 820-1000  | 84826000 00 | 1000 x 82 x 22  | 39.37 x 3.23 x 0.87 |
| ABPH 1000-1000 | 84106001 00 | 1000 x 106 x 32 | 39.37 x 4.17 x 1.26 |
| ABPH 1040-1000 | 84046000 00 | 1000 x 108 x 42 | 39.37 x 4.25 x 1.65 |
| ABPH 1300-1000 | 84136000 00 | 1000 x 138 x 34 | 39.37 x 5.43 x 1.34 |
| ABPH 1680-1000 | 84686000 00 | 1000 x 169 x 82 | 39.37 x 6.65 x 3.23 |
| ABPU 820-1000  | 84827000 00 | 1000 x 82 x 22  | 39.37 x 3.23 x 0.87 |
| ABPU 1040-1000 | 84047000 00 | 1000 x 108 x 42 | 39.37 x 4.25 x 1.65 |
| ABPU 1300-1000 | 84137000 00 | 1000 x 138 x 34 | 39.37 x 5.43 x 1.34 |
| ABPU 1680-1000 | 84687000 00 | 1000 x 169 x 82 | 39.37 x 6.65 x 3.23 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Model Number      | Part Number | Description                                                           | Model Number       | Part Number | Description                                                  |
|-------------------|-------------|-----------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------|
| ABM 600 AL        | 84602000 00 | Mounting lid, aluminum profile cap                                    | DI 1040-3000       | 84200411 00 | Seal, flame red (10 pieces)                                  |
| AMB 600 IR        | 84063000 00 | Mounting lid, infrared-permissive plastic cap                         | DI 1040-1021       | 84200413 00 | Seal, yellow (10 pieces)                                     |
| ABM 600 SAL       | 84064000 00 | Mounting lid, aluminum hinged flap                                    | DI 1040-6000       | 84200412 00 | Seal, patina green (10 pieces)                               |
| ABM 600 AL-BE     | 84062100 00 | Mounting lid, aluminum profile cap, battery compartment 9V            | ABPU 1040-1000 FP2 | 84048000 00 | Front panel for ABPU 1040-1000                               |
| ABM 600 IR-BE     | 84063100 00 | Mounting lid, infrared-permissive plastic cap, battery compartment 9V | ABM 1300 AL        | 84132000 00 | Mounting lid, aluminum profile cap                           |
| ABM 600 SAL-BE    | 84064100 00 | Mounting lid, aluminum hinged flap, battery compartment 9V            | ABD 1300 SAL       | 84134000 00 | Mounting lid, aluminum hinged flap                           |
| ABD 600           | 84061000 00 | End lid                                                               | ABM 1300           | 84131000 00 | End lid                                                      |
| DI 600-EMV        | 84200615 00 | EMC seal, black (10 pieces)                                           | DI 1300-EMV        | 84201315 00 | EMC seal, black (10 pieces)                                  |
| DI 600-5002       | 84200614 00 | Seal, ultramarine (10 pieces)                                         | DI 1300-5002       | 84201314 00 | Seal, ultramarine (10 pieces)                                |
| DI 600-3000       | 84200611 00 | Seal, flame red (10 pieces)                                           | DI 1300-3000       | 84201311 00 | Seal, flame red (10 pieces)                                  |
| DI 600-1021       | 84200612 00 | Seal, yellow (10 pieces)                                              | DI 1300-1021       | 84201312 00 | Seal, yellow (10 pieces)                                     |
| DI 600-6000       | 84200613 00 | Seal, patina green (10 pieces)                                        | DI 1300-6000       | 84201313 00 | Seal, patina green (10 pieces)                               |
| ABM 800 AL        | 84082000 00 | Mounting lid, aluminum profile cap                                    | ABPU 1300-1000 FP2 | 84138000 00 | Front panel for ABPU 1300-1000                               |
| ABM 800 IR        | 84083000 00 | Mounting lid, infrared-permissive plastic cap                         | ABD 1600           | 84161000 00 | End lid, black seals, screws, screw cover for ABD 1600-1000  |
| ABM 800 SAL       | 84084000 00 | Mounting lid, aluminum hinged flap                                    | DI 1600-EMV        | 84201615 00 | EMC seal, black (10 pieces)                                  |
| ABM 800 AL-BE     | 84082100 00 | Mounting lid, aluminum profile cap, battery compartment 9V            | DI 1600-5002       | 84201614 00 | Seal, ultramarine (10 pieces)                                |
| ABM 800 IR-BE     | 84083100 00 | Mounting lid, infrared-permissive plastic cap, battery compartment 9V | DI 1600-3000       | 84201616 00 | Seal, flame red (10 pieces)                                  |
| ABM 800 SAL-BE    | 84084100 00 | Mounting lid, aluminum hinged flap, battery compartment 9V            | DI 1600-1021       | 84201612 00 | Seal, yellow (10 pieces)                                     |
| ABD 800           | 84081000 00 | End lid, powder-coated aluminum                                       | DI 1600-6000       | 84201613 00 | Seal, patina green (10 pieces)                               |
| ABA 800-1000      | 84002000 00 | Axial adapter for ALUBOS 800/100                                      | ABD 1680           | 84168100 00 | End lid, black seals, screws, screw cover for ABD 1680-1000  |
| DI 800-EMV        | 84200815 00 | EMC seal, black (10 pieces)                                           | DI 1680-EMV        | 84206815 00 | EMC seal, black (10 pieces)                                  |
| DI 800-5002       | 84200814 00 | Seal, ultramarine (10 pieces)                                         | DI 1680-5002       | 84206814 00 | Seal, ultramarine (10 pieces)                                |
| DI 800-3000       | 84200811 00 | Seal, flame red (10 pieces)                                           | DI 1680-3000       | 84206811 00 | Seal, flame red (10 pieces)                                  |
| DI 800-1021       | 84200812 00 | Seal, yellow (10 pieces)                                              | DI 1680-1021       | 84206812 00 | Seal, yellow (10 pieces)                                     |
| DI 800-6000       | 84200813 00 | Seal, patina green (10 pieces)                                        | DI 1680-6000       | 84206813 00 | Seal, patina green (10 pieces)                               |
| ABD 820           | 84821000 00 | End lid, black seal, screws, screw cover                              | ABPU 1680-1000 FP3 | 84689000 00 | Front panels for ABPU 1680-1000                              |
| DI 820-EMV        | 84208215 00 | EMC seal, black (10 pieces)                                           | ABD 2070           | 84271000 00 | End lid, black seals, screws, screw covers for ABP 2070-1000 |
| DI 820-5002       | 84208214 00 | Seal, ultramarine (10 pieces)                                         | DI 2070-EMV        | 84202715 00 | EMC seal, black (10 pieces)                                  |
| DI 820-3000       | 84208211 00 | Seal, flame red (10 pieces)                                           | DI 2070-5002       | 84202714 00 | Seal, ultramarine (10 pieces)                                |
| DI 820-1021       | 84208212 00 | Seal, yellow (10 pieces)                                              | DI 2070-3000       | 84202711 00 | Seal, flame red (10 pieces)                                  |
| DI 820-6000       | 84208213 00 | Seal, patina green (10 pieces)                                        | DI 2070-1021       | 84202712 00 | Seal, yellow (10 pieces)                                     |
| ABPU 820-1000 FP2 | 84828000 00 | Front panel for ABPU 820-1000                                         | DI 2070-6000       | 84202713 00 | Seal, patina green (10 pieces)                               |
| ABM 1000 AL       | 84102000 00 | Mounting lid, aluminum profile cap                                    | AB-1000 WLV        | 84105000 00 | ALUBOS adjustable wall bracket                               |
| ABM 1000 IR       | 84103000 00 | Mounting lid, infrared-permissive plastic cap                         | AB-WL              | 84005000 00 | Wall brackets for use with 600/800/1000/1300                 |
| ABM 1000 SAL      | 84104000 00 | Mounting lid, aluminum hinged flap                                    | AB-WL 1            | 84006001 00 | Wall brackets for use with 820                               |
| AMB 1000 AL-BE    | 84202100 00 | Mounting lid, aluminum profile cap, battery compartment 9V            | AB-WL 2            | 84007000 00 | Wall brackets for use with 1040                              |
| ABM 1000 IR-BE    | 84103100 00 | Mounting lid, infrared-permissive plastic cap, battery compartment 9V | AB-WL 3            | 84008000 00 | Wall brackets for use with 1600/1680/2070                    |
| ABM 1000 SAL-BE   | 84104100 00 | Mounting lid, aluminum hinged flap, battery compartment 9V            | AB 600 MKL         | 84006600 00 | Mounting clamp for ALUBOS 600                                |
| ABD 1000          | 84101000 00 | End lid                                                               | AB 800 MKL         | 84006400 00 | Mounting clamp for ALUBOS 800                                |
| DI 1000-EMV       | 84201015 00 | EMC seal, black (10 pieces)                                           | AB 1000 MKL        | 84006500 00 | Mounting clamp for ALUBOS 1000                               |
| DI 1000-5002      | 84201014 00 | Seal, ultramarine (10 pieces)                                         | AB-MKL             | 84006300 00 | Mounting clamp for ALUBOS 600/800/1000                       |
| DI 1000-3000      | 84201011 00 | Seal, flame red (10 pieces)                                           | AB 1600 HS         | 84162000 00 | Handle for use with ALUBOS 1600/1680                         |
| DI 1000-1021      | 84201012 00 | Seal, yellow (10 pieces)                                              | AB 2000 HS         | 84200000 00 | Handle for use ALUBOS 2070                                   |
| DI 1000-6000      | 84201013 00 | Seal, patina green (10 pieces)                                        | AB-AP 60           | 84006000 00 | Parallel adapter for ALUBOS 600/800/1000, 60 mm length       |
| ABM 1040 AL       | 84042000 00 | Mounting lid, aluminum profile cap                                    | AB-AP 100          | 84010000 00 | Parallel adapter for ALUBOS 600/800/1000, 100 mm length      |
| ABM 1040 SAL      | 84044000 00 | Mounting lid, aluminum hinged flap                                    | AB-AP 150          | 84015000 00 | Parallel adapter for ALUBOS 600/800/1000, 150 mm length      |
| ABM 1040          | 84041000 00 | End lid                                                               | ABA 800-1000       | 84002000 00 | Axial adapter, adapts ABP 800 to an ABP 1000                 |
| DI 1040-EMV       | 84200415 00 | EMC seal, black (10 pieces)                                           | AB-GF              | 84006700 00 | Rubber feet                                                  |
| DI 1040-5002      | 84200414 00 | Seal, ultramarine (10 pieces)                                         |                    |             |                                                              |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Alu-Topline



- Desktop enclosure whose innovative technology and ergonomic lines for use in the field of data recording and processing.
- Split profile of the enclosure guarantees easier and faster assembly of electronics and other components.
- Lid can be rotated in order to cover different ranges of application with the same contents.
- Profiles have a range of PCB slots and screw channels so that PCBs can be fitted in the required positions.

### Included in delivery

Enclosure profile, split horizontally



## Technical Data

|                            |                                                                                                                                                                                  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color                      | Profiles: clear anodized aluminum. End lids: quartz gray, similar to RAL 7039 and graphite gray, similar to RAL 7024. Special colors on request. Minimum order quantities apply. |
| Material                   | Profile: Aluminum Al Mg Si 0.5. End lids: ABS plastic                                                                                                                            |
| Protection Classifications | IP 40, DIN EN 60529. IP 54, when using seal (AT...DI) with sponge cord factory-installed                                                                                         |

| Model Number   | Model Number | External Dimensions<br>mm<br>L x W x H | External Dimensions<br>Inches<br>L x W x H |
|----------------|--------------|----------------------------------------|--------------------------------------------|
| ATPH 1850-0150 | 92850150 00  | 150 x 183.8 x 53.2                     | 5.90 x 7.24 x 2.09                         |
| ATPH 1850-0200 | 92850200 00  | 200 x 183.8 x 53.2                     | 7.87 x 7.24 x 2.09                         |
| ATPH 1850-0250 | 92850250 00  | 250 x 183.8 x 53.2                     | 9.84 x 7.24 x 2.09                         |
| ATPH 1850-0300 | 92850300 00  | 300 x 183.8 x 53.2                     | 11.81 x 7.24 x 2.09                        |
| ATPH 1865-0150 | 92865150 00  | 150 x 183.8 x 68.2                     | 5.90 x 7.24 x 2.68                         |
| ATPH 1865-0200 | 92865200 00  | 200 x 183.8 x 68.2                     | 7.87 x 7.24 x 2.68                         |
| ATPH 1865-0250 | 92865250 00  | 250 x 183.8 x 68.2                     | 9.84 x 7.24 x 2.67                         |
| ATPH 1865-0300 | 92865300 00  | 300 x 183.8 x 68.2                     | 11.81 x 7.24 x 2.68                        |

Meter lengths available upon request. Minimum order may apply.

### Accessories

| Model Number    | Part Number | Description                                                                                       |
|-----------------|-------------|---------------------------------------------------------------------------------------------------|
| ATD 1850-7024   | 92050024 00 | Lid, graphite gray, similar to RAL 7024, (includes: 2 lids, right/left, 8 screws, 8 screw covers) |
| ATD 1850-7039   | 92050039 00 | Lid, quartz gray, similar to RAL 7039, (includes: 2 lids, right/left, 8 screws, 8 screw covers)   |
| AT 1850 DI*     | 92050000 00 | Seal for ingress protection IP 54, (includes: 5 sets of sponge rubber seals, right/left)          |
| ATD 1865-7024   | 92065024 00 | Lid, graphite gray, similar to RAL 7024 (includes: 2 lids, right/left, 8 screws, 8 screw covers)  |
| ATD 1865-7039   | 92065039 00 | Lid, quartz gray, similar to RAL 7039, (includes 2 lids, right/left, 8 screws, 8 screw covers)    |
| AT 1865 DI*     | 92065000 00 | Seal for ingress protection IP 54, (includes: 5 sets of sponge rubber seals, right/left)          |
| AT 1800-0150 WB | 92800150 00 | Wall bracket 150 (includes: 1 wall profile, 2 tapped pins)                                        |
| AT 1800-0200 WB | 92800200 00 | Wall bracket for profile 200 (includes: 1 wall profile, 2 tapped pins)                            |
| AT 1800-0250 WB | 92800250 00 | Wall bracket for profile 250 (includes: 1 wall profile, 2 tapped pins)                            |
| AT 1800-0300 WB | 92800300 00 | Wall bracket for profile 300 (includes: 1 wall profile, 2 tapped pins)                            |
| AT-IS 00020     | 92000100 00 | Insulating strip (includes: 5 insulating strips)                                                  |
| AB-GF           | 94006700 00 | Rubbet feet (includes: 4 rubber feet)                                                             |

\*Note: to attain IP 54, in addition to seal AT... DI, a sponge cord must be factory installed in the enclosure profile.



ATPH 1850  
Split Profile



ATPH 1865  
Split Profile



ATD 18...  
Lid made of ABS plastic



- Clear anodized aluminum profile enclosure system in 3 different versions in 4 profile widths
- Equipped with integral guide grooves for PC boards
- Ecoline features recessed areas for front membranes or membrane keypads
- Can be used with Euro cards

## Included in delivery

Extrusion sold in meter lengths



## Technical Data

|                            |                                                                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Color                      | Profiles: clear anodized aluminum. End lids: dust gray, similar to RAL 7037. Special colors on request. Minimum order quantities apply. |
| Material                   | Profile: Aluminum Al Mg Si 0.5. End lids: ABS plastic                                                                                   |
| Protection Classifications | IP 40, EN 60529. IP 54, when using seal (EL-DI) with 620, 8540, 1050 and 1240. ELP type extrusions only.                                |

| Model Number      | Part Number | External Dimensions | External Dimensions |
|-------------------|-------------|---------------------|---------------------|
|                   |             | mm<br>L x W x H     | Inches<br>L x W x H |
| ELP 620-1000      | 83062000 00 | 1000 x 57.5 x 22    | 39.37 x 2.26 x 0.86 |
| ELPH 620-1000     | 83626000 00 | 1000 x 57.5 x 22    | 39.37 x 2.26 x 0.86 |
| ELPU 620-1000     | 83627000 00 | 1000 x 57.5 x 22    | 39.37 x 2.26 x 0.86 |
| ELP 840-1000      | 83084000 00 | 1000 x 80.0 x 42    | 39.37 x 3.14 x 1.65 |
| ELPH 840-1000     | 83846000 00 | 1000 x 80.0 x 42    | 39.37 x 3.14 x 1.65 |
| ELPU 840-1000     | 83847000 00 | 1000 x 80.0 x 42    | 39.37 x 3.14 x 1.65 |
| ELP 1050-1000     | 83105000 00 | 1000 x 106 x 52     | 39.37 x 4.14 x 2.05 |
| ELPH 1050-1000    | 83056000 00 | 1000 x 106 x 52     | 39.37 x 4.14 x 2.05 |
| ELPU 1050-1000    | 83057000 00 | 1000 x 106 x 52     | 39.37 x 4.14 x 2.05 |
| ELPH-EU 1050-1000 | 83055100 00 | 1000 x 106 x 52     | 39.37 x 4.17 x 2.04 |
| ELP 1240-1000     | 83124000 00 | 1000 x 120 x 42     | 39.37 x 4.72 x 1.65 |
| ELPH 1240-1000    | 83246000 00 | 1000 x 120 x 42     | 39.37 x 4.72 x 1.65 |
| ELPU 1240-1000    | 83247000 00 | 1000 x 120 x 42     | 39.37 x 4.72 x 1.65 |

## Accessories

| Model Number | Part Number | Description                                             |
|--------------|-------------|---------------------------------------------------------|
| ELD 620      | 83621000 00 | Ecoline 620 plastic end caps, ABS, set of 2             |
| ELDW 620     | 83621100 00 | Ecoline 620 wall mount plastic end caps, ABS, set of 2  |
| ELD 840      | 83841000 00 | Ecoline 840 plastic end caps, ABS, set of 2             |
| ELDW 840     | 83841100 00 | Ecoline 840 wall mount plastic end caps, ABS, set of 2  |
| ELD 1050     | 83051000 00 | Ecoline 1050 plastic end caps, ABS, set of 2            |
| ELDW 1050    | 83051100 00 | Ecoline 1050 wall mount plastic end caps, ABS, set of 2 |
| ELD 1240     | 83241000 00 | Ecoline 1240 plastic end caps, ABS, set of 2            |
| ELDW 1240    | 83241100 00 | Ecoline 1240 wall mount plastic end caps, ABS, set of 2 |
| EL 620 DI    | 83206210 00 | Ecoline 620 gasket set of 10                            |
| EL 840 DI    | 83208410 00 | Ecoline 840 gasket set of 10                            |
| EL 1050 DI   | 83210510 00 | Ecoline 1050 gasket set of 10                           |
| EL 1240 DI   | 83212410 00 | Ecoline 1240 gasket set of 10                           |



ELP - Closed Profile



ELPH - Horizontally Split Profile

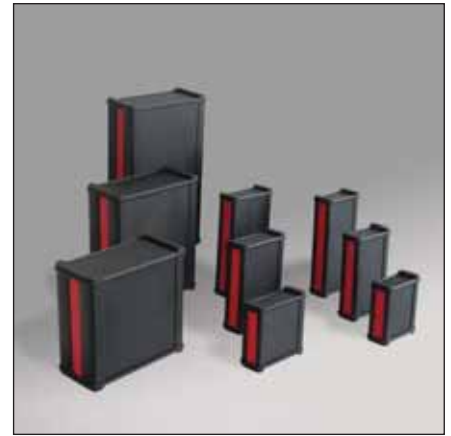


ELPU - Open on one side Profile

- Aluminum profile enclosure system in 5 diameters for data acquisition, PC, and measurement and control technology
- External screw channels guarantee complete use of internal area
- Integrated guide grooves for PC boards
- External groove system
- Variable profile lengths

## Included in delivery

Enclosure with 2 aluminum diecast lids and 2 multi-function profiles, not screwed.



## Technical Data

|                            |                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------|
| Color                      | Profile and lid, jet black, similar to RAL 9005. Multi-function side profile: ruby red, similar to RAL 3003. |
| Material                   | Profile: AlMgSi 0.5; DIN 1725. End lids: GD-AlSi 12                                                          |
| Protection Classifications | up to IP 65, EN 60529                                                                                        |
| Temperature Resistance     | -40°F to +90°F                                                                                               |

| Model Number          | Part Number | External Dimensions | External Dimensions | Internal Dimensions | Internal Dimensions |
|-----------------------|-------------|---------------------|---------------------|---------------------|---------------------|
|                       |             | mm                  | Inches              | mm                  | Inches              |
|                       |             | W x H x D           | W x H x D           | H x W x D           | H x W x D           |
| <b>NoVoTronic 80</b>  |             |                     |                     |                     |                     |
| 80/100                | 07501010 00 | 98 x 44 x 100       | 3.76 x 1.73 x 3.94  | 80 x 36 x 100       | 3.15 x 1.42 x 3.94  |
| 80/160                | 07501011 00 | 98 x 44 x 160       | 3.86 x 1.73 x 6.30  | 80 x 36 x 160       | 3.15 x 1.42 x 6.30  |
| 80/200                | 07501012 00 | 98 x 44 x 200       | 3.86 x 1.76 x 7.87  | 80 x 36 x 200       | 3.15 x 1.42 x 7.87  |
| 80/SL*                | 07501099 00 | 98 x 44 x SL*       | 3.86 x 1.76 x SL*   | 80 x 30 x SL*       | 3.15 x 1.42 x SL*   |
| <b>NoVoTronic 100</b> |             |                     |                     |                     |                     |
| 100/100               | 07502010 00 | 118 x 44 x 100      | 4.64 x 1.73 x 3.94  | 100 x 36 x 100      | 3.94 x 1.41 x 3.94  |
| 100/160               | 07502011 00 | 118 x 44 x 160      | 4.64 x 1.73 x 6.30  | 100 x 36 x 160      | 3.94 x 1.41 x 6.30  |
| 100/200               | 07502012 00 | 118 x 44 x 200      | 4.64 x 1.73 x 7.87  | 100 x 36 x 200      | 3.94 x 1.41 x 7.87  |
| 100/SL*               | 07502099 00 | 118 x 44 x SL*      | 4.64 x 1.73 x SL*   | 100 x 36 x SL*      | 3.94 x 1.41 x SL*   |
| <b>NoVoTronic 160</b> |             |                     |                     |                     |                     |
| 160/160               | 07503010 00 | 182 x 85 x 160      | 7.16 x 3.35 x 6.30  | 160 x 75 x 160      | 6.30 x 2.96 x 6.30  |
| 160/200               | 07503011 00 | 182 x 85 x 200      | 7.16 x 3.35 x 6.30  | 160 x 75 x 200      | 6.30 x 2.96 x 7.87  |
| 160/300               | 07503012 00 | 182 x 85 x 300      | 7.16 x 3.35 x 11.81 | 160 x 75 x 300      | 6.30 x 2.96 x 11.81 |
| 160/SL*               | 07503099 00 | 182 x 85 x SL*      | 7.16 x 3.35 x SL*   | 160 x 75 x SL*      | 6.30 x 2.96 x SL*   |
| <b>NoVoTronic 130</b> |             |                     |                     |                     |                     |
| 130/130               | 07502510 00 | 157 x 69 x 150      | 6.18 x 2.72 x 5.90  | 130 x 57 x 130      | 5.12 x 2.24 x 5.12  |
| 130/160               | 07502511 00 | 157 x 69 x 160      | 6.18 x 2.72 x 7.09  | 130 x 57 x 160      | 5.12 x 2.24 x 6.30  |
| 130/200               | 07502513 00 | 157 x 69 x 220      | 6.18 x 2.72 x 8.66  | 130 x 57 x 200      | 5.12 x 2.24 x 7.87  |
| 130/SL*               | 07502599 00 | 157 x 69 x SL*      | 6.18 x 2.72 x SL*   | 130 x 57 x SL*      | 5.12 x 2.24 x SL*   |
| <b>NoVoTronic 200</b> |             |                     |                     |                     |                     |
| 200/220               | 07504010 00 | 233 x 121 x 240     | 9.17 x 4.76 x 9.45  | 200 x 105 x 220     | 7.87 x 4.13 x 8.66  |
| 200/280               | 07504011 00 | 233 x 121 x 300     | 9.17 x 4.76 x 11.81 | 200 x 105 x 280     | 7.87 x 4.13 x 11.02 |
| 200/330               | 07504012 00 | 233 x 121 x 350     | 9.17 x 4.76 x 13.78 | 200 x 105 x 330     | 7.87 x 4.13 x 12.99 |
| 200/SL*               | 07504099 00 | 233 x 121 x SL*     | 9.17 x 4.76 x SL*   | 200 x 105 x SL*     | 7.87 x 4.13 x SL*   |

\*SL = Special Length

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

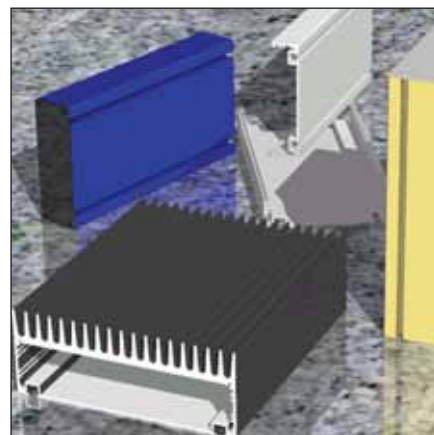
| Part Number | Description              | Part Number | Description                    |
|-------------|--------------------------|-------------|--------------------------------|
| 07509011 00 | Wall profile 80/100-100  | 07509005 00 | NoVo wall holder P160          |
| 07509012 00 | Wall profile 80/100-160  | 07509006 00 | Foot/connection element 80     |
| 07509013 00 | Wall profile 80/100-200  | 07509007 00 | Foot/connection element 100    |
| 07509099 00 | Wall profile 80/SL*      | 07509014 00 | Foot connection element 130    |
| 07509111 00 | Wall profile 130/160-130 | 07509008 00 | Foot connection element 160    |
| 07509112 00 | Wall profile 130/160-160 | 83900003 00 | Battery insert 9V block        |
| 07509113 00 | Wall profile 130/160-200 | 83900006 00 | Battery insert 4 AA            |
| 07509114 00 | Wall profile 130/160-300 | 07509211 00 | NoVoTronic PCB profile 200-220 |
| 07509199 00 | Wall profile 130/160-SL* | 07509212 00 | NoVoTronic PCB profile 200-280 |
| 07509002 00 | Lid wall holder 80/100   | 07509213 00 | NoVoTronic PCB profile 200-330 |
| 07509003 00 | NoVo wall holder P80     | 07529299 00 | NoVoTronic PCB profile 200-SL* |
| 07509004 00 | NoVo wall holder P100    | 07509214 00 | NoVoTronic PCB profile 80-100  |
| 07509015 00 | NoVo wall holder P130    | 07509010 00 | Transparent cover 160          |

\*SL = Special Length

- Aluminum profile that can be cut to any length required and capped with plate aluminum lids
- All profiles slotted internally for PCB or chassis mounting
- T-slot on bottom of profile for DIN rail mounting

## Included in delivery

Extrusion only. Sold by the meter.



## Technical Data

|                           |                             |
|---------------------------|-----------------------------|
| Material                  | Bare aluminum, Al Mg Si 0.5 |
| Temperature Range         | -40°F to +212°F             |
| Protection Classification | IP 40 to EN 60529           |

| Part Number         | Length<br>Inches/mm | Width<br>Inches/mm | Height<br>Inches/mm | PC Card<br>Slot Size             |
|---------------------|---------------------|--------------------|---------------------|----------------------------------|
| 10011109/10011109   | 39.37 / 1000        | 4.13 / 105         | 1.97 / 50           | 2 x 100 mm                       |
| 10011109/10011110   | 39.37 / 1000        | 4.13 / 105         | 3.15 / 80           | 3 x 100 mm                       |
| 10011110/10011110   | 39.37 / 1000        | 4.13 / 105         | 4.33 / 110          | 4 x 100 mm                       |
| 10011109/10011111   | 39.37 / 1000        | 4.13 / 105         | 2.20 / 56           | 1 x 100 mm                       |
| 10011111/10011110   | 39.37 / 1000        | 4.13 / 105         | 3.39 / 86           | 2 x 100 mm                       |
| 10955170 / 10011113 | 39.37 / 1000        | 8.19 / 208         | 2.13 / 54           | 2 x 57 mm, 1 x 85 mm, 1 x 204 mm |
| 10011108 00         | 39.37 / 1000        | 4.13 / 105         | 1.42 / 36           | 1 x 100 mm                       |
| 10011112 00         | 39.37 / 1000        | 6.50 / 165         | 2.56 / 65           | 2 x 160 mm                       |

These profiles feature external "T" slots for bracket wall-mounting

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only. All extrusions sold in 1 meter lengths.

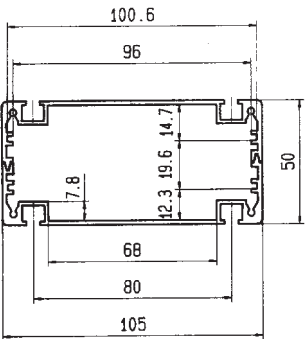
| Accessories                                                                 | Part Number |
|-----------------------------------------------------------------------------|-------------|
| Unpainted plate lid with screws for 10011109/10011109                       | 10095151 08 |
| Unpainted plate lid with screws for 10011109/10011110                       | 10095153 08 |
| Unpainted plate lid with screws for 10011110/10011110                       | 10095154 08 |
| Unpainted plate lid with screws for 10011111/10011109                       | 10095150 08 |
| Unpainted plate lid with screws for 10011111/10011110                       | 10095152 08 |
| Unpainted plate lid with screws for 10955170/10011113                       | 10095517 08 |
| Unpainted plate lid with wall mount flange and screws for 10955170/10011113 | 10095518 07 |
| Unpainted plate lid with screws for 10011108                                | 10095150 08 |
| Unpainted plate lid with screws for 10011112                                | 10095155 08 |
| External wall mount brackets (set of 4)                                     | 77000100 00 |
| Rubber Table Feet                                                           | 10094110 00 |
| Black Lid Screw (M3 x 8)                                                    | 10093205 00 |

Multitronic Build-A-Box® 10011109/10011109

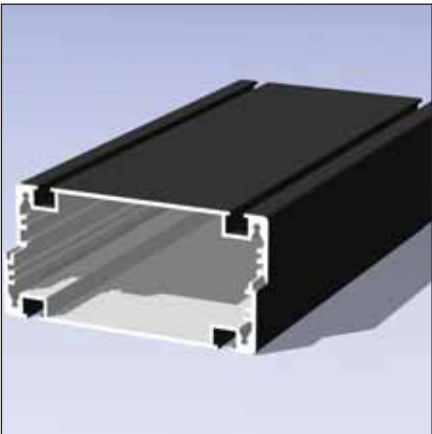
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011109 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011109 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

Accessories

|             |             |                                                                   |
|-------------|-------------|-------------------------------------------------------------------|
| 10095151 08 | End Lid     | Unpainted Aluminum plate lid with screws                          |
| 77000100 00 | Brackets    | Set of 4 External Wall Mount Brackets with spring nuts and screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                                 |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                                          |



Enclosure Profiles



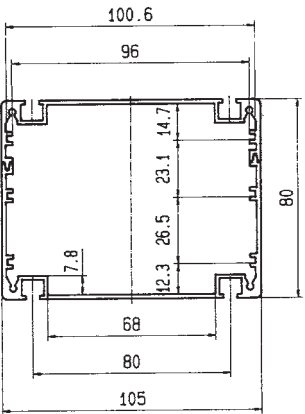
Two half-shell extrusions with integrated guide rails for two 100 mm PC boards, and 4 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

Multitronic Build-A-Box® 10011109/10011110

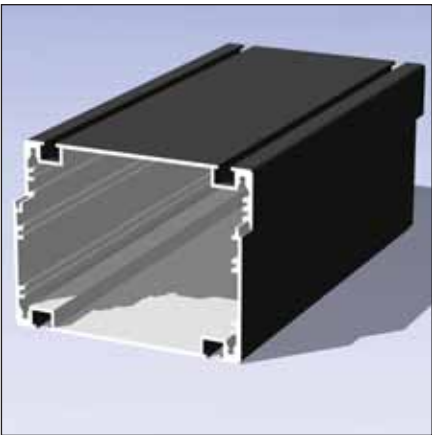
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011109 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011110 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

Accessories

|             |             |                                                                   |
|-------------|-------------|-------------------------------------------------------------------|
| 10095153 08 | End Lid     | Unpainted Aluminum plate lid with screws                          |
| 77000100 00 | Brackets    | Set of 4 External Wall Mount Brackets with spring nuts and screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                                 |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                                          |



Enclosure Profiles



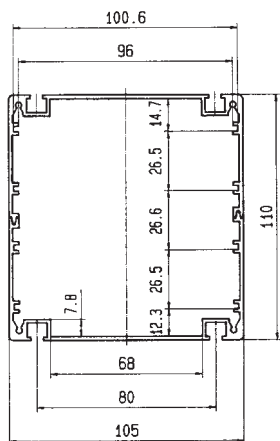
Two half-shell extrusions with integrated guide rails for three 100 mm PC boards, and 4 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011110/10011110**

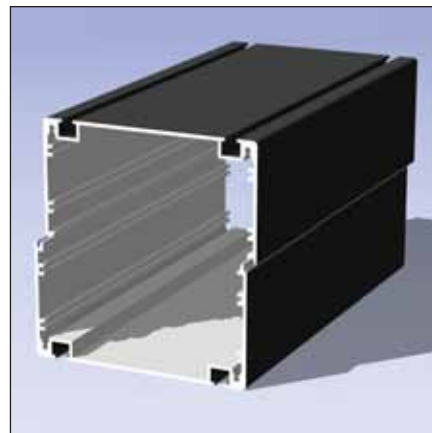
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011110 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011110 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

**Accessories**

|             |             |                                                                   |
|-------------|-------------|-------------------------------------------------------------------|
| 10095154 08 | End Lid     | Unpainted Aluminum plate lid with screws                          |
| 77000100 00 | Brackets    | Set of 4 External Wall Mount Brackets with spring nuts and screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                                 |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                                          |



Enclosure Profiles



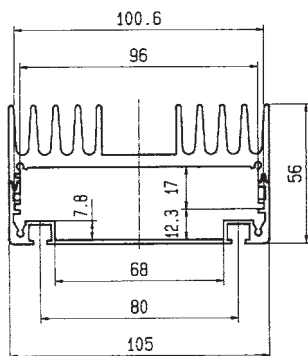
Two-shell extrusion design with integrated guide rails for four 100 mm PC boards, and 4 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011111/10011109**

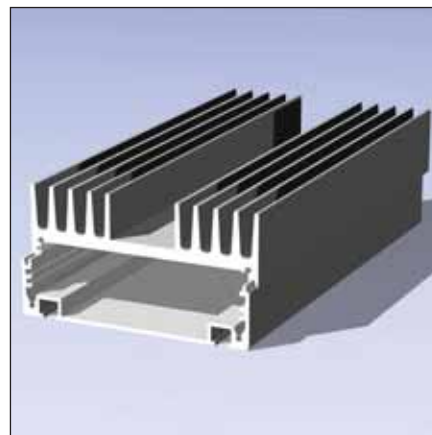
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011111 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011109 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

**Accessories**

|             |             |                                                                   |
|-------------|-------------|-------------------------------------------------------------------|
| 10095150 08 | End Lid     | Unpainted Aluminum plate lid with screws                          |
| 77000100 00 | Brackets    | Set of 4 External Wall Mount Brackets with spring nuts and screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                                 |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                                          |



Enclosure Profiles



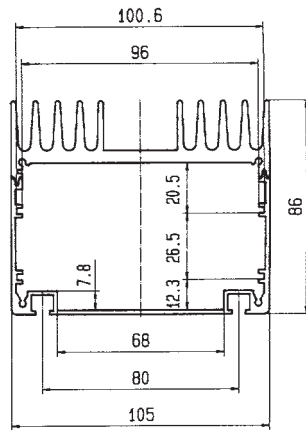
Two-shell extrusion design with integrated heat sink, integrated guide rail for one 100 mm PC boards, and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011111/10011110**

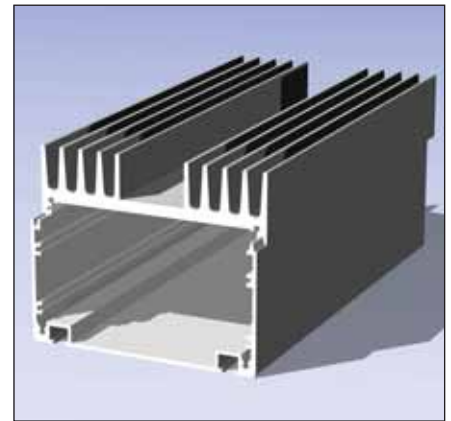
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011111 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011110 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

**Accessories**

|             |             |                                                                |
|-------------|-------------|----------------------------------------------------------------|
| 10095152 08 | End Lid     | Unpainted Aluminum plate lid with screws                       |
| 77000100 00 | Brackets    | Set of 4 External Wall Mount Brackets w/spring nuts and screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                              |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                                       |



Enclosure Profiles



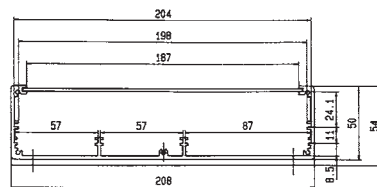
Two-shell extrusion design with integrated heat sink on top extrusion, integrated guide rails for two 100 mm PC boards, and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10955170/10011113**

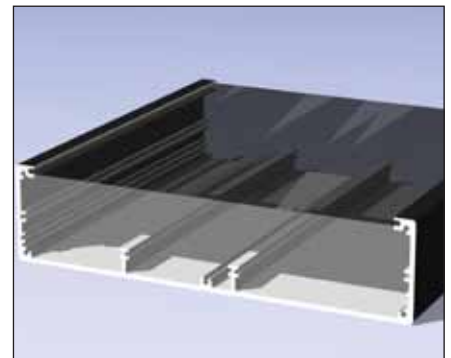
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10955170 00 | Plate Lid, Top   | Unpainted Aluminum Plate Lid (sold by the meter)  |
| 10011113 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

**Accessories**

|             |             |                                                        |
|-------------|-------------|--------------------------------------------------------|
| 10095517 08 | End Lid     | Unpainted Aluminum plate lid with screws               |
| 10095518 08 | End Lid     | Unpainted Plate Lid w/Wall Mount Flange and lid screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                      |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                               |



Enclosure Profile



One-shell open extrusion with integrated guide rails for one 204 mm, one 87 mm, two 57 mm PC boards, and top aluminum plate lid. Wall-mount flange plate lids are available as an option.

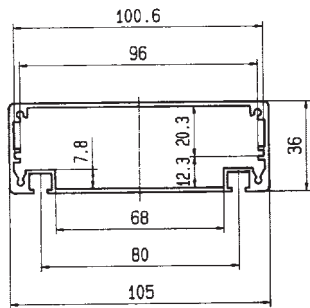


Multitronic Build-A-Box® 10011108

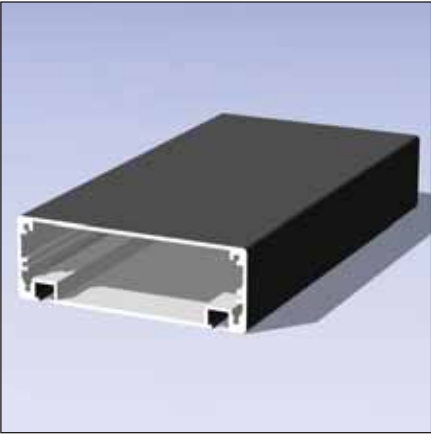
| Part #      | Type      | Description                                  |
|-------------|-----------|----------------------------------------------|
| 10011108 00 | Extrusion | Extrusion, bare Aluminum (sold by the meter) |

Accessories

|             |             |                                                                   |
|-------------|-------------|-------------------------------------------------------------------|
| 10095150 08 | Lid         | Unpainted Aluminum plate lid with screws                          |
| 77000100 00 | Brackets    | Set of 4 External Wall Mount Brackets with spring nuts and screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                                 |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                                          |



Enclosure Profile



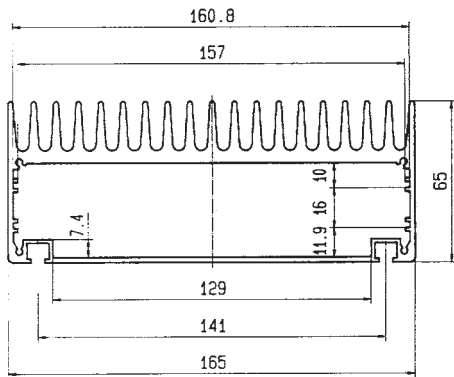
One-shell closed extrusion design with integrated guide rail for one 100 mm PC board and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

Multitronic Build-A-Box® 10011112

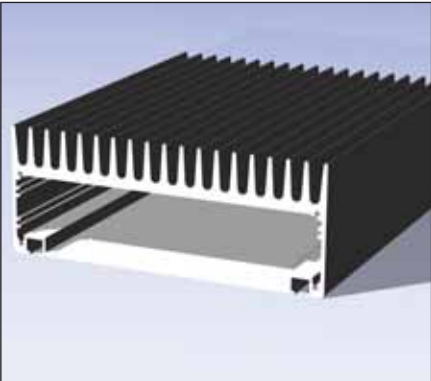
| Part #      | Type      | Description                                  |
|-------------|-----------|----------------------------------------------|
| 10011112 00 | Extrusion | Extrusion, bare Aluminum (sold by the meter) |

Accessories

|             |             |                                                                   |
|-------------|-------------|-------------------------------------------------------------------|
| 10095155 08 | Lid         | Unpainted Aluminum plate lid with screws                          |
| 77000100 00 | Brackets    | Set of 4 External Wall Mount Brackets with spring nuts and screws |
| 10094110 00 | Rubber Feet | Rubber Table Feet                                                 |
| 10093205 00 | Screw       | Black Lid Screw (M3 x 8)                                          |



Enclosure Profile



One-shell closed extrusion design with integrated heat sink, integrated guide rails for two 160 mm PC boards, and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

- Aluminum profile that can be cut to any length required and capped with plate aluminum lids
- All profiles slotted internally for PCB or chassis mounting
- Optional "L-shaped" aluminum plate lids are offered for wall-mount applications

## Included in delivery

Extrusion only. Sold by the meter.



## Technical Data

|                           |                         |
|---------------------------|-------------------------|
| Color                     | Any color is available. |
| Material                  | Aluminum, Al Mg Si 0.5  |
| Temperature Range         | -40°F to +212°F         |
| Protection Classification | IP 40 to EN 60529       |

| Part Number       | Length<br>Inches/mm | Width<br>Inches/mm | Height<br>Inches/mm | PC Card<br>Slot Size |
|-------------------|---------------------|--------------------|---------------------|----------------------|
| 10011129/10011129 | 39.37 / 1000        | 2.83 / 72          | 1.81 / 46           | 42 mm                |
| 10011129/10011131 | 39.37 / 1000        | 2.99 / 76          | 2.40 / 61           | 42, 72 mm            |
| 10011131/10011131 | 39.37 / 1000        | 2.99 / 76          | 2.01 / 51           | 72 mm                |
| 10011130/10011131 | 39.37 / 1000        | 2.99 / 76          | 2.54 / 64           | 72 mm                |
| 10011130/10011130 | 39.37 / 1000        | 2.99 / 76          | 3.07 / 78           | 72 mm                |
| 10011132/10011132 | 39.37 / 1000        | 4.13 / 105         | 1.77 / 45           | 100 mm               |
| 10011133/10011132 | 39.37 / 1000        | 4.13 / 1.05        | 2.60 / 66           | 100 mm               |
| 10011133/10011133 | 39.37 / 1000        | 4.13 / 1.05        | 3.42 / 87           | 100 mm               |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.  
All extrusions sold in 1 meter lengths

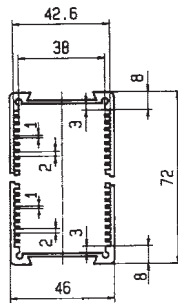
| Accessories                                                   | Part Number |
|---------------------------------------------------------------|-------------|
| Unpainted plate lid with screws for 11129/11129               | 10095525 08 |
| Unpainted plate lid with screws & wall flange for 11129/11129 | 10095531 08 |
| Unpainted plate lid with screws for 11129/11131               | 10095530 08 |
| Unpainted plate lid with screws & wall flange for 11129/11131 | 10095538 08 |
| Unpainted plate lid with screws for 11131/11131               | 10095526 08 |
| Unpainted plate lid with screws & wall flange for 11131/11131 | 10095532 08 |
| Unpainted plate lid with screws for 11130/11131               | 10095527 08 |
| Unpainted plate lid with screws & wall flange for 11130/11131 | 10095538 08 |
| Unpainted plate lid with screws for 11130/11130               | 10095528 08 |
| Unpainted plate lid with screws & wall flange for 11130/11130 | 10095534 08 |
| Unpainted plate lid with screws for 11132/11132               | 10095529 08 |
| Unpainted plate lid with screws & wall flange for 11132/11132 | 10095535 08 |
| Unpainted plate lid with screws for 11133/11132               | 10095152 08 |
| Unpainted plate lid with screws & wall flange for 11133/11132 | 10095536 08 |
| Unpainted plate lid with screws & wall flange for 11133/11133 | 10095537 08 |
| Black lid screws M3 x 8                                       | 10093205 00 |

Multitronic TS Build-A-Box® 10011129/10011129

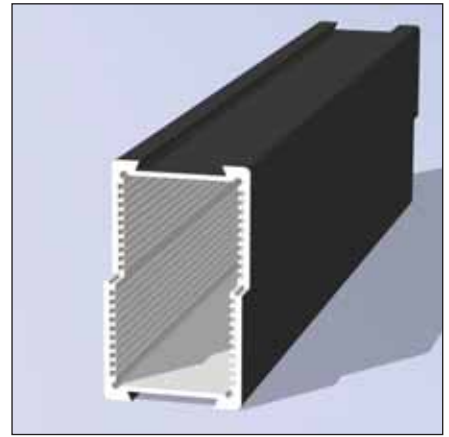
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011129 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011129 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

## Accessories

|             |         |                                                             |
|-------------|---------|-------------------------------------------------------------|
| 10095525 08 | End Lid | Unpainted Plate Lid w/screws for 11129/11129                |
| 10095531 08 | End Lid | Unpainted Plate Lid w/ screws & Wall Flange for 11129/11129 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                        |
| 77003500 00 | Bracket | DIN Rail Bracket                                            |



## Enclosure Profiles



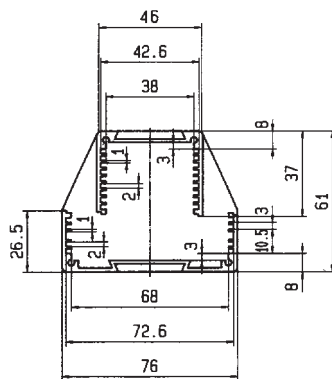
Two half-shell extrusions with integrated guide rails for 42 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

Multitronic TS Build-A-Box® 10011129/10011131

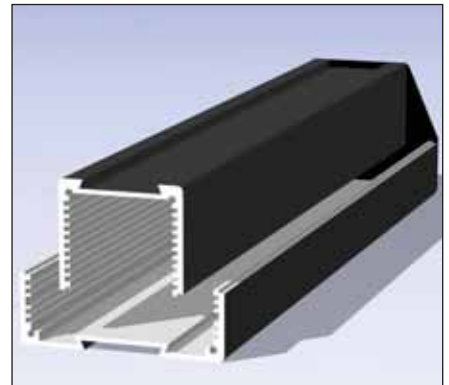
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011129 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011131 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

## Accessories

|             |         |                                                             |
|-------------|---------|-------------------------------------------------------------|
| 10095530 08 | End Lid | Unpainted Plate Lid w/screws for 11129/11131                |
| 10095538 08 | End Lid | Unpainted Plate Lid w/ screws & Wall Flange for 11129/11131 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                        |
| 77003500 00 | Bracket | DIN Rail Bracket                                            |



## Enclosure Profiles



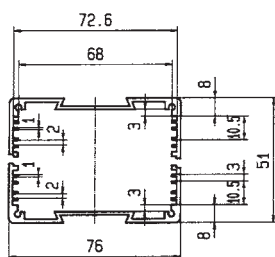
Two half-shell extrusions with integrated guide rails for 42 and 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011131/10011131**

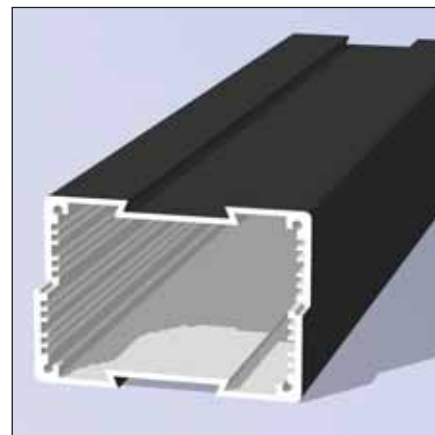
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011131 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011131 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

**Accessories**

|             |         |                                                             |
|-------------|---------|-------------------------------------------------------------|
| 10095526 08 | End Lid | Unpainted Plate Lid w/screws for 11131/11131                |
| 10095532 08 | End Lid | Unpainted Plate Lid w/ screws & Wall Flange for 11131/11131 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                        |
| 77003500 00 | Bracket | DIN Rail Bracket                                            |



Enclosure Profiles



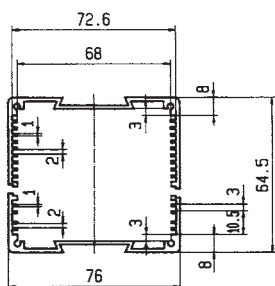
Two half-shell extrusions with integrated guide rails for 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011130/10011131**

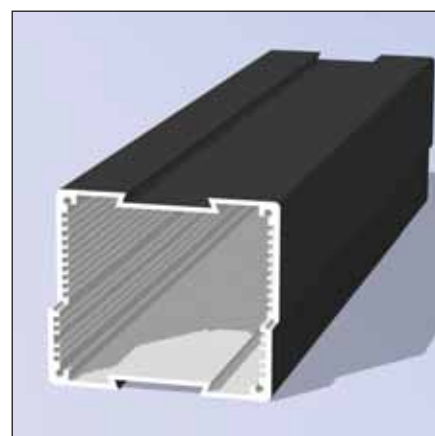
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011130 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011131 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

**Accessories**

|             |         |                                                             |
|-------------|---------|-------------------------------------------------------------|
| 10095527 08 | End Lid | Unpainted Plate Lid w/screws for 11130/11131                |
| 10095533 08 | End Lid | Unpainted Plate Lid w/ screws & Wall Flange for 11130/11131 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                        |
| 77003500 00 | Bracket | DIN Rail Bracket                                            |



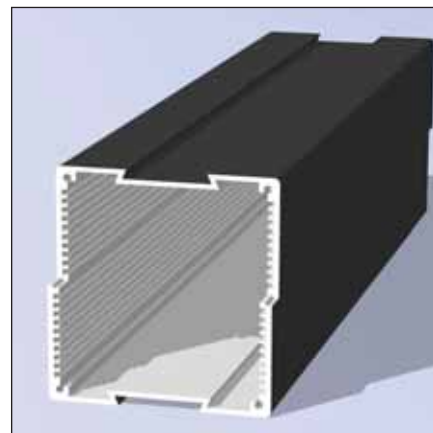
Enclosure Profiles



Two half-shell extrusions with integrated guide rails for 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

### Multitronic TS Build-A-Box® 10011130/10011130

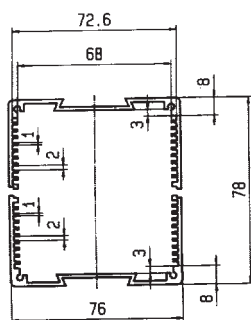
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011130 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011130 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |



Two half-shell extrusions with integrated guide rails for 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

#### Accessories

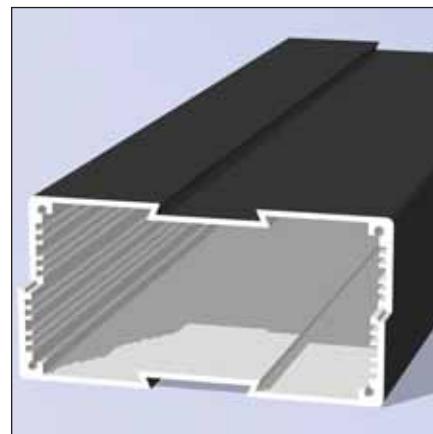
|             |         |                                                             |
|-------------|---------|-------------------------------------------------------------|
| 10095528 08 | End Lid | Unpainted Plate Lid w/screws for 11130/11130                |
| 10095534 08 | End Lid | Unpainted Plate Lid w/ screws & Wall Flange for 11130/11130 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                        |
| 77003500 00 | Bracket | DIN Rail Bracket                                            |



Enclosure Profiles

### Multitronic TS Build-A-Box® 10011132/10011132

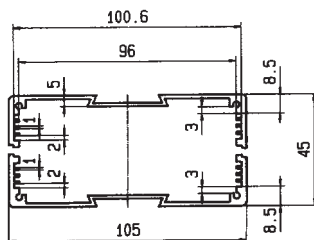
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011132 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011132 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |



Two half-shell extrusions with integrated guide rails for 100 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

#### Accessories

|             |         |                                                             |
|-------------|---------|-------------------------------------------------------------|
| 10095529 08 | End Lid | Unpainted Plate Lid w/screws for 11132/11132                |
| 10095535 08 | End Lid | Unpainted Plate Lid w/ screws & Wall Flange for 11132/11132 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                        |
| 77003500 00 | Bracket | DIN Rail Bracket                                            |



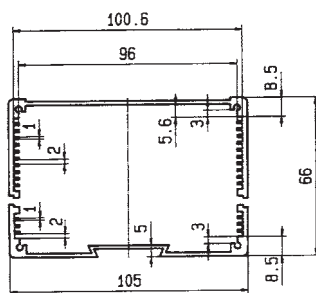
Enclosure Profiles

# Multitronic TS Build-A-Box® 10011133/10011132

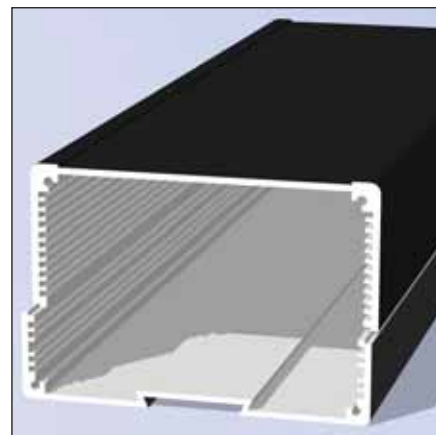
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011133 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011132 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

## Accessories

|             |         |                                                             |
|-------------|---------|-------------------------------------------------------------|
| 10095152 08 | Lid     | Unpainted Plate Lid w/screws for 11133/11132                |
| 10095536 08 | End Lid | Unpainted Plate Lid w/ screws & Wall Flange for 11133/11132 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                        |
| 77003500 00 | Bracket | DIN Rail Bracket                                            |



Enclosure Profiles



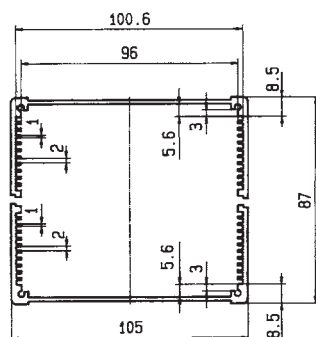
Two half-shell extrusions with integrated guide rails for 100 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

# Multitronic TS Build-A-Box® 10011133/10011133

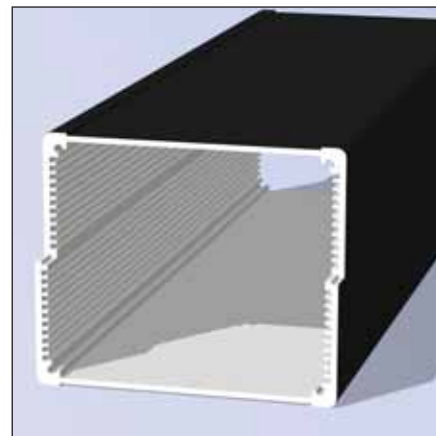
| Part #      | Type             | Description                                       |
|-------------|------------------|---------------------------------------------------|
| 10011133 00 | Extrusion Top    | Extrusion only, bare Aluminum (sold by the meter) |
| 10011133 00 | Extrusion Bottom | Extrusion only, bare Aluminum (sold by the meter) |

## Accessories

|             |         |                                                                 |
|-------------|---------|-----------------------------------------------------------------|
| 10095537 08 | End Lid | Unpainted Plate Lid with screws and Wall Flange for 11133/11133 |
| 10093205 00 | Screws  | Black Lid Screw M3x8                                            |



Enclosure Profiles



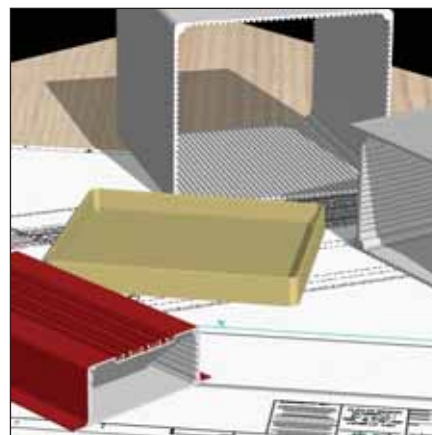
Two half-shell extrusions with integrated guide rails for 100 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.



- Aluminum electronic enclosures for telecommunications and measurement control technology
- Sold by the meter and cut to custom lengths to meet design needs
- Versions with flange mounting rails integrated into sides
- Different lid versions depending on enclosure type
- Integrated guide slots for PCBs

## Included in delivery

Extrusion only. Sold by the meter.



## Technical Data

|                        |                                                                                                                    |
|------------------------|--------------------------------------------------------------------------------------------------------------------|
| Material               | Bare aluminum extrusion Al Mg Si 0.5                                                                               |
| Ingress Protection     | IP 40 to EN 60529 (dusttight) with aluminum plate lid<br>IP 65 to EN 60529 (watertight) with die-cast aluminum lid |
| Temperature Resistance | -40°F to +212°F with aluminum plate lids<br>-22°F to +176°F with die-cast aluminum lids                            |

| Part Number | Length<br>Inches/mm | Width<br>Inches/mm | Height<br>Inches/mm | P.C. Card<br>Slot Sizes |
|-------------|---------------------|--------------------|---------------------|-------------------------|
| 07011100 00 | 39.37 / 1000        | 5.12 / 130         | 1.77 / 45           | 100 mm                  |
| 07021100 00 | 39.37 / 1000        | 5.12 / 130         | 2.72 / 69           | 100 mm                  |
| 07031100 00 | 39.37 / 1000        | 7.72 / 196         | 4.17 / 106          | 100 mm / 160            |
| 07051100 00 | 39.37 / 1000        | 4.09 / 104         | 3.31 / 84           | 100 mm / 80.5           |
| 07061100 00 | 39.37 / 1000        | 6.50 / 165         | 4.13 / 105          | 100 mm / 160            |
| 07071100 00 | 39.37 / 1000        | 7.68 / 195         | 6.55 / 166          | 160 mm / 189.5          |
| 07101102 00 | 39.34 / 1000        | 5.67 / 144         | 2.66 / 67           | 100 mm                  |
| 07111102 00 | 39.37 / 1000        | 5.67 / 144         | 1.69 / 43           | 100 mm                  |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.  
All extrusions sold in 1 meter lengths.

## Accessories

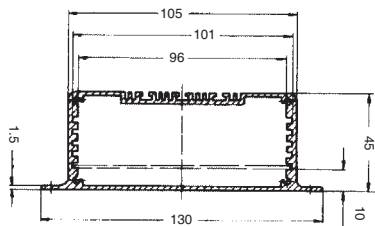
| Description                                                                      | Part Number | Description                                                                                                 | Part Number |
|----------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------|-------------|
| Dusttight lid painted black with lid screws for 0701                             | 07019509 00 | Watertight die-cast bezel lid unpainted with screws and gasket for 0706                                     | 07061200 98 |
| Dusttight lid unpainted with lid screws for 0701                                 | 07019509 08 | Watertight die-cast membrane bezel lid painted with lid screws and gasket for 0706                          | 07061200 00 |
| Dusttight lid painted with lid screws for 0702                                   | 07029507 50 | Watertight die-cast membrane bezel lid unpainted with lid screws and gasket for 0706                        | 07061200 08 |
| Dusttight lid unpainted with lid screws for 0702                                 | 07029507 58 | Watertight die cast lid w/clear door & snap lock painted with lid screws and gasket for 0706                | 07061200 91 |
| Watertight lid painted with lid screws and gasket for 0711                       | 07110618 20 | Watertight die cast lid w/clear door & key lock painted with lid screws, gasket and key for 0706            | 07061200 92 |
| Watertight lid unpainted with lid screws and gasket for 0711                     | 07110618 28 | Watertight die cast membrane bezel lid w/clear pc door & side latch painted with screws and gasket for 0706 | 07061200 90 |
| Watertight lid painted with lid screws and gasket for 0710                       | 07100618 20 | Dusttight lid painted with lid screws for 0707                                                              | 07079521 20 |
| Watertight lid unpainted with lid screws and gasket for 0710                     | 07100618 28 | Dusttight lid unpainted with lid screws for 0707                                                            | 07079521 28 |
| Dusttight wall mount lid painted with lid screws for 0703                        | 07038916 00 | Dusttight wall mount lid painted with lid screws for 0707                                                   | 07079520 20 |
| Dusttight wall mount lid unpainted with lid screws for 0703                      | 07038916 08 | Dusttight wall mount lid unpainted with lid screws for 0707                                                 | 07079520 28 |
| Watertight die-cast lid painted with lid screws and gasket for 0703              | 07031200 10 | Watertight die cast lid unpainted with lid screws for 0707                                                  | 07071201 30 |
| Watertight die-cast lid unpainted with lid screws and gasket for 0703            | 07031200 18 | Watertight die cast lid unpainted with lid screws and gasket for 0707                                       | 07071201 38 |
| Dusttight lid painted with lid screws for 0705                                   | 07059521 00 | Wall mount die cast lid painted with lid screws and gasket for 0707                                         | 07071201 10 |
| Dusttight lid unpainted with lid screws for 0705                                 | 07059521 08 | Watertight wall mount die-cast lid unpainted with lid screws and gasket for 0707                            | 07071201 18 |
| Dusttight wall mount lid painted with lid screws for 0705                        | 07059520 00 | Watertight die-cast bezel lid painted with lid screws and gasket for 0707                                   | 07071201 20 |
| Dusttight wall mount lid unpainted with lid screws for 0705                      | 07059520 08 | Watertight die-cast bezel lid unpainted with lid screws and gasket for 0707                                 | 07071201 28 |
| Watertight die-cast lid painted with lid screws and gasket for 0705              | 07051200 70 | Watertight die-cast membrane bezel lid painted with lid screws and gasket for 0707                          | 07071201 40 |
| Watertight die-cast lid unpainted with lid screws and gasket for 0705            | 07051200 78 | Watertight die-cast membrane bezel lid unpainted with lid screws and gasket for 0707                        | 07071201 48 |
| Watertight wall mount die cast lid painted with lid screws and gasket for 0705   | 07051200 50 | Watertight die-cast lid w/clear door & side latch painted with lid screws and gasket for 0707               | 07071201 50 |
| Watertight wall mount die cast lid painted with lid screws and gasket for 0705   | 07051200 58 | Stainless steel lid screw M3 x 6 mm for 0701 and 0702                                                       | 10093032 00 |
| Watertight die cast bezel lid with screws and gasket for 0705                    | 07051200 60 | Phillips head screw for watertight lid, M4x18 mm for 0711, 0710, 0703, 0705, 0706, 0707                     | 10093270 00 |
| Watertight die cast bezel lid with screws and gasket for 0705                    | 07051200 68 | Slotted countersink screw for dusttight lid, M4x6mm for 0703, 0705, 0706, 0707                              | 10093212 00 |
| Dusttight lid painted with lid screws for 0706                                   | 07069521 10 | Table feet (sold as each)                                                                                   | 10094102 00 |
| Dusttight lid unpainted with lid screws for 0706                                 | 07069521 18 |                                                                                                             |             |
| Dusttight wall mount lid painted with lid screws for 0706                        | 07069520 10 |                                                                                                             |             |
| Dusttight wall mount lid unpainted with lid screws for 0706                      | 07069520 18 |                                                                                                             |             |
| Watertight die-cast lid painted with lid screws and gasket for 0706              | 07061200 70 |                                                                                                             |             |
| Watertight die-cast lid unpainted with lid screws and gasket for 0706            | 07061200 78 |                                                                                                             |             |
| Watertight wall mount die-cast lid painted with lid screws and gasket for 0706   | 07061200 80 |                                                                                                             |             |
| Watertight wall mount die-cast lid unpainted with lid screws and gasket for 0706 | 07061200 88 |                                                                                                             |             |
| Watertight die cast bezel lid painted with lid screws and gasket for 0706        | 07061200 90 |                                                                                                             |             |

### Custom Build-A-Box® 0701

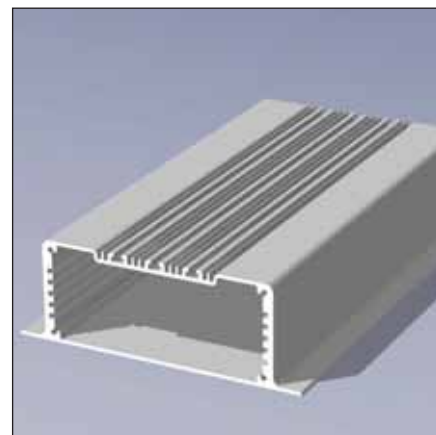
| Part #      | Type      | Description                                       |
|-------------|-----------|---------------------------------------------------|
| 07011100 10 | Extrusion | Extrusion only, bare Aluminum (sold by the meter) |

#### Accessories

|             |            |                                                              |
|-------------|------------|--------------------------------------------------------------|
| 07019509 00 | End Lid    | Dusttight Lid-plate Aluminum, painted black, with lid screws |
| 07019509 08 | End Lid    | Dusttight Lid-plate Aluminum, unpainted, with lid screws     |
| 10093032 00 | Screws     | Stainless Steel Lid Screw M3x6 mm                            |
| 10094102 00 | Table Feet | Table Feet (sold as each)                                    |



Enclosure Profile

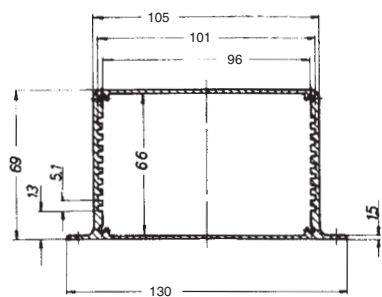


### Custom Build-A-Box® 0702

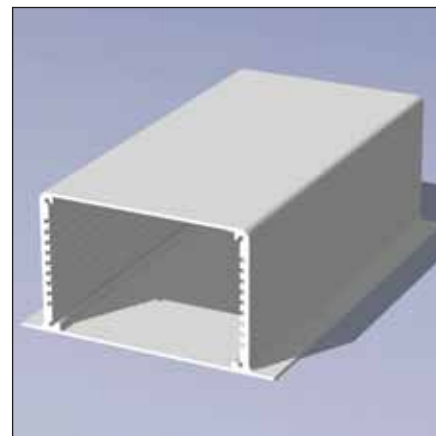
| Part #      | Type      | Description                                       |
|-------------|-----------|---------------------------------------------------|
| 07021100 20 | Extrusion | Extrusion only, bare Aluminum (sold by the meter) |

#### Accessories

|             |            |                                                              |
|-------------|------------|--------------------------------------------------------------|
| 07029507 50 | End Lid    | Dusttight Lid-plate Aluminum, painted black, with lid screws |
| 07029507 58 | End Lid    | Dusttight Lid-plate Aluminum, unpainted, with lid screws     |
| 10093032 00 | Screws     | Stainless Steel Lid Screw M3x6 mm                            |
| 10094102 00 | Table Feet | Table Feet (sold as each)                                    |



Enclosure Profile

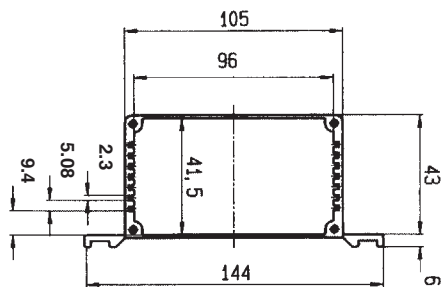


### Custom Build-A-Box® 0711

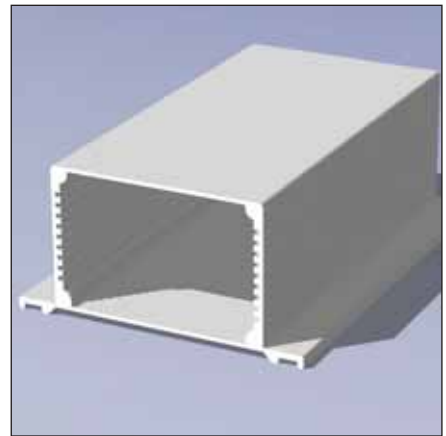
| Part #      | Type      | Description                                        |
|-------------|-----------|----------------------------------------------------|
| 07111102 40 | Extrusion | Extrusion only, bare Aluminum, (sold by the meter) |

#### Accessories

|             |            |                                                                             |
|-------------|------------|-----------------------------------------------------------------------------|
| 07110618 20 | End Lid    | Watertight Die-cast Lid—Aluminum, painted black, with lid screws and gasket |
| 07110618 28 | End Lid    | Watertight Die-cast Lid—Aluminum, unpainted, with lid screws and gasket     |
| 10093270 00 | Screws     | Phillips Head Screw for Watertight Lid M4x18 mm                             |
| 10094102 00 | Table Feet | Table Feet (sold as each)                                                   |



Enclosure Profile



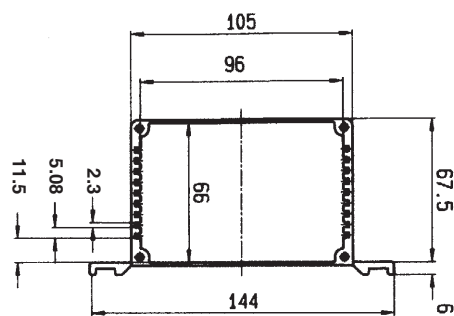
Die-cast Lid

### Custom Build-A-Box® 0710

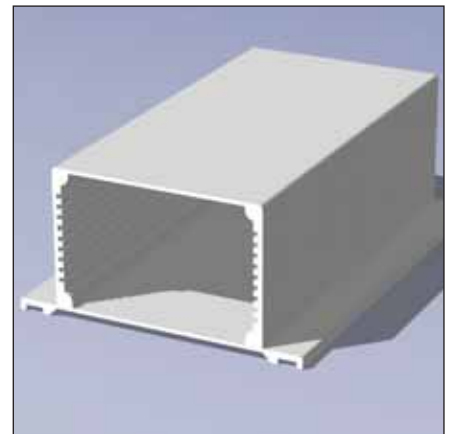
| Part #      | Type      | Description                                       |
|-------------|-----------|---------------------------------------------------|
| 07101102 30 | Extrusion | Extrusion only, bare Aluminum (sold by the meter) |

#### Accessories

|             |            |                                                                             |
|-------------|------------|-----------------------------------------------------------------------------|
| 07100618 20 | End Lid    | Watertight Die-cast Lid—Aluminum, painted black, with lid screws and gasket |
| 07100618 28 | End Lid    | Watertight Die-cast Lid—Aluminum, unpainted, with lid screws and gasket     |
| 10093270 00 | Screws     | Phillips Head Screw for Watertight Lid M4x18 mm                             |
| 10094102 00 | Table Feet | Table Feet (sold as each)                                                   |



Enclosure Profile



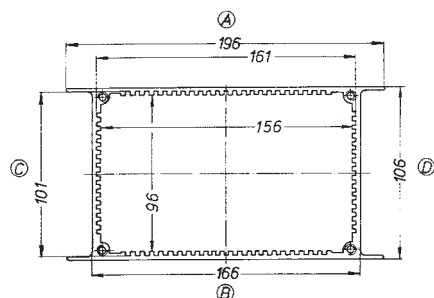
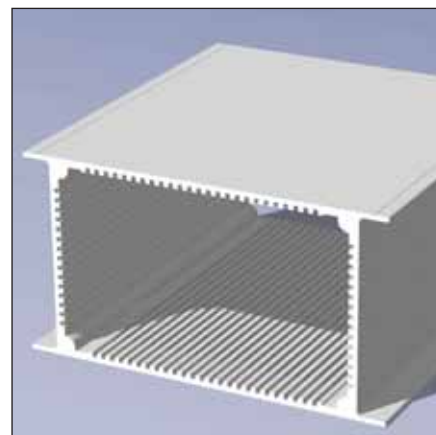
Die-cast Lid

## Custom Build-A-Box® 0703

| Part #      | Type      | Description                                                                    |
|-------------|-----------|--------------------------------------------------------------------------------|
| 07031100 30 | Extrusion | Extrusion only w/side flanges top and bottom—bare Aluminum (sold by the meter) |

### Accessories

|             |            |                                                                             |
|-------------|------------|-----------------------------------------------------------------------------|
| 07038916 00 | End Lid    | Dusttight Wall Mount Lid—plate Aluminum, painted black, with lid screws     |
| 07038916 08 | End Lid    | Dusttight Wall Mount Lid—plate Aluminum, unpainted, with lid screws         |
| 07031200 10 | End Lid    | Watertight Die-cast Lid—Aluminum, painted black, with lid screws and gasket |
| 07031200 18 | End Lid    | Watertight Die-cast Lid—Aluminum, unpainted, with lid screws and gasket     |
| 10093212 00 | Screws     | Slotted Countersink Screw for Dusttight Lid M4x6mm                          |
| 10093270 00 | Screws     | Phillips Head Screw for Watertight Lid M4x18mm                              |
| 10094102 00 | Table Feet | Table Feet (sold as each)                                                   |



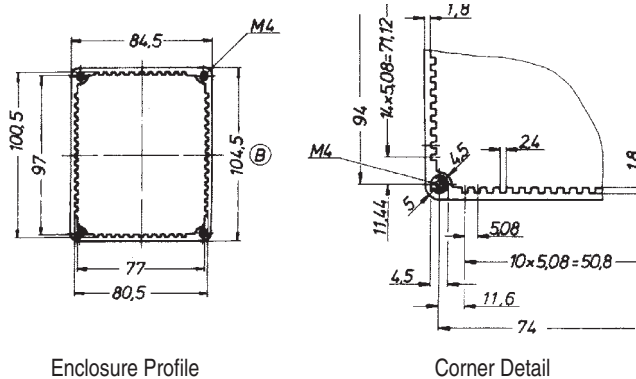
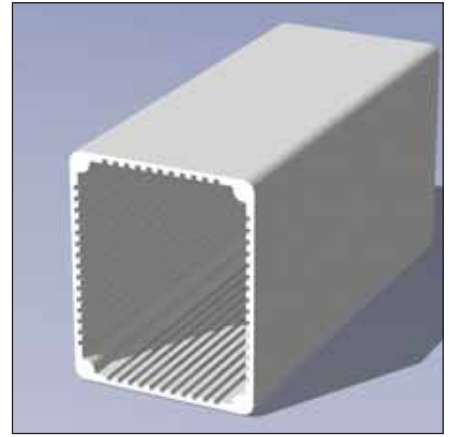
Enclosure Profile

## Custom Build-A-Box® 0705

| Part #      | Type      | Description                                       |
|-------------|-----------|---------------------------------------------------|
| 07051100 50 | Extrusion | Extrusion only—bare Aluminum, (sold by the meter) |

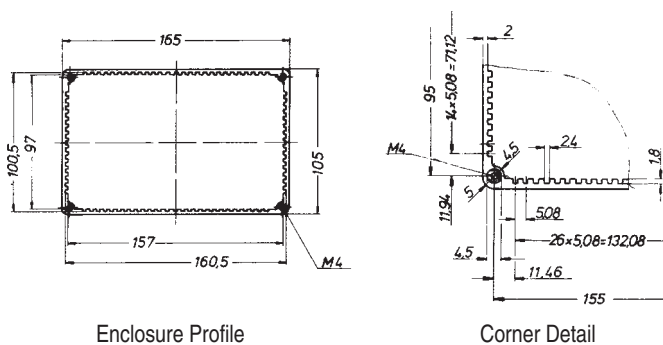
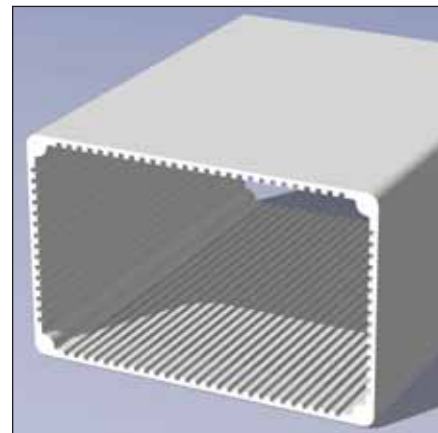
### Accessories

|             |            |                                                                                                                |
|-------------|------------|----------------------------------------------------------------------------------------------------------------|
| 07059521 00 | Lid        | Dusttight Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws                           |
| 07059521 08 | Lid        | Dusttight Lid-plate Aluminum, unpainted, with lid screws                                                       |
| 07059520 00 | Lid        | Dusttight Wall Mount Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws                |
| 07059520 08 | Lid        | Dusttight Wall Mount Lid-plate Aluminum, unpainted, with lid screws                                            |
| 07051200 70 | Lid        | Watertight Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket            |
| 07051200 78 | Lid        | Watertight Die-cast Lid-Aluminum, unpainted, with lid screws and gasket                                        |
| 07051200 50 | Lid        | Watertight Wall Mount Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket |
| 07051200 58 | Lid        | Watertight Wall Mount Die-cast Lid-unpainted, with lid screws and gasket                                       |
| 07051200 60 | Lid        | Watertight Die-cast Bezel Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket      |
| 07051200 68 | Lid        | Watertight Die-cast Bezel Lid-Aluminum, unpainted, with lid screws and gasket                                  |
| 10093212 00 | Screw      | Slotted Countersink Screw for Dusttight Lid M4x6mm                                                             |
| 10093270 00 | Screw      | Screw for Watertight Lid M4x18mm                                                                               |
| 10094102 00 | Table Feet | Table Feet (sold as each)                                                                                      |



## Custom Build-A-Box® 0706

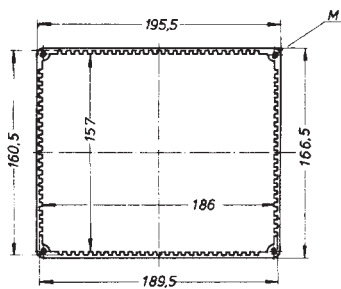
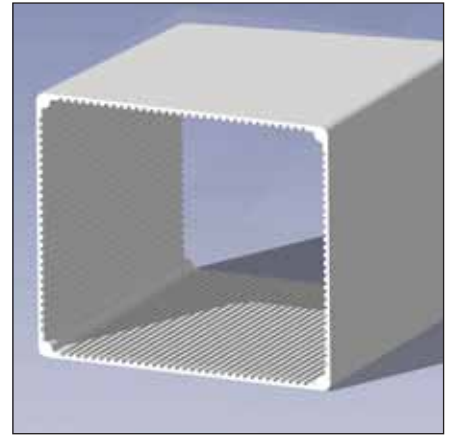
| Part #             | Type       | Description                                                                                                                                           |
|--------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 07061100 60        | Extrusion  | Extrusion only—bare Aluminum (sold by the meter)                                                                                                      |
| <b>Accessories</b> |            |                                                                                                                                                       |
| 07069521 10        | Lid        | Dusttight Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws                                                                  |
| 07069521 18        | Lid        | Dusttight Lid-plate Aluminum, unpainted, with lid screws                                                                                              |
| 07069520 10        | Lid        | Dusttight Wall Mount Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws                                                       |
| 07069520 18        | Lid        | Dusttight Wall Mount Lid-plate Aluminum, unpainted with screws                                                                                        |
| 07061200 70        | Lid        | Watertight Die-cast Lid-Aluminum painted jet black similar to RAL 9005, with lid screws and gasket                                                    |
| 07061200 78        | Lid        | Watertight Die-cast Lid-Aluminum, unpainted with lid screws and gasket                                                                                |
| 07061200 80        | Lid        | Watertight Wall Mount Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket                                        |
| 07061200 88        | Lid        | Watertight Wall Mount Die-cast-Aluminum, unpainted, with lid screws and gasket                                                                        |
| 07061200 90        | Lid        | Watertight Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket                                                   |
| 07061200 98        | Lid        | Watertight Die-cast Bezel Lid-Aluminum, unpainted, with lid screws and gasket                                                                         |
| 07061200 00        | Lid        | Watertight Die-cast Membrane Bezel Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket                                    |
| 07061200 08        | Lid        | Watertight Die-cast Membran Bezel Lid-Aluminum, unpainted, with lid screws and gasket                                                                 |
| 07061200 91        | Lid        | Watertight Die-cast Lid/w Clear Door & Snap Lock-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket                          |
| 07061200 92        | Lid        | Watertight Die-cast Lid w/Clear Door & Key Lock-Aluminum, painted jet black similar to RAL 9005, with lid screws, gasket and key                      |
| 07808003 50        | Lid        | Watertight Die-cast Membrane Bezel Lid with Clear PC Door & Side Latch-Aluminum Lid painted jet black similar to RAL 9005, with lid screws and gasket |
| 10093212 00        | Screw      | Slotted Countersink Screw for Dusttight Lid M4x6mm                                                                                                    |
| 10093270 00        | Screw      | Lid Screw for Watertight Lid M4x18mm                                                                                                                  |
| 10094102 00        | Table Feet | Table Feet (Sold as each)                                                                                                                             |



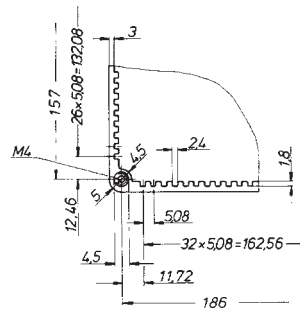


## Custom Build-A-Box® 0707

| Part #             | Type       | Description                                                                                                                    |
|--------------------|------------|--------------------------------------------------------------------------------------------------------------------------------|
| 07071100 70        | Extrusion  | Extrusion only—bare Aluminum (sold by the meter)                                                                               |
| <b>Accessories</b> |            |                                                                                                                                |
| 07079521 20        | Lid        | Dusttight Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws                                           |
| 07079521 28        | Lid        | Dusttight Lid-plate Aluminum, unpainted, with lid screws                                                                       |
| 07079520 20        | Lid        | Dusttight Wall Mount Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws                                |
| 07079520 28        | Lid        | Dusttight Wall Mount Lid-plate Aluminum, unpainted, with lid screws                                                            |
| 07071201 30        | Lid        | Watertight Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket                            |
| 07071201 38        | Lid        | Watertight Die-cast Lid-Aluminum, unpainted with lid screws and gasket                                                         |
| 07071201 10        | Lid        | Watertight Wall Mount Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket                 |
| 07071201 18        | Lid        | Watertight Wall Mount Die-cast Lid-Aluminum, unpainted, with lid screws and gasket                                             |
| 07071201 20        | Lid        | Watertight Die-cast Bezel Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket                      |
| 07071201 28        | Lid        | Watertight Die-cast Bezel Lid-Aluminum, unpainted, with lid screws and gasket                                                  |
| 07071201 40        | Lid        | Watertight Die-cast Membrane Bezel Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket             |
| 07071201 48        | Lid        | Watertight Die-cast Membrane Bezel Lid-Aluminum, unpainted, with lid screws and gasket                                         |
| 07808004 50        | Lid        | Watertight Die-cast Lid w/Clear Door & Side Latch-Aluminum, painted jet black, similar to RAL 9005, with lid screws and gasket |
| 10093212 00        | Screw      | Slotted Countersink Screw for Dusttight Lid M4x6mm                                                                             |
| 10093270 00        | Screw      | Lid Screw for Watertight Lid M4x18mm                                                                                           |
| 10094102 00        | Table Feet | Table Feet (Sold as each)                                                                                                      |



Enclosure Profile



Corner Detail

- Aluminum electronic enclosures, chassis fittings in three sizes
- Variable length options using profile technology
- Standard construction or version with connection compartment
- Optional Polycarbonate transparent cover

## Included in delivery

Enclosure system - depending on version, either with cast aluminum lids, connection compartment, or transparent cover; please order mounting elements separately.



## Technical Data

|                        |                                                                                                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material               | Al Mg Si 0.5; connection compartment AlSi12                                                                                                                                       |
| Ingress Protection     | IP 65 EN 60529                                                                                                                                                                    |
| Opening Angle          | For connection compartments and transparent covers 110°                                                                                                                           |
| Temperature Resistance | Lid seals -40°F to + 212°F<br>Transparent cover -40° to +158°F; only suitable for external applications                                                                           |
| Surface Resistance     | Plastic resin stove-enamel finish                                                                                                                                                 |
| Color                  | Light gray, similar to RAL 7035 - enclosure body and connection compartment<br>Stone gray, similar to RAL 7030 - enclosure lid and external fittings<br>Special colors on request |

| Type                                                            | Part Number<br>19" Mounting<br>Frame | Part Number<br>19" Mounting Frame<br>with Transparent<br>Cover | Part Number<br>Front Panel<br>Lid | Part Number<br>Front Panel<br>Lid | Part Number<br>Front Panel<br>Lid and<br>Transparent Cover | Dimensions*<br>mm<br>W x L x H | Dimensions*<br>Inches<br>W x L x H |
|-----------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------------------------|--------------------------------|------------------------------------|
| <b>Enclosure with connection compartment Standard (63.5 mm)</b> |                                      |                                                                |                                   |                                   |                                                            |                                |                                    |
| 19TE                                                            | 07191100 00                          | 07192100 00                                                    | 07193100 00                       | 07193300 00**                     | 07192300 00                                                | 148 x 236 x 241                | 5.83 x 9.29 x 9.49                 |
| 28TE                                                            | 07281100 00                          | 07282100 00                                                    | 07283100 00                       | 07283300 00**                     | 07282300 00                                                | 191 x 236 x 241                | 7.52 x 9.29 x 9.49                 |
| 42TE                                                            | 07421100 00                          | 07422100 00                                                    | 07423100 00                       | 07423300 00**                     | 07422300 00                                                | 265 x 236 x 241                | 10.43 x 9.29 x 9.49                |
| <b>Enclosure with connection compartment Standard (63.5 mm)</b> |                                      |                                                                |                                   |                                   |                                                            |                                |                                    |
| 19TE                                                            | 07191101 00                          | 07192101 00                                                    | 07193101 00                       | 07193301 00**                     | 07192301 00                                                | 148 x 276 x 241                | 8.53 x 10.87 x 9.49                |
| 28TE                                                            | 07281101 00                          | 07282101 00                                                    | 07283101 00                       | 07283301 00**                     | 07282301 00                                                | 191 x 276 x 241                | 7.52 x 10.87 x 9.49                |
| 42TE                                                            | 07421101 00                          | 07422101 00                                                    | 07423101 00                       | 07423301 00**                     | 07422301 00                                                | 265 x 276 x 241                | 10.43 x 10.87 x 9.49               |
| <b>Enclosure with connection compartment Standard (63.5 mm)</b> |                                      |                                                                |                                   |                                   |                                                            |                                |                                    |
| 19TE                                                            | 07191200 00                          | 07192200 00                                                    | 07193200 00                       | -                                 | -                                                          | 148 x 235 x 149                | 5.83 x 9.25 x 5.87                 |
| 28TE                                                            | 07281200 00                          | 07282200 00                                                    | 07283200 00                       | -                                 | -                                                          | 191 x 235 x 149                | 7.52 x 9.25 x 5.87                 |
| 42TE                                                            | 07421200 00                          | 07422200 00                                                    | 07423200 00                       | -                                 | -                                                          | 265 x 235 x 149                | 10.43 x 9.25 x 5.87                |

\*Length without lid

\*\* Enclosure length is equal to connection compartment depth

## Accessories

|                                                                            | Part Number                                                   |
|----------------------------------------------------------------------------|---------------------------------------------------------------|
| External mounting for enclosure with connection compartment (set of 2)     | 07000100 00                                                   |
| External mounting for enclosures without connection compartment (set of 2) | 07000200 00                                                   |
| Special lock with socket wrench for connection compartment (mounted)       | 07000017 00                                                   |
| Turning handle for transparent cover (mounted)                             | 07000018 00                                                   |
| Cylinder lock, for transparent cover (mounted)                             | 07000019 00                                                   |
| Board guides for PCB's, fixed (set of 10)                                  | 07000010 00                                                   |
| Board guides for PCB's; variable (set of 10)                               | 07000011 00                                                   |
| Insulating strip to fix bus boards (set of 2)                              | Type 0719 07190020 00<br>0728 07280020 00<br>0742 07420020 00 |
| Aluminum profile (Z rails) to fix connector bars (set of 2)                | Type 0719 07190010 00<br>0729 07280010 00<br>0742 07420010 00 |
| Mounting plate for connection compartment                                  | Type 0719 07190030 00<br>0728 07280030 00<br>0742 07420030 00 |
| Self-adhesive table feet (set of 4)                                        | 10070018 00                                                   |
| Mounting feet (2 pieces)                                                   | 07700081 00                                                   |

- Aluminum electronic enclosures, chassis fittings in three sizes
- Variable length options using profile technology
- Standard construction or version with connection compartment
- Optional Polycarbonate transparent cover

## Included in delivery

Enclosure system - depending on version either with cast aluminum lids, connection compartment or transparent cover; please order mounting elements separately.



## Technical Data

|                        |                                                                                                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material               | Al Mg Si 0.5; connection compartment AlSi12                                                                                                                                       |
| Ingress Protection     | IP 65 EN 60529                                                                                                                                                                    |
| Opening Angle          | For connection compartments and transparent covers 110°                                                                                                                           |
| Temperature Resistance | Lid seals -40°F to + 212°F<br>Transparent cover -40° to +158°F; only suitable for external applications                                                                           |
| Surface Resistance     | Plastic resin stove-enamel finish                                                                                                                                                 |
| Color                  | Light gray, similar to RAL 7035 - enclosure body and connection compartment<br>Stone gray, similar to RAL 7030 - enclosure lid and external fittings<br>Special colors on request |

| Type                                            | Part Number<br>19" Mounting Frame<br>with Transparent Cover | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number<br>Front Panel Lid | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H |
|-------------------------------------------------|-------------------------------------------------------------|-------------------------------|-----------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| Enclosure with connection compartment (63.5 mm) |                                                             |                               |                                   |                                |                               |                                   |
| 19TE                                            | 07192111 00                                                 | 148 x 285 x 241               | 5.83 x 11.22 x 9.49               | 07193111 00                    | 148 x 280 x 241               | 5.83 x 11.02 x 9.49               |
| 28TE                                            | 07282111 00                                                 | 191 x 285 x 241               | 7.52 x 11.22 x 9.49               | 07283111 00                    | 191 x 280 x 241               | 7.52 x 11.02 x 9.49               |
| 42TE                                            | 07422111 00                                                 | 265 x 185 x 241               | 10.43 x 11.22 x 9.49              | 07423111 00                    | 265 x 200 x 241               | 10.43 x 11.02 x 9.49              |
| Enclosure without connection compartment        |                                                             |                               |                                   |                                |                               |                                   |
| 19TE                                            | 07192211 00                                                 | 148 x 263.5 x 149             | 5.83 x 10.15 x 5.87               | 17193211 00                    | 148 x 258.5 x 149             | 5.83 x 10.18 x 5.87               |
| 28TE                                            | 07282211 00                                                 | 191 x 263.5 x 149             | 7.52 x 10.18 x 5.87               | 07283211 00                    | 191 x 258.5 x 149             | 7.52 x 10.18 x 5.87               |
| 42TE                                            | 07422211 00                                                 | 265 x 263.5 x 148             | 10.43 x 10.18 x 5.87              | 07423211 00                    | 265 x 258.5 x 149             | 10.43 x 10.18 x 5.87              |

| Accessories                                                                | Part Number                                                   |
|----------------------------------------------------------------------------|---------------------------------------------------------------|
| External mounting for enclosure with connection compartment (set of 2)     | 07000100 00                                                   |
| External mounting for enclosures without connection compartment (set of 2) | 07000200 00                                                   |
| Special lock with socket wrench for connection compartment (mounted)       | 07000017 00                                                   |
| Turning handle for transparent cover (mounted)                             | 07000018 00                                                   |
| Cylinder lock, for transparent cover (mounted)                             | 07000019 00                                                   |
| Board guides for PCB's, fixed (set of 10)                                  | 07000010 00                                                   |
| Board guides for PCB's; variable (set of 10)                               | 07000011 00                                                   |
| Mounting plate for connection compartment                                  | Type 0719 07190030 00<br>0728 07280030 00<br>0742 07420030 00 |
| Self-adhesive table feet (set of 4)                                        | 10070018 00                                                   |
| Mounting feet (2 pieces)                                                   | 07700081 00                                                   |

## ANG Panel Meter Housing



- First DIN panel meter housing on the market with NEMA 4x protection
- Constructed from hollow extrusion of heavy duty aluminum with internal slotting to accommodate printed circuit boards or chassis.

### Included in delivery

Enclosure body, mounting profiles, bezel, front frame, rear lid, 1.5 allen key, adhesive plate, screws and washers.



### Technical Data

|                            |                          |
|----------------------------|--------------------------|
| Color                      | Black powdercoat         |
| Material                   | Extruded aluminum        |
| Protection Classifications | NEMA 4X IP 66, DIN 40050 |

| Part Number | Dimensions<br>mm          | Dimensions<br>Inches      |
|-------------|---------------------------|---------------------------|
|             | L x W x H                 | L x W x H                 |
| ANG 9610    | 109.5 x 96 x 96           | 4.31 x 3.77 x 3.77        |
| ANG 9616    | 165.5 x 96 x 96           | 6.51 x 3.77 x 3.77        |
| ANG 9601    | Sold in one meter lengths | Sold in one meter lengths |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Part Number | Description                   |
|-------------|-------------------------------|
| ANG 96 MPI  | Aluminum mounting rail        |
| ANG 96 BZ   | Front bezel                   |
| ANG 96 FF   | Front open frame              |
| ANG 96 RL   | Rear cover                    |
| SST 1230 NG | Replacement screws (set of 8) |

Electronic systems are not made for the enclosures that house them; rather the enclosures are made to hold the electronics. For this reason, Bopla offers designers modular enclosures. These enclosure systems are offered in many diverse sizes with a wide range of possibilities for variation. This allows the individual design to come to life.

Electronic device manufacturers look for “packaging” that meets their requirements with regard to design and technology so that the ultimate product can effectively answer the demands of the market. The “package”, in this case, an enclosure made of plastic or metal, is of tremendous importance to the marketability of the device. Technical characteristics, price/performance comparisons, and the appearance of the product can prove central to its success. The extremely broad spectrum of different modular enclosure systems from Bopla represents a remarkable selection of “standards” that can be individualized.

**CombiCard 5000-7000**

- 3 versions with dimensions from 175.7 mm to 323 mm for the front length

**InterCard**

- 1 version with dimensions from 212 x 198 x 162.5 mm

**CombiSet**

- 4 versions with dimensions from 224.5 to 252 mm

**CombiNorm Classic**

- 2 versions with dimensions from 100 x 109.5 x 75 mm to 22.5 x 109.5 x 75 mm

**CombiNorm Compact**

- 3 versions with dimensions from 19 x 110 x 75 mm to 26 x 110 x 75 mm

**CombiCard 1000-3000**

- 3 versions with dimensions from 134 mm to 288 mm for the front length

**Executive Plug Housings**

- 7 versions with dimensions from 125 x 37 mm with height from 15 to 35 mm

**SE 4 & SE 5 Plug Housings**

- 2 versions with dimensions from 65 x 50 x 30 to 120 x 65 x 66 mm

## Alurail



- Modular DIN rail enclosure for use in measurement, control, and automation control technology
- Individual design of the enclosure construction is made possible by attaching different module types in various lengths onto the basic profile
- Basic profiles and modules equipped with integrated guide grooves for PCBs

### Included in delivery

Profiles sold in meter lengths. Other components sold individually. See below for details.



## Technical Data

|                           |                                                                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Material                  | Profiles: Extruded aluminum profile, Al Mg Si 0.5; Profile caps: Polyamide 6.6 FR                                                   |
| Ingress Protection        | Up to IP 40/DIN EN 60529, depending on enclosure construction                                                                       |
| Flammability              | UL 94 V0/1                                                                                                                          |
| Surface Resistance (caps) | >10 <sup>15</sup> Ohm to DIN 53482                                                                                                  |
| Ingress Protection        | Up to IP 40/DIN EN 60529 depending on the enclosure construction                                                                    |
| Color                     | Aluminum profile: anodized<br>Profile caps: light gray, similar to RAL 7035<br>Special colors on request. Minimum quantities apply. |

| Model Number<br>Basic Profiles | Part Number<br>Basic Profiles | Dimensions<br>mm<br>L x W | Dimensions<br>mm<br>L x W | Model Number<br>Module Profiles | Part Number<br>Module Profiles | Dimensions<br>mm<br>L x W x H | Dimensions<br>mm<br>L x W x H |
|--------------------------------|-------------------------------|---------------------------|---------------------------|---------------------------------|--------------------------------|-------------------------------|-------------------------------|
| ARP 75/31-1000                 | 87010000 00                   | 990.0 x 75.0              | 39.00 x 2.95              | ARPM 45/27-1000                 | 87110000 00                    | 990 x 45 x 27.5               | 39.00 x 2.95 x 1.08           |
| ARP 105/31-1000                | 87020000 00                   | 990.0 x 105               | 39.00 x 4.13              | ARPM 75-42-1000                 | 87110000 00                    | 990 x 75 x 42.5               | 39.00 x 2.95 x 1.67           |

| Model Number<br>Split Basic Profiles | Part Number<br>Split Basic Profiles | Dimensions<br>mm<br>L x W | Dimensions<br>Inches<br>L x W | Model Number<br>Split Module Profiles | Part Number<br>Split Module Profiles | Dimensions<br>mm<br>L x H | Dimensions<br>Inches<br>L x H |
|--------------------------------------|-------------------------------------|---------------------------|-------------------------------|---------------------------------------|--------------------------------------|---------------------------|-------------------------------|
| ARPG 75/31-1000                      | 87030000 00                         | 990 x 75                  | 39.00 x 2.95                  | ARPMG 00/27-1000                      | 87120000 00                          | 990 x 27.5                | 39.00 x 1.08                  |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Accessories                                                                                                                                                                                      | Model Number |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Profile caps (Includes 2 side panels, 4 assembly screws, 1 snap-on element, 1 positioning screw for snap-on element)                                                                             | AR...KS      |
| Module front panels (Includes 1 anodized front panel)                                                                                                                                            | ARM...FP     |
| Side panels, aluminum (Includes 2 side panels, 4 assembly screws, 1 snap-on element, 1 positioning screw for snap-on element)                                                                    | AR...KS-AL   |
| Module profiles for attaching to the basic profile (Includes 1 enclosure profile)                                                                                                                | ARPM...      |
| Split module profiles for attaching to the basic profile (Includes 2 aluminum profiles)                                                                                                          | ARPMG 00/... |
| Module caps (Includes 2 module profile caps, 4 assembly screws, 2 mounting screws)                                                                                                               | ARM...       |
| Module front panels (Includes 1 anodized front panel)                                                                                                                                            | ARM...FP     |
| Module bridges for attaching the module profiles onto the basic profiles (required if basic profile and module profile are of different lengths. Includes 5 modules bridges, 10 assembly screws) | AR...MB      |
| Wall mounting set (Includes 2 wall-mount elements)                                                                                                                                               | AR...WB      |
| Grounding set (Includes ground claws 5 pieces)                                                                                                                                                   | AR-E         |
| Snap-on element (Includes snap-on elements, positioning screws, 5 pieces)                                                                                                                        | AR-R         |

## CombiCard 5000-7000



- Modular construction ensures that the demands made of a future-oriented enclosure system are satisfied in the best possible way
- Hinge system design and the possibility of installing prefabricated mounting racks minimize assembly times
- User-defined access protection
- Double clamp area permits easy, clean wiring with a large number of cable entries

### Included in delivery

Modular product sold by individual components. See below for details.



## Technical Data

|                     |                                                                                                                                                                                                                             |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color               | Fronts and bases light gray, similar to RAL 7035. Clear front lid, G-version; side covers light gray, similar to RAL 7035. Rear parts agate gray, similar to RAL 7038. Special colors on request. Minimum quantities apply. |
| Material            | ABS, except FD...G (clear polycarbonate)                                                                                                                                                                                    |
| Gasket Material     | Neoprene                                                                                                                                                                                                                    |
| Ingress Protection  | IP 66 (IP 30 with ventilation) / DIN EN 60529, NEMA 4, 4X                                                                                                                                                                   |
| Surface Resistance  | ABS, >10 <sup>14</sup> Ohm to DIN 53482<br>Polycarbonate, >10 <sup>15</sup> Ohm to DIN 53482                                                                                                                                |
| Disruptive Strength | Polycarbonate 28KV/mm to DIN 53481                                                                                                                                                                                          |
| Flammability        | Polycarbonate: UL 94 V2/1.14. ABS: UL 94 HB/1.6                                                                                                                                                                             |
| Temperature Range   | up to +167°F                                                                                                                                                                                                                |

| Model Number | Front Length mm | Front Length Inches | Front Height mm | Front Height Inches | TE (x 5.08) | HE (x 44.45) |
|--------------|-----------------|---------------------|-----------------|---------------------|-------------|--------------|
| 5000         | 175.7           | 6.92                | 146.7           | 5.77                | 20          | 3            |
| 6000         | 226.5           | 8.92                | 146.7           | 5.77                | 30          | 3            |
| 7000         | 323.0           | 12.72               | 146.7           | 5.77                | 49          | 3            |

Dimensions without lid

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

For complete information and part numbers please see website: [www.rose-bopla.com](http://www.rose-bopla.com)

| Model                                           | FD | FR | FO | BC | RD |
|-------------------------------------------------|----|----|----|----|----|
| Front lids, clear                               | •  |    |    | •  |    |
| Quick-release fastenings                        | •  |    |    |    |    |
| Lock cover                                      | •  |    |    |    |    |
| Lock                                            | •  |    |    |    |    |
| Front frames, open                              |    | •  | •  |    |    |
| Front frame, closed                             |    | •  | •  |    |    |
| Rear sections with/without terminal compartment |    |    |    |    | •  |

### Components

| Part Number           | Version                                                                                                                                                                                     | Depth mm | Depth Inches |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|
| FD...(G)              | Front lids, clear (Includes: front lid with seal, 2 mounting locks, 1 blind plug, 1 catch)                                                                                                  | 34       | 1.34         |
| FR...                 | Front frames, closed (Includes: front frame with seal, 2 snap-on covers, 4 assembly screws)                                                                                                 | 34       | 1.34         |
| FO...                 | Front frames, open (Includes: front frame with seal, 2 snap-on covers, 4 assembly screws, 10 front panel assembly screws)                                                                   | 34       | 1.34         |
| BC...(L) - 0.5        | Bases - 0.5 (51.51 mm) construction depth (Includes: BC_000.0.5, base with seal, 2 mounted locks. BC_000 L-0.5, base with air vents without seal, 2 mounted locks)                          | 51.1     | 2.01         |
| BC...(L) - 1          | Bases - 1 (88.25mm) construction depth (Includes: BC_000-1, base with seal, 2 mounted locks. BC_000 L-1, base with air vents without seal, 2 mounted locks)                                 | 88.25    | 3.47         |
| BC...(L) - 1.5        | Bases - 1.5 (139.76 mm) construction depth (Includes: BC_0001.5, base with seal, 2 mounted locks. BC_000 L-1.5, base with air vents without seal, 2 mounted locks)                          | 139.76   | 5.50         |
| BC...NG(L)            | Base NG (control panel mounting) (Includes: base including mounted set of elements for control panel mounting)                                                                              | 68       | 2.68         |
| RD/RDK                | Rear sections with/without terminal compartments (Includes: RD - rear section, RDK - rear section, terminal compartment bar, terminal compartment cover including seal and assembly screws. | 50       | 1.97         |
| <b>Accessories</b>    |                                                                                                                                                                                             |          |              |
| FP.../AI              | Front panels                                                                                                                                                                                |          |              |
| M... / K / BK         | Mounting plates for RD...BC...(L)-...RD...K, RD...BK                                                                                                                                        |          |              |
| WL... / K / BK        | Wall bracket                                                                                                                                                                                |          |              |
| SR 5670 - 0.5/-1/-1.5 | Set of catches                                                                                                                                                                              |          |              |
| VA 5670               | Quick release fastening hinge (2 pieces)                                                                                                                                                    |          |              |
| SV 5670 2             | Lock cover / hinged quick-release fastening (Includes: 1 catch, 1 blind plug)                                                                                                               |          |              |
| BS 5670               | Assembly kit                                                                                                                                                                                |          |              |



# CombiCard 1000-3000



- Gives the user almost infinite possibilities for the optimal integration of individual electronic components
- Can be used as a desktop, wall or control panel mounted enclosure
- Mountable hinges mean that separate parts can be swiveled as required

## Included in delivery

Modular product sold by individual components. See below for details.



## Technical Data

|                     |                                                                                                                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color               | Base parts, light gray, similar to RAL 7035; front lid in G-version, crystal clear, front and rear parts, graphite gray, similar to RAL 7024. Special colors on request. Minimum order quantities apply. |
| Material            | ABS, polycarbonate front lids (FD...G), for standard product                                                                                                                                             |
| Gasket Material     | Neoprene                                                                                                                                                                                                 |
| Ingress Protection  | IP 65 DIN VDE 0470, NEMA 12                                                                                                                                                                              |
| Surface Resistance  | ABS, $>10^{14}$ Ohm to DIN 53482, Polycarbonate, $>10^{15}$ Ohm to DIN 53482                                                                                                                             |
| Disruptive Strength | Polycarbonate 28KV/mm to DIN 53481                                                                                                                                                                       |
| Flammability        | ABS, UL 94 HB/1.6, Polycarbonate, UL 94 V2/1.14                                                                                                                                                          |
| Temperature Range   | up to +167°F                                                                                                                                                                                             |

| Model | Front Length<br>mm | Front Length<br>Inches | Front Height<br>Inches | Front Height<br>Inches |
|-------|--------------------|------------------------|------------------------|------------------------|
| 1000  | 134                | 5.27                   | 144                    | 5.67                   |
| 2000  | 184                | 7.24                   | 144                    | 5.67                   |
| 3000  | 281                | 11.06                  | 144                    | 5.67                   |

Dimensions without lid

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

For detailed information and part numbers see website. [www.rose-bopla.com](http://www.rose-bopla.com)

### Part Number Prefix

| Model                                    | FD | FR | FO | FCT | FA | BC | RD |
|------------------------------------------|----|----|----|-----|----|----|----|
| Front lids                               | •  |    |    |     | •  |    |    |
| Front frames, closed                     |    | •  |    |     |    |    |    |
| Front frames, open                       |    |    | •  | •   |    |    |    |
| Front frames, open, with protective door |    |    | •  | •   |    |    |    |
| Front panels                             |    |    |    |     |    |    |    |
| Bases for control and mounting           |    |    |    |     |    | •  |    |
| Rear lids, low/tall                      |    |    |    |     |    |    | •  |

| Model Number          | Version                                                                                                                                                           | Depth<br>mm | Depth<br>Inches |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|
| <b>Front Sections</b> |                                                                                                                                                                   |             |                 |
| FD...                 | Front lids with screws                                                                                                                                            | 34          | 1.34            |
| FR...                 | Front frames, closed with screws                                                                                                                                  | 33.6        | 1.32            |
| FO...                 | Front frames, open, screws                                                                                                                                        | 33.6        | 1.32            |
| FCT...F(P)            | Front frames, open, with protective door and screws                                                                                                               | 50          | 1.97            |
| <b>Bases</b>          |                                                                                                                                                                   |             |                 |
| BC...(L)              | BC...-base, without air vents includes seal. BC...(L) with air vents, no seal.                                                                                    | 87.5        | 3.44            |
| BC...N                | Bases, low with seal including integrated fixing kit for control panel mounting                                                                                   | 51          | 2.00            |
| BC...NG               | Bases for control panel mounting, (Includes base part with seal and integrated mounting kit for control panel mounting)                                           | 87.5        | 3.44            |
| <b>Rear Lids</b>      |                                                                                                                                                                   |             |                 |
| RD...                 | Rear lids, low with seal, screws                                                                                                                                  | 29.6        | 1.16            |
| RD...H(SC)            | RD...H-rear lid, tall with seal screws. RD...H(SC)-rear lid, tall with seal, hinges, and assembly material                                                        | 48          | 1.89            |
| RD...K(SC)            | RD...K-rear lid, terminal compartments cover, seals, screws. RD...K(SC)-rear lid, terminal compartment cover, seals, screws, hinge elements and assembly material | 48-60       | 1.89-2.36       |
| RD...G-K(SC)          | Rear lids with large terminal compartment                                                                                                                         | 48-60       | 1.89-2.36       |

G=Transparent cover P=Open L=With air vents K=Terminal compartment SC=With hinges

### Accessories

| Model Number | Version                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------|
| WR...        | Wall frame                                                                                             |
| WR...H       | Wall frames for low/high rear parts                                                                    |
| FP...AI      | Internal aluminum front panels (assembly material included with FO... and FCT...FP)                    |
| FP...AA      | External aluminum front panels (including assembly material)                                           |
| FA...        | Aluminum front panels for base parts (including assembly material)                                     |
| FA...I       | Internal mounting plate for base parts in combination with front element (including assembly material) |
| MR...        | Mounting plate for rear wall (including assembly material)                                             |
| MR...K       | Mounting plate for rear wall lid with terminal compartment (including assembly material)               |
| HS...        | Handle                                                                                                 |

- Horizontal and vertical insertion slots for PCBs
- Door hinge system can be mounted on the right or left side
- Wall mounting (three-or four-point) is outside the sealed lip, so it does not affect the ingress protection IP 65
- Terminal compartment covers locks in the open position

## Included in delivery

Base, hinged clear lid, mounted with snap lock;  
terminal compartment cover; screws; threaded inserts  
for mounting plates.



## Technical Data

|                     |                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------|
| Color               | Light gray, similar to RAL 7035. Special colors available on request. Minimum order applies. |
| Material            | ABS, clear Polycarbonate lid.                                                                |
| Gasket              | Neoprene                                                                                     |
| Temperature Range   | up to 167°F                                                                                  |
| Ingress Protection  | IP 65 / DIN EN 60529                                                                         |
| Surface Resistance  | ABS, $>10^{14}$ Ohm to DIN 53482; Polycarbonate: $>10^{15}$ Ohm to DIN 53482                 |
| Disruptive Strength | Polycarbonate, 28 KV/mm to DIN 53481                                                         |
| Flammability        | ABS, UL 94 HB/1.6. Polycarbonate, UL 94 V2/1.14                                              |

| Model   | Part Number | Length<br>mm | Length<br>Inches | Height<br>mm | Height<br>Inches | Depth<br>mm | Depth<br>Inches |
|---------|-------------|--------------|------------------|--------------|------------------|-------------|-----------------|
| IC 5000 | 07500000 00 | 198          | 7.79             | 212          | 8.35             | 162.5       | 6.40            |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Type     | Version                | Part Number |
|----------|------------------------|-------------|
| SHLO-302 | Cylinder catch         | 21008310 00 |
| MP 5000  | Mounting plate, screws | 27450000 00 |
| FA 5000  | Front panel, screws    | 27350000 00 |

## CombiSet



- Ideal for mounting individual PCBs or cassettes in installation widths up to 12 TE
- NG version with the wraparound molded covering frame can be installed in control panels
- With lockable clear lid, this enclosure provides ingress protection IP 65

### Included in delivery

All models: Base and rear section, upper and lower guide grids, tapped strips and screws. CC...TK includes hinged clear door with knob. CC...NG includes molded-on installation frame on the base and retaining clasps. CC...NGTK additionally includes hinged clear door with knob.



## Technical Data

|                        |                                                                                                                                                                              |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color                  | Base, light gray, similar to RAL 7035; rear part, graphite gray, similar to RAL 7024; front door clear. Special colors available on request. Minimum order quantities apply. |
| Material               | ABS, clear Polycarbonate front door                                                                                                                                          |
| Gasket                 | Neoprene                                                                                                                                                                     |
| Ingress Protection     | For version CC 500 TK/NGTK: IP 65 / DIN EN 60529, NEMA 12                                                                                                                    |
| Surface Resistance     | ABS, $>10^{14}$ Ohm to DIN 53482, Polycarbonate $>10^{15}$ Ohm to DIN 53482                                                                                                  |
| Disruptive Strength    | Polycarbonate, 28KV/mm to DIN 53481                                                                                                                                          |
| Flammability           | ABS, UL 94 HB/1.6. Polycarbonate, UL 94 V2/1.14                                                                                                                              |
| Temperature Resistance | up to 167°F                                                                                                                                                                  |

| Model Number | Part Number | Version                                                              | Dimension mm<br>W x H x D | Dimensions Inches<br>W x H x D |
|--------------|-------------|----------------------------------------------------------------------|---------------------------|--------------------------------|
| CC 500       | 19050000 00 | Desktop / wall / rail enclosure                                      | 68 x 136 x 224.5          | 2.68 x 5.35 x 8.83             |
| CC 500 TK    | 19050101 00 | Desktop / wall / rail enclosure with door / ingress protection IP 65 | 68 x 136 x 252.5          | 2.68 x 5.35 x 9.94             |
| CC 500 NG    | 19050200 00 | Control panel mounting enclosure                                     | 72 x 144 x 224.5          | 2.83 x 5.67 x 8.84             |
| CC 500 NGTK  | 19050301 00 | Control panel mounting enclosure with door                           | 72 x 144 x 252.5          | 2.83 x 5.67 x 9.94             |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Model Number | Part Number | Version                                                                  |
|--------------|-------------|--------------------------------------------------------------------------|
| CC 500 WR    | 39001000 00 | Wall frame                                                               |
| CC 500 MS    | 39004000 00 | Mounting kit for DIN EN 60603-2 plug-in connector (previously DIN 41612) |
| CC 500 TS    | 39005000 00 | Rail snap foot for top hat rail DIN EN 60715 TH 35                       |
| SHLO - 302   | 21009310 00 | Cylinder lock catch                                                      |
| KF 1230      | 39302000 00 | Card guides (10 pieces)                                                  |
| KS 1230      | 39301000 00 | Card securing devices (10 pieces)                                        |

# CombiNorm Compact



- Optimal PCB utilization because the unit PCB is inserted from the side
- The right angled shape of the soldering pins makes it possible to mount terminals with components in one soldering process
- Latching of the shell and lid can take place on automated machines because of the special snap trim

## Included in delivery

Shell only. Lid and accessories must be ordered separately



## Technical Data

|                    |                                                                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color              | Light gray, similar to RAL 7035. Special colors on request. Minimum order quantities apply.                                                                               |
| Material           | Polyamide 6,6 FR, front flap crystal clear polycarbonate                                                                                                                  |
| Flammability       | UL 94 V0/1                                                                                                                                                                |
| Surface Resistance | >10 <sup>15</sup> Ohm to DIN 53482                                                                                                                                        |
| Ingress Protection | IP 40 to DIN EN 60529 for complete enclosure without ventilation.<br>IP 30 to DIN EN 60529 for complete enclosure with ventilation<br>IP 20 to DIN EN 60529 for terminals |

| Model      | Part Number | Version                                                 | Dimension             | Dimensions                   |
|------------|-------------|---------------------------------------------------------|-----------------------|------------------------------|
|            |             |                                                         | mm<br>W x L x H       | Inches<br>W x L x H          |
| CN 19 GU   | 65019000 00 | Enclosure shell, universal                              | 19 x 110.8 x 75       | 0.75 x 4.36 x 2.95           |
| CN 22 GU   | 65022000 00 | Enclosure shell, universal                              | 22 x 110.8 x 75       | 0.87 x 4.36 x 2.95           |
| CN 26 GU   | 65026000 00 | Enclosure shell, universal                              | 26 x 110.8 x 75       | 1.03 x 4.36 x 2.95           |
| CN-DU      | 65000100 00 | Enclosure lid, universal                                | 19/22/26 x 110.8 x 75 | 0.75/0.87/1.03 x 4.36 x 2.95 |
| CN 19 GU-L | 65019010 00 | Enclosure shell, universal, with air vents (on request) | 19 x 110.8 x 75       | 0.75 x 4.36 x 2.95           |
| CN 22 GU-L | 65022010 00 | Enclosure shell, universal, with air vents (on request) | 22 x 110.8 x 75       | 0.87 x 4.36 x 2.95           |
| CN 26 GU-L | 65026010 00 | Enclosure shell, universal, with air vents (on request) | 26 x 110.8 x 75       | 1.03 x 4.36 x 2.95           |
| CN 19 GK   | 65019100 00 | Enclosure shell, contoured                              | 19 x 110.8 x 75       | 0.75 x 4.36 x 2.95           |
| CN 22 GK   | 65022100 00 | Enclosure shell, contoured                              | 22 x 110.8 x 75       | 0.87 x 4.36 x 2.95           |
| CN 26 GK   | 65026100 00 | Enclosure shell, contoured                              | 26 x 110.8 x 75       | 1.03 x 4.36 x 2.95           |
| CN 19 GK-L | 65019110 00 | Enclosure shell, contoured, with air vents              | 19 x 110.8 x 75       | 0.75 x 4.36 x 2.95           |
| CN 22 GK-L | 65022110 00 | Enclosure shell, contoured, with air vents              | 22 x 110.8 x 75       | 0.87 x 4.36 x 2.95           |
| CN 26 GK-L | 65026110 00 | Enclosure shell, contoured, with air vents              | 26 x 110.8 x 75       | 1.03 x 3.97 x 2.95           |
| CN-DK      | 65000200 00 | Enclosure lid, contoured                                | 19/22/26 x 110.8 x 75 | 0.75/0.87/1.03 x 4.36 x 2.95 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Model       | Part Number | Version                                                                                  | Dimensions Width | Dimensions Width |
|-------------|-------------|------------------------------------------------------------------------------------------|------------------|------------------|
|             |             |                                                                                          | mm               | Inches           |
| CN 19 FP    | 65019500 00 | Front panel, plug-in                                                                     | 19               | 0.75             |
| CN 22 FP    | 65022500 00 | Front panel, plug-in                                                                     | 22               | 0.87             |
| CN 26 FP    | 65026500 00 | Front panel, plug-in                                                                     | 26               | 1.02             |
| CN 19 FK    | 65019600 00 | Front flap, snap-on                                                                      | 19               | 0.75             |
| CN 22 FK    | 65022600 00 | Front flap, snap-on                                                                      | 22               | 0.87             |
| CN 26 FK    | 65026600 00 | Front flap, snap-on                                                                      | 26               | 1.02             |
| CN 19 FKG   | 65019700 00 | Front flap, clear, snap-on                                                               | 19               | 0.75             |
| CN 22 FKG   | 65022700 00 | Front flap, clear, snap-on                                                               | 22               | 0.87             |
| CN 26 FKG   | 65026700 00 | Front flap, clear, snap-on                                                               | 26               | 1.02             |
| AK 8191/2DL | 66000052 00 | Connection terminals, 2-pole, on left of component side (seen from front), PCB vertical  | 19 - 26          | 0.75 - 1.02      |
| AK 8191/2DR | 66000062 00 | Connection terminals, 2-pole, on right of component side (seen from front), PCB vertical | 19 - 26          | 0.75 - 1.02      |
| AK 8191/3DL | 66000072 00 | Connection terminals, 3-pole, on left of component side (seen from front), PCB vertical  | 22 - 26          | 0.87 - 1.02      |
| AK 8191/3DR | 66000082 00 | Connection terminals, 3-pole, on right of component side (seen from front), PCB vertical | 22 - 26          | 0.87 - 1.02      |
| CN-BL1      | 66000032 00 | Blind piece, 1-pole, for unused terminal locations                                       | 19 - 26          | 0.75 - 1.02      |
| CN-BL2      | 66000042 00 | Blind piece, 2-pole, for unused terminal locations                                       | 19 - 26          | 0.75 - 1.02      |
| CN-WA       | 66000012 00 | Wall adapter for mounting single enclosures to wall                                      | 19 - 26          | 0.75 - 1.02      |
| CN-BZ       | 66000022 00 | Marking plate for clipping onto upper and lower section of enclosure front               | 19 - 26          | 0.75 - 1.02      |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## CombiNorm Classic



- 5-width enclosure program for 35 mm rail unit can be adapted to suit specific requirements by means of 4 different terminal types (PCB = variations) which, in some cases, can be combined outside a unit
- Lower part can be supplied with an adjusting flap on the upper side (type CNS...) that permits subsequent access to the electronic parts, e.g. for adjustment purposes
- Clear hood covers provide optimal protection for the operating fronts against dirt, unauthorized access (lead seal) and unintentional terminal operation
- Front lids are membrane-keypad ready

### Included in delivery

CN: Base, lid, mounted latch for rail fitting

CNS: Base, lid adjusting flap, mounted latch for rail fitting



## Technical Data

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Color              | Light gray, similar to RAL 7035. Special colors or request. Minimum order quantities apply. |
| Material           | ABS                                                                                         |
| Flammability       | UL 94 HB/1.6                                                                                |
| Surface Resistance | $>10^{14}$ Ohm to DIN 53482                                                                 |
| Ingress Protection | IP 40 to DIN EN 60529                                                                       |

| Model      | Part Number | Version                                                                       | Dimensions         | Dimensions          |
|------------|-------------|-------------------------------------------------------------------------------|--------------------|---------------------|
|            |             |                                                                               | mm<br>W x L x H    | Inches<br>W x L x H |
| CN 22 AK   | 65002210 00 | Small control enclosure for max. 8 terminals                                  | 22.5 x 109.5 x 75  | 0.88 x 4.31 x 2.95  |
| CN 45 AK   | 65004510 00 | Small control enclosure for max. 16 terminals                                 | 45.0 x 109.5 x 75  | 1.77 x 4.31 x 2.95  |
| CN 55 AK   | 65005510 00 | Small control enclosure for max. 20 terminals                                 | 55.0 x 109.5 x 75  | 2.16 x 4.31 x 2.95  |
| CN 70 AK   | 65007010 00 | Small control enclosure for max. 26 terminals                                 | 70.0 x 109.5 x 75  | 2.75 x 4.31 x 2.95  |
| CN 100 AK  | 65010010 00 | Small control enclosure for max. 138 terminals                                | 100.0 x 109.5 x 75 | 3.94 x 4.31 x 2.95  |
| CNS 22 AK  | 65002230 00 | Small control enclosure for max. 8 terminals with adjustable flap, included   | 255.0 x 109.5 x 75 | 10.03 x 4.31 x 2.95 |
| CNS 45 AK  | 65004530 00 | Small control enclosure for max. 16 terminals with adjustable flap, included  | 45.0 x 109.5 x 75  | 1.77 x 4.31 x 2.95  |
| CNS 55 AK  | 65005530 00 | Small control enclosure for max. 20 terminals with adjustable flap, included  | 55.0 x 109.5 x 75  | 2.16 x 4.31 x 2.95  |
| CNS 70 AK  | 65007030 00 | Small control enclosure for max. 26 terminals with adjustable flap, included  | 70.0 x 109.5 x 75  | 2.75 x 4.31 x 2.95  |
| CNS 100 AK | 65010030 00 | Small control enclosure for max. 138 terminals with adjustable flap, included | 100.0 x 109.5 x 75 | 3.94 x 4.31 x 2.95  |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Model     | Part Number | Version                                                            |
|-----------|-------------|--------------------------------------------------------------------|
| CNH 22 N  | 65002260 00 | Hinged hood cover, crystal-clear, low, for enclosure CN(S) 22 AK   |
| CNH 22 H  | 65002250 00 | Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 22 AK  |
| CNH 45 N  | 65004560 00 | Hinged hood cover, crystal-clear, low, for enclosure CN(S) 45 AK   |
| CNH 45 H  | 65004550 00 | Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 45 AK  |
| CNH 55 N  | 65005560 00 | Hinged hood cover, crystal-clear, low, for enclosure CN(S) 55 AK   |
| CNH 55 H  | 65005550 00 | Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 55 AK  |
| CNH 70 N  | 65007060 00 | Hinged hood cover, crystal-clear, low, for enclosure CN(S) 70 AK   |
| CNH 70 H  | 65007050 00 | Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 70 AK  |
| CNH 100 N | 65010060 00 | Hinged hood cover, crystal-clear, low, for enclosure CN(S) 100 AK  |
| CNH 100 H | 65010050 00 | Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 100 AK |
| CNB 100   | 65010070 00 | Blind bar CNB 100                                                  |
| CNA 100   | 65010100 00 | STL adapter CNA 100                                                |
| AK 700 V  |             | Connection terminals                                               |
| AK 700 H  |             | Connection terminals                                               |
| AK 950    |             | Connection terminals                                               |
| STL 950   |             | Pin bars                                                           |
| AK-BS     | 66000100 00 | Terminal identification strip                                      |

- Wall enclosure system for use in measurement and control applications available in 8 basic sizes, each with 6 different designs
- To permit insertion of mounting plates and PCBs, all designs feature vertical and horizontal grooves which ensure optimal unit assembly
- Terminal compartment can be separated from the actual electronics area by means of integrated grooves with separating plates

#### Included in delivery

Enclosures with hinged lid and latch: Base, clear lid, hinged, clear lid, mounted with latch, terminal compartment covers, screws, blind plug, catch.

Enclosures with covering frame: Base, covering frame, terminal compartment cover, screws

Enclosures with membrane front: Base, recessed front lid, terminal compartment cover, screws, screw cover.



### Technical Data

|                     |                                                                                                                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color               | Light gray, similar to RAL 7035                                                                                                                                                                      |
| Material            | ABS housing, crystal clear polycarbonate lid (Lexan 241A) VO version: Lexan 500 R housing, Lexan 940 A lid. Special materials and colors can be supplied on request. Minimum order quantities apply. |
| Ingress Protection  | Up to IP 65, DIN EN 60529, NEMA 12                                                                                                                                                                   |
| Surface Resistance  | ABS, $>10^{14}$ Ohm to DIN 53482. Polycarbonate, $>10^{15}$ Ohm to DIN 53482                                                                                                                         |
| Disruptive Strength | Polycarbonate 28 KV/mm to DIN 53481                                                                                                                                                                  |
| Flammability        | UL 94 HB/1.6 - ABS enclosure material, clear polycarbonate lid. (Lexan 241 R) UL 94 V0 - Lexan 500 R enclosure material, Lexan 940 A lid.                                                            |

| Model Number<br>With Hinged Lid<br>and Latch | Part Number<br>With Hinged Lid<br>and Latch | Model Number<br>With Covering<br>Frame | Part Number<br>With Covering<br>Frame | Model Number<br>With Membrane<br>Front | Part Number<br>With Membrane<br>Front | Dimensions<br>mm<br>H x W x D | Dimensions<br>Inches<br>H x W x D |
|----------------------------------------------|---------------------------------------------|----------------------------------------|---------------------------------------|----------------------------------------|---------------------------------------|-------------------------------|-----------------------------------|
| RCP 1300                                     | 41130109 00                                 | RCP 130                                | 41130009 00                           | RCP 130 F                              | 41130609 00                           | 186 x 131 x 81-103            | 7.32 x 5.16 x 3.19-4.05           |
| RCPM 1300                                    | 41131109 00                                 | RCPM 130                               | 41131009 00                           | RCPM 130 F                             | 41131609 00                           | 186 x 131 x 81-103            | 7.32 x 5.16 x 3.19-4.05           |
| RCP 1600                                     | 41160109 00                                 | RCP 160                                | 41160009 00                           | RCP 160 F                              | 41160609 00                           | 161 x 166 x 71-93             | 6.34 x 6.53 x 2.79-3.66           |
| RCPM 1600                                    | 41161109 00                                 | RCPM 160                               | 41161009 00                           | RCPM 160 F                             | 41161609 00                           | 161 x 166 x 71-93             | 6.34 x 6.53 x 2.79-3.66           |
| RCP 1700                                     | 41170109 00                                 | RCP 170                                | 41170009 00                           | RCP 170 F                              | 41170609 00                           | 161 x 166 x 99-121            | 6.34 x 6.53 x 3.90-4.76           |
| RCPM 1700                                    | 41171109 00                                 | RCPM 170                               | 41171009 00                           | RCPM 170 F                             | 41171609 00                           | 161 x 166 x 99-121            | 6.34 x 6.53 x 3.90-4.76           |
| RCP 2000                                     | 41200309 00                                 | RCP 200                                | 41200009 00                           | RCP 200 F                              | 41200609 00                           | 185 x 213 x 82.5-104.5        | 7.28 x 8.38 x 3.25-4.11           |
| RCPM 2000                                    | 41201309 00                                 | RCPM 200                               | 41201009 00                           | RCPM 200 F                             | 41201609 00                           | 185 x 213 x 82.5-104.5        | 7.28 x 8.38 x 3.25-4.11           |
| RCP 2500                                     | 41250109 00                                 | RCP 250                                | 41250009 00                           | RCP 250 F                              | 41250609 00                           | 217 x 257 x 110.5-132.5       | 8.54 x 10.12 x 4.35-5.22          |
| RCPM 2500                                    | 41251109 00                                 | RCPM 250                               | 41251009 00                           | RCPM 250 F                             | 41251609 00                           | 217 x 257 x 110.5-132.5       | 8.54 x 10.12 x 4.35-5.22          |
| RCP 3100                                     | 41310109 00                                 | RCP 310                                | 41310009 00                           | RCP 310 F                              | 41310609 00                           | 261 x 296 x 110.5-132.5       | 10.27 x 11.65 x 4.35-5.22         |
| RCPM 3100                                    | 41311109 00                                 | RCPM 310                               | 41311009 00                           | RCPM 310 F                             | 41311609 00                           | 261 x 296 x 110.5-132.5       | 10.27 x 11.65 x 4.35-5.22         |
| RCP 3500                                     | 41350109 00                                 | RCP 350                                | 41350009 00                           | RCP 350 F                              | 41350609 00                           | 281 x 296 x 136-158           | 11.06 x 11.65 x 5.35-6.22         |
| RCPM 3500                                    | 41351109 00                                 | RCPM 350                               | 41351009 00                           | RCPM 350 F                             | 41351609 00                           | 281 x 296 x 136-158           | 11.06 x 11.65 x 5.35-6.22         |
| RCP 4000                                     | 41400109 00                                 | RCP 400                                | 41400009 00                           | RCP 400 F                              | 41400609 00                           | 318.6 x 363.4 x 128.5-150     | 12.54 x 14.31 x 5.06-5.90         |
| RCPM 4000                                    | 41401109 00                                 | RCPM 400                               | 41401009 00                           | RCPM 400 F                             | 41401609 00                           | 318.6 x 363.4 x 128.2-150     | 12.54 x 14.31 x 5.06-5.90         |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

RCPM Version = Metric size knock outs

#### Accessories

| Model<br>Number     | Part<br>Number | Version                             |
|---------------------|----------------|-------------------------------------|
| SHLO-302            | 21008310 00    | Cylinder catch                      |
| RCP/RCPM-HK         | 41002501 00    | Hand knob                           |
| RCP/RCPM-WL         | 41000300 00    | Wall brackets (PU = 2 pieces)       |
| RCP/RCPM 130 M      | 41000350 00    | Mounting plate                      |
| RCP/RCPM 160/170 M  | 41000400 00    | Mounting plate                      |
| RCP/RCPM 200 M      | 41000500 00    | Mounting plate                      |
| RCP/RCPM 250 M      | 41000600 00    | Mounting plate                      |
| RCP/RCPM 310 M/350M | 41000700 00    | Mounting plate                      |
| RCP/RCPM 400 M      | 41000800 00    | Mounting plate                      |
| FAE 130             | 27000100 00    | Front panel, for enclosure 130/1300 |
| FAE 160/170         | 27000300 00    | Front panel, for enclosure 160/170  |
| FAE 200             | 27000500 00    | Front panel, for enclosure 200      |
| FAE 250             | 27000700 00    | Front panel, for enclosure 250      |
| FAE 310/350         | 27000900 00    | Front panel, for enclosure 310/350  |
| FAE 400             | 27120000 00    | Front panel, for enclosure 400      |



- Individually adaptable enclosure for use in building automation systems and many other fields of electronics
- Enclosure bases can be supplied with or without ventilation in 3 basic sizes
- Eight different lid types, with different sizes and shapes, can be mounted on the base
- Choose between lids with a membrane keypad area, design front or a hinged lid

## Included in delivery

Modular product sold by individual components.



## Technical Data

|                    |                                                                                                                                                                                                                                                                                  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color              | Base and wall mount fittings: agate gray, similar to RAL 7038 or white, similar to RAL 9010.<br>Lid: light gray (standard color) similar to RAL 7035 or white (special order) similar to RAL 9010<br>Module bridges: light gray, similar to RAL 7035. Special colors on request. |
| Material           | ABS - BVT-MB. Polyamide (PA 6, 15% GF) BVL-MB.                                                                                                                                                                                                                                   |
| Ingress Protection | Up to IP 40, according to DIN EN 60529, depending on construction. Up to IP 30 if used with ventilated bases. Up to IP 20 if used with lids with secondary flap.                                                                                                                 |
| Surface Resistance | >10 <sup>12</sup> Ohm to DIN 53482 (Polyamide),<br>>10 <sup>14</sup> Ohm to DIN 53482 (ABS)                                                                                                                                                                                      |
| Flammability       | ABS and Polyamide: UL 94 HB/1.6                                                                                                                                                                                                                                                  |

| Model Number | Part Number<br>Agate Gray | Part Number<br>White | Dimensions<br>mm<br>L x W x H | Dimensions<br>Inches<br>L x W x H | Description                             |
|--------------|---------------------------|----------------------|-------------------------------|-----------------------------------|-----------------------------------------|
| BVT-UT       | 40001000 00               | 40101000 00          | 200 x 120 x 18                | 7.87 x 4.72 x 0.71                | Compact base                            |
| BVT-UT-L     | 40001100 00               | 40101100 00          | 200 x 120 x 18                | 7.87 x 4.72 x 0.71                | Compact base with ventilation           |
| BVT-UT2      | 40001200 00               | 40101200 00          | 120 x 80 x 18                 | 4.72 x 3.16 x 0.71                | Compact base 2                          |
| BVT-UT2-L    | 40001300 00               | 40101300 00          | 120 x 80 x 18                 | 4.72 x 3.15 x 0.71                | Compact base 2 with ventilation         |
| BVT-OT1      | 40002100 00               | 40102100 00          | 120 x 40 x 18                 | 4.72 x 1.57 x 0.71                | Compact lid 1                           |
| BVT-OT1-F    | 40002110 00               | 40102110 00          | 120 x 40 x 18                 | 4.72 x 1.57 x 0.71                | Compact lid 1 with membrane keypad area |
| BVT-OT1-D    | 40002120 00               | 40102120 00          | 120 x 40 x 18                 | 4.72 x 1.57 x 0.71                | Compact lid 1 with design front         |
| BVT-OT2      | 40002130 00               | 40102130 00          | 120 x 80 x 18                 | 4.72 x 3.15 x 0.71                | Compact lid 2                           |
| BCT-OT2-F    | 40002140 00               | 40102140 00          | 120 x 80 x 18                 | 4.72 x 3.15 x 0.71                | Compact lid 2 with membrane keypad area |
| BVT-OT3      | 40002150 00               | 40102150 00          | 120 x 120 x 18                | 4.72 x 4.72 x 0.71                | Compact lid 3                           |
| BVT-OT3-F    | 40002160 00               | 40102160 00          | 120 x 120 x 18                | 4.72 x 4.72 x 0.71                | Compact lid 3 with membrane keypad area |
| BVT-OT3-SK   | 40002170 00               | 40102170 00          | 120 x 120 x 18                | 4.72 x 4.72 x 0.71                | Compact lid 3 with secondary flap       |
| BVL-UT       | 40011000 00               | 40111000 00          | 270 x 162 x 28                | 10.63 x 6.38 x 1.10               | Control base                            |
| BVL-UT-L     | 40011100 00               | 40111100 00          | 270 x 162 x 28                | 10.63 x 6.38 x 1.10               | Control base with ventilation           |
| BVL-OT1      | 40012100 00               | 40112100 00          | 162 x 54 x 22                 | 6.38 x 2.12 x 0.87                | Control lid 1                           |
| BVL-OT1-F    | 40012110 00               | 40112110 00          | 162 x 54 x 22                 | 6.38 x 2.12 x 0.87                | Control lid 1 with membrane keypad area |
| BVL-OT1-D    | 40012120 00               | 40112120 00          | 162 x 54 x 22                 | 6.38 x 2.12 x 0.87                | Control lid 1 with design front         |
| BVL-OT2      | 40012130 00               | 40112130 00          | 162 x 108 x 22                | 6.38 x 4.25 x 0.87                | Control lid 2                           |
| BVL-OT2-F    | 40012140 00               | 40112140 00          | 162 x 108 x 22                | 6.38 x 4.25 x 0.87                | Control lid 2 with membrane keypad area |
| BVL-OT3      | 40012150 00               | 40112150 00          | 162 x 162 x 22                | 6.38 x 6.38 x 0.87                | Control lid 3                           |
| BVL-OT3-F    | 40012160 00               | 40112160 00          | 162 x 162 x 22                | 6.38 x 6.38 x 0.87                | Control lid 3 with membrane keypad area |
| BVL-OT3-SK   | 40012170 00               | 40112170 00          | 162 x 162 x 22                | 6.38 x 6.38 x 0.87                | Control lid 3 with secondary flap       |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Model Number          | Part Number<br>Agate Gray | Part Number<br>White | Version                                                                       |
|-----------------------|---------------------------|----------------------|-------------------------------------------------------------------------------|
| BVT-MB                |                           | 40003000 00          | Compact module bridges                                                        |
| BVT-WB                | 40040000 00               | 40104000 00          | Compact wall mount plate                                                      |
| BVT-WB 2              | 40042000 00               | 40104200 00          | Compact wall mount plate 2                                                    |
| BVT-UP                |                           | 40200000 00          | Compact flush mount enclosure                                                 |
| BVT-FO-9010           |                           | 40200300 00          | Compact front frame, white, similar to RAL 9010                               |
| BVT-FO-7035*          |                           | 40200200 00          | Compact front frame, light gray, similar to RAL 7035                          |
| BVT-UP2               |                           | 40200010 00          | Compact 2 flush-mount enclosure                                               |
| BVT-FO2-9010          |                           | 40200310 00          | Compact 2 front frame, white, similar to RAL 9010                             |
| BVT-FO2-7035*         |                           | -                    | Compact 2 front frame with 2 mounting screws, light gray, similar to RAL 7035 |
| BVL-MB                |                           | 40013000 00          | Control module bridges                                                        |
| DIBLZ AK 30 x 5/M3/10 |                           | 59006986 00          | Distance bolts, boss internal Ø 2.4-2.6                                       |
| BVL-WB                | 40014000 00               | 40114000 00          | Control wall mount plate                                                      |
| BVL-UP                |                           | 40300000 00          | Control flush-mount enclosure                                                 |
| BVL-FO-9010           |                           | 40300300 00          | Control front frame, white, similar to RAL 9010                               |
| BVL-FO-7035*          |                           | 40200200 00          | Control front frame, light gray, similar to RAL 7035                          |

\*Available on request



- Enclosure system consisting of two-half shells. Designed for either horizontal or vertical use.
- Extension sets permit optimal adaptation of relevant space.
- Snap-lock technology reduces assembly time.
- Cap sets available in 6 colors to individualize the enclosure.

## Included in delivery

2 half shells. Other components sold individually or in sets. See website for details, [www.rose-bopla.com](http://www.rose-bopla.com)



## Technical Data

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Color              | Light gray, similar to RAL 7035. Special colors on request. Minimum order quantities apply. |
| Material           | ABS                                                                                         |
| Ingress Protection | Closed: IP 40 to EN 60529. With air vents: IP 30 to EN 60529                                |
| Surface Resistance | >10 <sup>14</sup> Ohm to DIN 53482                                                          |
| Flammability       | UL 94 HB/1.6                                                                                |

| Model Number | Part Number | Dimensions             | Dimensions           | Front Panel to be Used |
|--------------|-------------|------------------------|----------------------|------------------------|
|              |             | mm<br>W x H x D        | Inches<br>W x H x D  |                        |
| BO 32006     | 68320060 00 | 174 x 49.96 x 196.9    | 6.85 x 1.97 x 7.75   | BO FP 30006            |
| BO 32006 L   | 68320061 00 | 174 x 49.96 x 196.9    | 6.85 x 1.97 x 7.75   | BO FP 30006            |
| BO 32009     | 68320090 00 | 174 x 65.20 x 196.9    | 6.85 x 2.57 x 7.75   | BO FP 30009            |
| BO 32009 L   | 68320091 00 | 174 x 65.20 x 196.9    | 6.85 x 2.57 x 7.75   | BO FP 30009            |
| BO 32012     | 68320120 00 | 174 x 80.44 x 196.9    | 6.85 x 3.17 x 7.75   | BO FP 30012            |
| BO 32012 L   | 68320121 00 | 174 x 80.44 x 196.9    | 6.85 x 3.17 x 7.75   | BO FP 30012            |
| BO 51406     | 68514060 00 | 240.67 x 49.96 x 136.9 | 9.47 x 1.97 x 5.39   | BO FP 50006            |
| BO 51406 L   | 68514061 00 | 240.67 x 49.96 x 136.9 | 9.47 x 1.97 x 5.39   | BO FP 50006            |
| BO 51409     | 68514090 00 | 240.67 x 65.20 x 136.9 | 9.47 x 2.57 x 5.39   | BO FP 50009            |
| BO 51409 L   | 68514091 00 | 240.67 x 65.20 x 136.9 | 9.47 x 2.57 x 5.39   | BO FP 50009            |
| BO 51412     | 68514120 00 | 240.67 x 80.44 x 136.9 | 9.47 x 3.17 x 5.39   | BO FP 50012            |
| BO 51412 L   | 68514121 00 | 240.67 x 80.44 x 136.9 | 9.47 x 3.17 x 5.39   | BO FP 50012            |
| BO 52006     | 68520060 00 | 240.67 x 49.96 x 196.9 | 9.47 x 1.97 x 7.75   | BO FP 50006            |
| BO 52006 L   | 68520061 00 | 240.67 x 49.96 x 196.9 | 9.47 x 1.97 x 7.75   | BO FP 50006            |
| BO 52009     | 68520090 00 | 240.67 x 65.20 x 196.9 | 9.47 x 2.57 x 7.75   | BO FP 50009            |
| BO 52009 L   | 68520091 00 | 240.67 x 65.20 x 196.9 | 9.47 x 2.57 x 7.75   | BO FP 50009            |
| BO 52012     | 68520120 00 | 240.67 x 80.44 x 196.9 | 9.47 x 3.17 x 7.75   | BO FP 50012            |
| BO 52012 L   | 68520121 00 | 240.67 x 80.44 x 196.9 | 9.47 x 3.17 x 7.75   | BO FP 50012            |
| BO 62606     | 68626060 00 | 307.35 x 49.96 x 256.9 | 12.10 x 1.97 x 10.11 | BO FP 60006            |
| BO 62606 L   | 68626061 00 | 307.35 x 49.96 x 256.9 | 12.10 x 1.97 x 10.11 | BO FP 60006            |
| BO 62609     | 68626090 00 | 307.35 x 65.20 x 256.9 | 12.10 x 2.57 x 10.11 | BO FP 60009            |
| BO 62609 L   | 68626091 00 | 307.35 x 65.20 x 256.9 | 12.10 x 2.57 x 10.11 | BO FP 60009            |
| BO 62612     | 68626120 00 | 307.35 x 80.44 x 256.9 | 12.10 x 3.17 x 10.11 | BO FP 60012            |
| BO 62612 L   | 68626121 00 | 307.35 x 80.44 x 256.9 | 12.10 x 3.17 x 10.11 | BO FP 60012            |

L = With injection molded air vents in both half-shells.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Model Number | Version                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------|
| BO FP ...    | Front panel, aluminum Al Mg 3, anodized 2 mm. Front panel available in plastic on request                      |
| BO AB...     | Extension set. ABS light gray, similar to RAL 7035; additional colors for minimum orders of 500 extension sets |
| BO-KS        | Cap sets                                                                                                       |
| BO-SF...     | Angled operating front                                                                                         |
| BO-PB ...    | Filling profile set for mounting rack installation.                                                            |
| BO-PT...     | Profile set                                                                                                    |
| BO HS...     | Handle                                                                                                         |
| BO FF...     | Design foil                                                                                                    |
| BO D...      | Design element set                                                                                             |
| BO WB...     | Wall mounting set                                                                                              |

# Ultramas



- Ideal for small test equipment and computer peripherals, this enclosure can be adapted superbly to your individual space requirements
- Features smooth design lines, flawless satin finish and offered with or without ventilation slots
- Works in either the horizontal or vertical position, making it perfect as a desk or wall-mount

## Included in delivery

Lid and base, 8 screw covers, 4 rubber feet, 4 screws M3  
Accessories sold separately.



## Technical Data

|                           |                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------|
| Color                     | Enclosure, light gray, similar to RAL 7035. Screw covers, brackets and feet in agate gray, similar to RAL 7038. |
| Material                  | ABS                                                                                                             |
| Protection Classification | Closed: IP 40 DIN EN 60529. IP 30 DIN EN 60529 with air vents                                                   |
| Surface Resistance        | $>10^{14}$ Ohm to DIN 53482                                                                                     |
| Flammability              | UL 94 HB/1.6                                                                                                    |

| Model Number | Part Number | Dimensions<br>mm     | Dimensions<br>Inches |
|--------------|-------------|----------------------|----------------------|
|              |             | W x D x H            | W x D x H            |
| UM 32009     | 55320000 00 | 157.5 x 198.9 x 62.2 | 6.20 x 7.83 x 2.45   |
| UM 32009 L   | 55320010 00 | 157.5 x 198.9 x 62.2 | 6.20 x 7.83 x 2.45   |
| UM 32609     | 55326000 00 | 157.5 x 258.9 x 62.2 | 6.20 x 10.19 x 2.45  |
| UM 32609 L   | 55326010 00 | 157.5 x 258.9 x 62.2 | 6.20 x 10.19 x 2.45  |
| UM 52011     | 55520000 00 | 224.2 x 198.9 x 72.4 | 8.83 x 7.83 x 2.85   |
| UM 52011 L   | 55520020 00 | 224.2 x 198.9 x 72.4 | 8.83 x 7.83 x 2.85   |
| UM 62009     | 55620000 00 | 290.9 x 198.9 x 62.2 | 11.45 x 7.83 x 2.45  |
| UM 62009 L   | 55620010 00 | 290.9 x 198.9 x 62.2 | 11.45 x 7.83 x 2.45  |
| UM 62609     | 55626000 00 | 290.9 x 258.9 x 62.2 | 11.45 x 10.19 x 2.45 |
| UM 62609 L   | 55626010 00 | 290.9 x 258.9 x 62.2 | 11.45 x 10.19 x 2.45 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Model Number | Version                                                                               |
|--------------|---------------------------------------------------------------------------------------|
| FP           | Front panel, aluminum Al Mg3, anodized, 2 mm                                          |
| FPK          | Front panel, plastic ABS, light gray, similar to RAL 7035, 2 mm, embossed on one side |
| AB           | Extension set left and right, ABS light gray, similar to RAL 7035 (set = 2 pieces)    |
| UM-AS        | Fixed set-up foot set (set = 4 pieces)                                                |
| UM-ASK       | Hinged set-up foot set (set = 2 fixed and 2 hinged feet)                              |
| UM-WLH       | Wall brackets (set = 4 pieces)                                                        |
| UM-VHH       | Connecting straps (set = 4 pieces)                                                    |

- Available in 5 basic sizes, each with 2 bases in different heights. Can be combined with 5 different lid types.
- Range of combinations ensures that the enclosure is suitable for an extremely wide range of applications.
- Terminal compartment can be kept separate from the electronics compartment by means of partitions.

#### Included in delivery

Modular product sold individually. For details call factory.



### Technical Data

|                    |                                                                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color              | Base parts, light gray, similar to RAL 7035. Lids, light gray, similar to RAL 7035 or graphite gray, similar to RAL 7024. DIN Rail holder, black similar to RAL 9005. Special colors on request |
| Material           | ABS. Front lids, polycarbonate. DIN Rail holder, polyamide                                                                                                                                      |
| Ingress Protection | IP 65/DIN VDE 06529, NEMA 12, depending on combined systems parts.                                                                                                                              |
| Surface Resistance | ABS: $>10^{14}$ Ohm to DIN 53482                                                                                                                                                                |
| Flammability       | ABS: UL 94 HB/1.6. Polyamide: UL 94 VO/1                                                                                                                                                        |

| Model Number                                                               | Part Number<br>Light Gray | Model Number        | Part Number<br>Graphite Gray | Dimensions<br>mm<br>H x W x D | Dimensions<br>Inches<br>H x W x D |
|----------------------------------------------------------------------------|---------------------------|---------------------|------------------------------|-------------------------------|-----------------------------------|
| <b>High enclosure, with clear hinged lid, without terminal compartment</b> |                           |                     |                              |                               |                                   |
| BCD 160 Set 01-7035                                                        | 20163501 00               | BCD 160 Set 01-7024 | 20162401 00                  | 179 x 199 x 106.5             | 7.05 x 7.83 x 4.19                |
| BCD 200 Set 01-7035                                                        | 20203501 00               | BCD 200 Set 01-7024 | 20202401 00                  | 204 x 229 x 116.0             | 8.03 x 9.01 x 4.57                |
| BCD 250 Set 01-7035                                                        | 20253501 00               | BCD 250 Set 01-7024 | 20252401 00                  | 234 x 264 x 141.0             | 9.21 x 10.39 x 5.55               |
| BCD 310 Set 01-7035                                                        | 20313501 00               | BCD 310 Set 01-7024 | 20312401 00                  | 289 x 324 x 145.2             | 11.38 x 12.75 x 5.72              |
| BCD 400 Set 01-7035                                                        | 20403501 00               | BCD 400 Set 01-7024 | 20402401 00                  | 344 x 404 x 160.5             | 13.54 x 15.90 x 6.32              |
| <b>Flat enclosure, with clear hinged lid, without terminal compartment</b> |                           |                     |                              |                               |                                   |
| BCD 160 Set 02-7035                                                        | 20163502 00               | BCD 160 Set 02-7024 | 20162402 00                  | 179 x 199 x 71.5              | 7.05 x 7.83 x 2.81                |
| BCD 200 Set 02-7035                                                        | 20203502 00               | BCD 200 Set 02-7024 | 20202402 00                  | 204 x 229 x 76.0              | 8.03 x 9.01 x 2.99                |
| BCD 250 Set 02-7035                                                        | 20253502 00               | BCD 250 Set 02-7024 | 20252402 00                  | 234 x 264 x 86.0              | 9.21 x 10.39 x 3.38               |
| BCD 310 Set 02-7035                                                        | 20313502 00               | BCD 310 Set 02-7024 | 20312402 00                  | 289 x 324 x 111.2             | 11.38 x 12.75 x 4.38              |
| BCD 400 Set 02-7035                                                        | 20403502 00               | BCD 400 Set 02-7024 | 20402402 00                  | 344 x 404 x 112.0             | 13.54 x 15.90 x 4.41              |
| <b>High enclosure, with clear hinged lid, for 1 terminal compartment</b>   |                           |                     |                              |                               |                                   |
| BCD 160 Set 03-7035                                                        | 20163503 00               | BCD 160 Set 03-7024 | 20162403 00                  | 179 x 199 x 106.5             | 7.05 x 7.83 x 4.19                |
| BCD 200 Set 03-7035                                                        | 20203503 00               | BCD 200 Set 03-7024 | 20202403 00                  | 204 x 229 x 116.0             | 8.03 x 9.01 x 4.57                |
| BCD 250 Set 03-7035                                                        | 20253503 00               | BCD 250 Set 03-7024 | 20252403 00                  | 234 x 264 x 141.0             | 9.21 x 10.39 x 5.55               |
| BCD 310 Set 03-7035                                                        | 20313503 00               | BCD 310 Set 04-7024 | 20312403 00                  | 289 x 324 x 145.2             | 11.38 x 12.75 x 5.72              |
| BCD 400 Set 03-7035                                                        | 20403503 00               | BCD 400 Set 04-7024 | 20402403 00                  | 344 x 404 x 160.5             | 13.54 x 15.90 x 6.32              |
| <b>Flat enclosure, with clear hinged lid, for 1 terminal compartment</b>   |                           |                     |                              |                               |                                   |
| BCD 160 Set 04-7035                                                        | 20163504 00               | BCD 160 Set 04-7024 | 20162404 00                  | 179 x 199 x 71.5              | 7.05 x 7.83 x 2.81                |
| BCD 200 Set 04-7035                                                        | 20203504 00               | BCD 200 Set 04-7024 | 20202404 00                  | 204 x 229 x 76.0              | 8.03 x 9.01 x 2.99                |
| BCD 250 Set 04-7035                                                        | 20253504 00               | BCD 250 Set 04-7024 | 20252404 00                  | 234 x 264 x 86.0              | 9.21 x 10.39 x 3.38               |
| BCD 310 Set 04-7035                                                        | 20313504 00               | BCD 310 Set 04-7024 | 20312404 00                  | 289 x 324 x 111.2             | 11.38 x 12.75 x 4.38              |
| BCD 400 Set 04-7035                                                        | 20403504 00               | BCD 400 Set 04-7024 | 20402404 00                  | 344 x 404 x 112.0             | 13.54 x 15.90 x 4.41              |
| <b>High enclosure, with clear hinged lid, for 2 terminal compartments</b>  |                           |                     |                              |                               |                                   |
| BCD 160 Set 05-7035                                                        | 20163505 00               | BCD 160 Set 05-7024 | 20162405 00                  | 179 x 199 x 106.5             | 7.05 x 7.83 x 4.19                |
| BCD 200 Set 05-7035                                                        | 20203505 00               | BCD 200 Set 05-7024 | 20202405 00                  | 204 x 229 x 116.0             | 8.03 x 9.01 x 4.57                |
| BCD 250 Set 05-7035                                                        | 20253505 00               | BCD 250 Set 05-7024 | 20252405 00                  | 234 x 264 x 141.0             | 9.21 x 10.39 x 5.55               |
| BCD 310 Set 05-7035                                                        | 20313505 00               | BCD 310 Set 05-7024 | 20312405 00                  | 289 x 324 x 145.2             | 11.38 x 12.75 x 5.72              |
| BCD 400 Set 05-7035                                                        | 20403505 00               | BCD 400 Set 05-7024 | 20402405 00                  | 344 x 404 x 160.5             | 13.54 x 15.90 x 6.32              |
| <b>Flat enclosure, with clear hinged lid, for 2 terminal compartments</b>  |                           |                     |                              |                               |                                   |
| BCD 160 Set 06-7035                                                        | 20163506 00               | BCD 160 Set 06-7024 | 20162406 00                  | 179 x 199 x 71.5              | 7.05 x 7.83 x 2.81                |
| BCD 200 Set 06-7035                                                        | 20203506 00               | BCD 200 Set 06-7024 | 20202406 00                  | 204 x 229 x 76.0              | 8.03 x 9.01 x 2.99                |
| BCD 250 Set 06-7035                                                        | 20253506 00               | BCD 250 Set 06-7024 | 20252406 00                  | 234 x 264 x 86.0              | 9.21 x 10.39 x 3.38               |
| BCD 310 Set 06-7035                                                        | 20313506 00               | BCD 310 Set 06-7024 | 20312406 00                  | 289 x 324 x 111.2             | 11.38 x 12.75 x 4.38              |
| BCD 400 Set 06-7035                                                        | 20403506 00               | BCD 400 Set 06-7024 | 20402406 00                  | 344 x 404 x 112.0             | 13.54 x 15.90 x 4.41              |

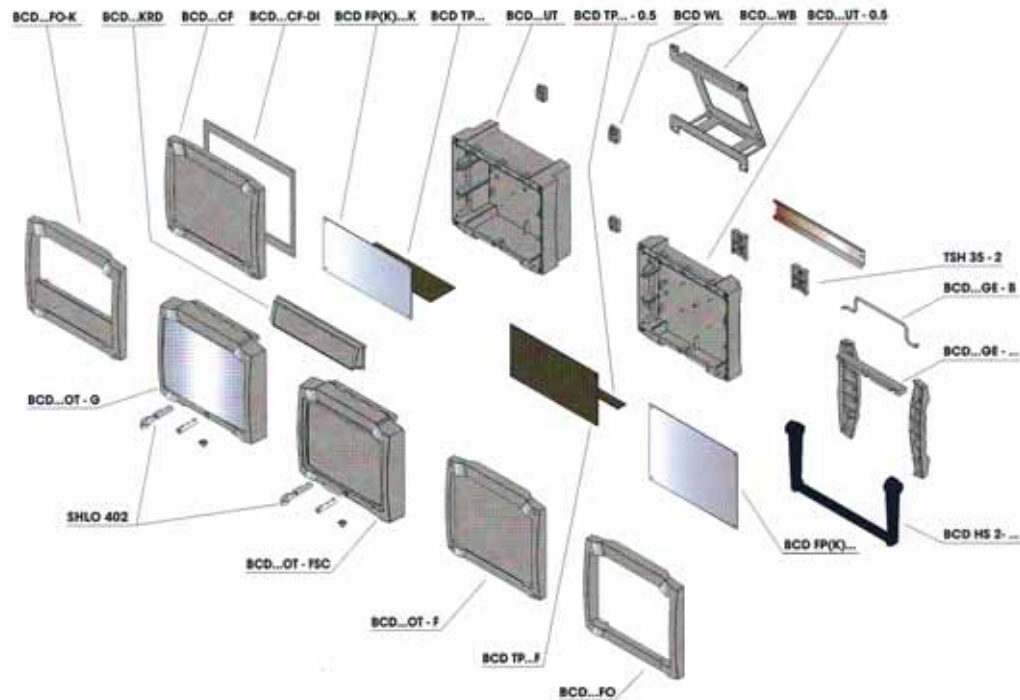
Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Model Number                                                                       | Part Number<br>Light Gray | Model Number        | Part Number<br>Graphite Gray | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H |
|------------------------------------------------------------------------------------|---------------------------|---------------------|------------------------------|-------------------------------|-----------------------------------|
| <b>High enclosure with front frame open, without terminal compartment</b>          |                           |                     |                              |                               |                                   |
| BCD 160 Set 07-7035                                                                | 20163507 00               | BCD 160 Set 07-7024 | 20162407 00                  | 178 x 199 x 89.0              | 7.01 x 7.83 x 3.50                |
| BCD 200 Set 07-7035                                                                | 20203507 00               | BCD 200 Set 07-7024 | 20202407 00                  | 203 x 229 x 99.0              | 7.99 x 9.01 x 3.90                |
| BCD 250 Set 07-7035                                                                | 20253507 00               | BCD 250 Set 07-7024 | 20252407 00                  | 233 x 264 x 124               | 9.17 x 10.39 x 4.88               |
| <b>Flat enclosure, with front frame open, without terminal compartment</b>         |                           |                     |                              |                               |                                   |
| BCD 160 Set 08-7035                                                                | 20163508 00               | BCD 160 Set 08-7024 | 20162408 00                  | 178 x 199 x 54.0              | 7.01 x 7.83 x 2.12                |
| BCD 200 Set 08-7035                                                                | 20203508 00               | BCD 200 Set 08-7024 | 20202408 00                  | 203 x 229 x 59.0              | 7.99 x 9.01 x 2.32                |
| BCD 250 Set 08-7035                                                                | 20253508 00               | BCD 250 Set 08-7024 | 20252408 00                  | 233 x 264 x 69.0              | 9.17 x 10.39 x 2.72               |
| <b>High enclosure, with front frame open, including terminal compartment cover</b> |                           |                     |                              |                               |                                   |
| BCD 160 Set 09-7035                                                                | 20163509 00               | BCD 160 Set 09-7024 | 20162409 00                  | 178 x 199 x 89.0              | 7.01 x 7.83 x 3.50                |
| BCD 200 Set 09-7035                                                                | 20203509 00               | BCD 200 Set 09-7024 | 20202409 00                  | 203 x 229 x 99.0              | 7.99 x 9.01 x 3.90                |
| BCD 250 Set 09-7035                                                                | 20253509 00               | BCD 250 Set 09-7024 | 20252409 00                  | 233 x 264 x 124               | 9.17 x 10.39 x 4.88               |
| <b>Flat enclosure, with front frame open, including terminal compartment cover</b> |                           |                     |                              |                               |                                   |
| BCD 160 Set 10-7035                                                                | 20163510 00               | BCD 160 Set 10-7024 | 20162410 00                  | 178 x 199 x 54.0              | 7.01 x 7.83 x 2.12                |
| BCD 200 Set 10-7035                                                                | 20203510 00               | BCD 200 Set 10-7024 | 20202410 00                  | 203 x 229 x 59.0              | 7.99 x 9.01 x 2.32                |
| BCD 250 Set 10-7035                                                                | 20253510 00               | BCD 250 Set 10-7024 | 20252410 00                  | 233 x 264 x 69.0              | 9.17 x 10.39 x 2.72               |
| <b>High enclosure, with membrane lid</b>                                           |                           |                     |                              |                               |                                   |
| BCD 160 Set 11-7035                                                                | 20163511 00               | BCD 160 Set 11-7024 | 20162411 00                  | 178 x 199 x 89.0              | 7.01 x 7.83 x 3.50                |
| BCD 200 Set 11-7035                                                                | 20203511 00               | BCD 200 Set 11-7024 | 20202411 00                  | 203 x 229 x 99.0              | 7.99 x 9.01 x 3.90                |
| BCD 250 Set 11-7035                                                                | 20253511 00               | BCD 250 Set 11-7024 | 20252411 00                  | 233 x 264 x 124               | 9.17 x 10.39 x 4.88               |
| <b>Flat enclosure, with membrane lid</b>                                           |                           |                     |                              |                               |                                   |
| BCD 160 Set 12-7035                                                                | 20163512 00               | BCD 160 Set 12-7024 | 20162412 00                  | 178 x 199 x 54.0              | 7.01 x 7.83 x 2.12                |
| BCD 200 Set 12-7035                                                                | 20203512 00               | BCD 200 Set 12-7024 | 20202412 00                  | 203 x 229 x 59.0              | 7.99 x 9.01 x 2.32                |
| BCD 250 Set 12-7035                                                                | 20253512 00               | BCD 250 Set 12-7024 | 20252412 00                  | 233 x 264 x 69.0              | 9.17 x 10.39 x 2.72               |
| <b>High enclosure, with hinged membrane lid</b>                                    |                           |                     |                              |                               |                                   |
| BCD 160 Set 13-7035                                                                | 20163513 00               | BCD 160 Set 13-7024 | 20162413 00                  | 179 x 199 x 106.5             | 7.05 x 7.83 x 4.19                |
| BCD 200 Set 13-7035                                                                | 20203513 00               | BCD 200 Set 13-7024 | 20202413 00                  | 204 x 229 x 116.0             | 8.03 x 9.01 x 4.57                |
| BCD 250 Set 13-7035                                                                | 20253513 00               | BCD 250 Set 13-7024 | 20252413 00                  | 234 x 264 x 141.0             | 9.21 x 10.39 x 5.55               |
| BCD 310 Set 13-7035                                                                | 20313513 00               | BCD 310 Set 13-7024 | 20312413 00                  | 289 x 324 x 145.2             | 11.38 x 12.75 x 5.72              |
| BCD 400 Set 13-7035                                                                | 20403513 00               | BCD 400 Set 13-7024 | 20402413 00                  | 344 x 404 x 160.5             | 13.54 x 15.90 x 6.32              |
| <b>Flat enclosure, with hinged membrane lid</b>                                    |                           |                     |                              |                               |                                   |
| BCD 160 Set 14-7035                                                                | 20163514 00               | BCD 160 Set 14-7024 | 20162414 00                  | 179 x 199 x 71.5              | 7.05 x 7.83 x 2.81                |
| BCD 200 Set 14-7035                                                                | 20203514 00               | BCD 200 Set 14-7024 | 20202414 00                  | 204 x 229 x 76.0              | 8.03 x 9.01 x 2.99                |
| BCD 250 Set 14-7035                                                                | 20253514 00               | BCD 250 Set 14-7024 | 20252414 00                  | 234 x 264 x 86.0              | 9.21 x 10.39 x 3.38               |
| BCD 310 Set 14-7035                                                                | 20313514 00               | BCD 310 Set 14-7024 | 20312414 00                  | 289 x 324 x 111.2             | 11.38 x 12.75 x 4.38              |
| BCD 400 Set 14-7035                                                                | 20403514 00               | BCD 400 Set 14-7024 | 20402414 00                  | 344 x 404 x 112.0             | 13.54 x 15.90 x 4.41              |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

#### Accessories

| Model Number | Description                                     | Model Number  | Description                                                                  |
|--------------|-------------------------------------------------|---------------|------------------------------------------------------------------------------|
| BCD FP...    | Front panel, 1.5 mm aluminum                    | SHLO 402      | Cylinder lock (1 lock, 2 keys)                                               |
| BCD FPK...   | Front panel, 2 mm plastic                       | BCD...WB      | Wall mounting fastening angle and assembly screws                            |
| BCD TP...    | Partition, 1.5 mm hard paper                    | BCD HS 2-9005 | Handle (2 side section, 2 anti-slip elements, profile and assembly material) |
| BCD M...     | Mounting panel, 2 mm hard paper                 | BCD...GE-7024 | Handle element                                                               |
| BCD WL-7035  | 4 Wall brackets and assembly screws             | BCD...GE-B    | Set-up bow for handle element                                                |
| TSH 35-2     | DIN rail holders (2 pieces) and assembly screws |               |                                                                              |



## Executive Plug Housing



- This generation of plug enclosures is available in different styles for use in specific countries.
- From 3 lids with sockets, 5 lids without sockets, 2 console type lids, as well as 3 bases with plug, and one base without plug, it is possible to create 40 different plug enclosures.

### Included in delivery

Lid and base, assembly screws, including connector pins/socket inserts depending on type.



## Technical Data

|                                     |                                                                                                                                         |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Color                               | Lid, light gray, similar to RAL 7035; base, agate gray, similar to RAL 7038. Special colors on request. Minimum order quantities apply. |
| Material                            | Polycarbonate/ABS blend plastic                                                                                                         |
| Ingress Protection                  | IP 40/DIN EN 60529                                                                                                                      |
| Flammability                        | UL 94 VO/1.6                                                                                                                            |
| Testing                             | Tested to VDE 0624/IEC 884                                                                                                              |
| Subject to minimum order quantities |                                                                                                                                         |

| Model Number    | Part Number | Version                                                                               | Length<br>Inches/mm | Width<br>Inches/mm | Height<br>Inches/mm |
|-----------------|-------------|---------------------------------------------------------------------------------------|---------------------|--------------------|---------------------|
| ESO 1250 E      | 41010004 00 | Lid with socket DIN 49440/CEE 7 III                                                   | 4.92 / 125          | 2.64 / 67          | 1.38 / 35           |
| ESO 1250 CEE    | 44020004 00 | Lid with socket CEE 7 V                                                               | 4.92 / 125          | 2.64 / 67          | 1.38 / 35           |
| ESO 1250 SEV    | 44030004 00 | Lid with socket SEV 1011 Type 13                                                      | 4.92 / 125          | 2.64 / 67          | 1.38 / 35           |
| ESO 1250 E-K*   | 44011004 00 | Lid with socket DIN 49440/CEE 7 III                                                   | 4.92 / 125          | 2.64 / 67          | 1.38 / 35           |
| ESO 1250 CEE-K* | 44021004 00 | Lid with socket CEE 7 V                                                               | 4.92 / 125          | 2.64 / 67          | 1.38 / 35           |
| ESO 1250        | 44040004 00 | Lid without socket                                                                    | 4.92 / 125          | 2.64 / 67          | 1.38 / 35           |
| ESO 1240        | 44050004 00 | Lid without socket                                                                    | 4.92 / 125          | 2.64 / 67          | 0.98 / 25           |
| ESO 1230        | 44060004 00 | Lid without socket                                                                    | 4.92 / 125          | 2.64 / 67          | 0.98 / 25           |
| ESO 1240 P      | 44070004 00 | Console lid without socket, keypad area 46 x 90 x 1mm deep                            | 4.92 / 125          | 2.64 / 67          | 0.98 / 25           |
| ESO 1240 PD     | 44080004 00 | Console lid without socket, keypad area 46 x 70 x 1mm deep. Display opening 46 x 11mm | 4.92 / 125          | 2.64 / 67          | 0.98 / 25           |
| ESU 1200 E/CEE  | 44093004 00 | Base with plug DIN 49441 R2                                                           | 4.92 / 125          | 2.64 / 67          | 0.59 / 15           |
| ESU 1200 SEV    | 44091004 00 | Base with plug SEV 1011 Type 12                                                       | 4.92 / 125          | 2.64 / 67          | 0.59 / 15           |
| ESU 1200 E-US   | 44092004 00 | Base with plug UL 498 ANSI ST. A5-15                                                  | 4.92 / 125          | 2.64 / 67          | 0.59 / 15           |
| ESU 1200        | 44090004 00 | Base with plug                                                                        | 4.92 / 125          | 2.64 / 67          | 0.59 / 15           |

E = German version with ground    CEE = French version with ground    SEV = Swiss version with ground    E/CEE = Swiss version with ground  
E-US = US version with ground    K = With child safety lock

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



## SE 4 and SE 5 Plug Housings



- Eight basic sizes are available. This enclosure program comprises six country-specific plugs and four different sockets.
- Because of their compactness and integrated cable inlets, the enclosures in the SE 510/520 series are especially suitable for use as transformer mains power units.

### Included in delivery

Lid and base, mounting screws, including connector pins/socket inserts depending on type.



### Technical Data

|                                     |                                                                                                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color                               | SE 4 Series - lid, light gray, similar to RAL 7035; base, graphite gray, similar to RAL 7024. SE 5 series, black, similar to RAL 9005. Special colors on request |
| Material                            | SE 4 Series-flame-resistance Polycarbonate/ABS blend. SE 5 Series-flame-resistant Polyamide, PA 6.6 FR.                                                          |
| Ingress Protection                  | IP 40/DIN VDE 60529, IP 30 (enclosures with ventilation)                                                                                                         |
| Flammability                        | SE 4 Series, UL 94 VO/1.6. SE 5 Series, UL 94 VO/1                                                                                                               |
| Testing                             | SE 5 Series tested to VDE 0624/IEC 884.                                                                                                                          |
| Subject to minimum order quantities |                                                                                                                                                                  |

| Model Number                                   | Part Number | Dimensions<br>mm | Dimensions<br>Inches | Version                                                                                    |
|------------------------------------------------|-------------|------------------|----------------------|--------------------------------------------------------------------------------------------|
| <b>Plug Enclosures with Euro Plug</b>          |             | L x W x H        | L x W x H            |                                                                                            |
| SE 420 EU                                      | 43420204 00 | 100 x 50 x 40    | 3.94 x 1.97 x 1.57   | Euro plug, DIN VDE 0620 part 101                                                           |
| <b>Plug Enclosures with German/French Plug</b> |             |                  |                      |                                                                                            |
| SE 406 E/CEE*                                  | 43406204 00 | 65 x 50 x 30     | 2.56 x 1.97 x 1.18   | E/CEE = plug with ground, DIN 49441 R2.<br>* = Available on request. Minimum order applies |
| SE 408 E/CEE*                                  | 43408504 00 | 65 x 50 x 45     | 2.56 x 1.97 x 1.77   |                                                                                            |
| SE 410 E/CEE*                                  | 43410104 00 | 100 x 50 x 40    | 3.94 x 1.97 x 0.98   |                                                                                            |
| SE 420 E/CEE                                   | 43420104 00 | 100 x 50 x 25    | 3.94 x 1.97 x 1.57   |                                                                                            |
| SE 430 E/CEE                                   | 43430004 00 | 120 x 65 x 40    | 4.72 x 2.56 x 1.57   |                                                                                            |
| SE 435 E/CEE                                   | 43435004 00 | 120 x 65 x 66    | 4.72 x 2.56 x 2.60   |                                                                                            |
| <b>Plug Enclosures with Swiss Plug</b>         |             |                  |                      |                                                                                            |
| SE 430 SEV*                                    | 43430604 00 | 120 x 65 x 40    | 4.72 x 2.56 x 1.57   | SEV = Swiss version, with ground.                                                          |
| SE 435 SEV*                                    | 43435604 00 | 120 x 65 x 66    | 4.72 x 2.56 x 2.56   | SEV-1011 type 12, minimum order 500+. *Available on request.                               |
| <b>Plug Enclosures with American Plug</b>      |             |                  |                      |                                                                                            |
| SE 410 E/US*                                   | 43410404 00 | 100 x 50 x 25    | 3.94 x 1.97 x 0.98   | E-US = US version, with ground.                                                            |
| SE 420 E/US*                                   | 43420224 00 | 100 x 50 x 40    | 3.94 x 1.97 x 1.57   | UL 498 or ANSI St. A 5-15, minimum order 500+.                                             |
| SE 430E/US*                                    | 43430104 00 | 120 x 65 x 40    | 4.72 x 2.56 x 1.57   | *Available on request. Minimum order applies                                               |
| SE 435 E/US                                    | 43435204 00 | 120 x 65 x 66    | 4.72 x 2.56 x 2.60   |                                                                                            |
| <b>Plug Enclosures with Appropriate Socket</b> |             |                  |                      |                                                                                            |
| SE 432 DE                                      | 43432504 00 | 120 x 65 x 50    | 4.72 x 2.56 x 1.97   | DE = German version (DIN 49440/CEE 7 111)                                                  |
| SE 432 DE CEE*                                 | 43432704 00 | 120 x 65 x 50    | 4.72 x 2.56 x 1.97   | DE-CEE = French version (CEE 7V)                                                           |
| SE 432 DE SEV*                                 | 43432604 00 | 120 x 65 x 50    | 4.72 x 2.56 x 1.97   | DE-SEV = Swiss version (SEV 1011 Type 13)                                                  |
| SE 435 DE                                      | 43435504 00 | 120 x 65 x 66    | 4.72 x 2.56 x 2.60   | * = Available on request. Minimum order applies.                                           |
| SE 435 DE CEE*                                 | 43435704 00 | 120 x 65 x 66    | 4.72 x 2.56 x 2.60   |                                                                                            |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Model Number           | Part Number | Description                                                                |
|------------------------|-------------|----------------------------------------------------------------------------|
| <b>Plugs SE 510...</b> |             |                                                                            |
| SE 510 EU              | 43510200 00 | Euro plug DIN VDE 0620 part 101                                            |
| SE 510 E/CEE           | 43510000 00 | German/French plug DIN 49441 R2                                            |
| SE 510 AS              | 43510500 00 | Australian plug AS 3112 without ground 7.5 A                               |
| SE 510 US              | 43510600 00 | American plug US 498 ANSI ST. A 1-15 without ground 15 A                   |
| SE 510 GB*             | 43510300 00 | British plug GB-BS 1363 with ground 13 A fuse                              |
| SE 510 EU-L            | 43510210 00 | Euro plug DIN VDE 0620 part 101, with ventilation                          |
| SE 510 E/CEE-L         | 43510010 00 | German/French plug DIN 49441 R2, with ventilation                          |
| SE 510 AS-L            | 43510510 00 | Australian plug AS 3112 without ground 7.5 A, with ventilation             |
| SE 510 US-L            | 43510610 00 | American plug US 498 ANSI ST. A 1-15 without ground 15 A, with ventilation |
| SE 510 GB-L*           | 43510310 00 | British plug GB-BS 1363 with ground, 13 A fuse, with ventilation           |
| <b>Plugs SE 520...</b> |             |                                                                            |
| SE 520 EU              | 43520200 00 | Euro plug DIN VDE 0620 part 101                                            |
| SE 520 E/CEE           | 43520000 00 | German/French plug DIN 49441 R2                                            |
| SE 520 AS              | 43520500 00 | Australian plug AS 3112 without ground 7.5 A                               |
| SE 520 US              | 43520600 00 | American plug US 498 ANSI ST. A 1-15 without ground 15 A                   |
| SE 520 GB*             | 43520300 00 | British plug GB-BS 1363 with ground 5 A fuse                               |
| SE 520 EU-L            | 43520210 00 | Euro plug DIN VDE 0620 part 101, with ventilation                          |
| SE 520 E/CEE-L         | 43520010 00 | German/French plug DIN 49441 R2, with ventilation                          |
| SE 520 AS-L            | 43520510 00 | Australian plug AS 3112 without ground 7.5 A, with ventilation             |
| SE 520 US-L            | 43520610 00 | American plug US 498 ANSI ST. A 1-15 without ground 15 A, with ventilation |
| SE 520 GB-L*           | 43520313 00 | British plug GB-BS 1363 with ground, 5 A fuse, with ventilation            |

## NGS Panel Meter Housing



- Specifically designed to conform to the dimensional standard DIN 43700
- Housings slotted internally to accept PC boards comes in 36 different sizes
- Clear PVC front covers (available as an accessory) protect the front elements up to IP65

### Included in delivery

Enclosure body, standard front frame, rear cover, and assembly screws.



## Technical Data

|                     |                                                               |
|---------------------|---------------------------------------------------------------|
| Color               | Black, similar to RAL 9005                                    |
| Material            | Flame resistant Noryl SE 1 GFN 1                              |
| Ingress Protection  | IP 40, IP 65 possible with rubber hoods, part types NGS...GHN |
| Flammability        | UL 94 V1/1.47                                                 |
| Gasket              | Neoprene                                                      |
| Impact Resistance   | 200 JM at 23°C                                                |
| Disruptive Strength | 26 KV/mm to DIN 53481                                         |

| Model Number | Part Number | Width<br>Inches/mm | Height<br>Inches/mm | Depth<br>Inches/mm | Model Number | Part Number | Width<br>Inches/mm | Height<br>Inches/mm | Depth<br>Inches/mm |
|--------------|-------------|--------------------|---------------------|--------------------|--------------|-------------|--------------------|---------------------|--------------------|
| NGS 4806     | 17480601 00 | 1.89 / 48.0        | 1.89 / 48.0         | 2.48 / 63.0        | NGS 9408     | 17940801 00 | 3.78 / 96.0        | 1.89 / 48.0         | 3.35 / 85.0        |
| NGS 4808     | 17480801 00 | 1.89 / 48.0        | 1.89 / 48.0         | 3.36 / 85.0        | NGS 9410     | 17941001 00 | 3.78 / 96.0        | 1.89 / 48.0         | 4.31 / 109.5       |
| NGS 4810     | 17481001 00 | 1.89 / 48.0        | 1.89 / 48.0         | 4.31 / 109.5       | NGS 9411     | 17941101 00 | 3.78 / 96.0        | 1.89 / 48.0         | 4.68 / 119.0       |
| NGS 4811     | 17481101 00 | 1.89 / 48.0        | 1.89 / 48.0         | 4.68 / 119.0       | NGS 9413     | 17941301 00 | 3.78 / 96.0        | 1.89 / 48.0         | 5.55 / 141.0       |
| NGS 4813     | 17481301 00 | 1.89 / 48.0        | 1.89 / 48.0         | 5.55 / 141.0       | NGS 9416     | 17941601 00 | 3.78 / 96.0        | 1.89 / 48.0         | 6.51 / 165.5       |
| NGS 7406     | 17740601 00 | 5.67 / 144.0       | 2.83 / 72.0         | 2.52 / 64.0        | NGS 9606     | 17960601 00 | 3.78 / 96.0        | 3.78 / 96.0         | 2.48 / 63.0        |
| NGS 7408     | 17740801 00 | 5.67 / 144.0       | 2.83 / 72.0         | 3.38 / 86.0        | NGS 9608     | 17960801 00 | 3.78 / 96.0        | 3.78 / 96.0         | 3.35 / 85.0        |
| NGS 7410     | 17741001 00 | 5.67 / 144.0       | 2.83 / 72.0         | 4.35 / 110.5       | NGS 9610     | 17961001 00 | 3.78 / 96.0        | 3.78 / 96.0         | 4.31 / 109.5       |
| NGS 7411     | 17741101 00 | 5.67 / 144.0       | 2.83 / 72.0         | 4.72 / 120.0       | NGS 9611     | 17961101 00 | 3.78 / 96.0        | 3.78 / 96.0         | 4.68 / 119.0       |
| NGS 7413     | 17741301 00 | 5.67 / 144.0       | 2.83 / 72.0         | 5.59 / 142.0       | NGS 9613     | 17961301 00 | 3.78 / 96.0        | 3.78 / 96.0         | 5.55 / 141.0       |
| NGS 7416     | 17741601 00 | 5.67 / 144.0       | 2.83 / 72.0         | 6.55 / 166.5       | NGS 9616     | 17961601 00 | 3.78 / 96.0        | 3.78 / 96.0         | 6.51 / 165.5       |
| NGS 7706     | 17770601 00 | 2.83 / 72.0        | 2.83 / 72.0         | 2.48 / 63.0        | NGS 9806     | 17980601 00 | 5.67 / 144.0       | 5.67 / 144.0        | 2.52 / 64.0        |
| NGS 7708     | 17770801 00 | 2.83 / 72.0        | 2.83 / 72.0         | 3.35 / 85.0        | NGS 9806 GR  | 17980605 00 | 5.67 / 144.0       | 5.67 / 144.0        | 2.68 / 68.0        |
| NGS 7710     | 17771001 00 | 2.83 / 72.0        | 2.83 / 72.0         | 4.31 / 109.5       | NGS 9808     | 17980801 00 | 5.67 / 144.0       | 5.67 / 144.0        | 3.38 / 86.0        |
| NGS 7711     | 17771101 00 | 2.83 / 72.0        | 2.83 / 72.0         | 4.68 / 119.0       | NGS 9810     | 17981001 00 | 5.67 / 144.0       | 5.67 / 144.0        | 4.35 / 110.5       |
| NGS 7713     | 17771301 00 | 2.83 / 72.0        | 2.83 / 72.0         | 5.55 / 141.0       | NGS 9811     | 17981101 00 | 5.67 / 144.0       | 5.67 / 144.0        | 4.72 / 120.0       |
| NGS 7716     | 17771601 00 | 2.83 / 72.0        | 2.83 / 72.0         | 6.51 / 165.5       | NGS 9813     | 17981301 00 | 5.67 / 144.0       | 5.67 / 144.0        | 5.59 / 142.0       |
| NGS 9406     | 17940601 00 | 3.78 / 96.0        | 1.89 / 48.0         | 2.48 / 63.0        | NGS 9816     | 17981601 00 | 5.67 / 144.0       | 5.67 / 144.0        | 6.55 / 166.5       |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Model Number | Description                                                              |
|--------------|--------------------------------------------------------------------------|
| NGS...NF     | Spring clamp (pk of 2)                                                   |
| NGS...NK     | Screw clamp (pk of 2)                                                    |
| NGS...ZE     | Connecting piece for DIN retaining clasp (pk of 2)                       |
| NGS...NH     | DIN retaining clasp (pk of 2)                                            |
| NGS...FKT    | Plastic front panel, red translucent, 3mm thick                          |
| NGS...FAE    | Aluminum front panel, anodized aluminum, 1.5mm thick                     |
| NGS...F      | Membrane front, firmly latching                                          |
| NGS...TK     | NGS front door lockable by means of knob for models 74..., 96..., and 98 |
| NGS...SA     | Firmly latching front frame                                              |
| NGS...AH     | Clear hood cover                                                         |
| NGS...DA     | Seal enclosure / control panel (pk of 5)                                 |
| NGS...DI     | Seal front panel / enclosure (pk of 5)                                   |
| NGS...GHN    | Flexible transparent PVC hoods for IP 65 front seal                      |
| NGS...RKS    | Rear lid                                                                 |
| SHLO-302     | Cylinder catch for front door                                            |



NGS 9806-GR with stepped rear panel.





**NGS 48**



**NGS 74**



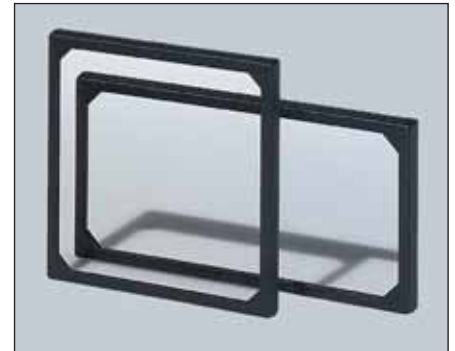
**NGS Front Panels**



**NGS 77**



**NGS 94**



**NGS Front Frames**



**NGS 96**



**NGS 98**



**NGS Hood Covers**



**NGS Front Doors**



**NGS Cylinder Catch for Front Door**



**NGS Transparent Rubber Hood**

Stainless steel enclosure systems can offer considerable advantages in some application areas in comparison with plastic enclosure solutions:

- Food industries
- Packaging industries
- Hazardous environments
- EMC areas
- Field bus areas

Rose stainless steel-enclosure systems are manufactured in materials 1.4404 and 1.4301 as standard. This stainless steel quality offers permanent resistance in both rough environments, in the chemical industry, and is ideal for the cleaning demands of the food industry. Rose stainless steel products offer consistent high surface finish quality as standard (longitudinal finish 240 grain), finishing (precise edging and welding) and ingress protection (IP 65 and IP 66 as standard or higher upon request).



#### Stainless Steel Industrial Enclosures

- 18 enclosure sizes with lid or hinged door in sizes from 100 x 100 x 61 mm up to 600 x 200 x 121 mm
- Application area: food and packaging industries, as well as hazardous environments

#### Stainless Steel Cabinets

- 16 enclosure sizes with door and mounting plates in dimensions from 200 x 250 x 90 mm up to 600 x 760 x 210 mm
- Application area: food and packaging industries

#### Ex Stainless Steel Cabinets and Enclosures **ATEX**

- 27 enclosure sizes from 100 x 100 x 61 mm up to 600 x 380 x 217 mm
- Application area: EExe, EExia in Zones 1 and 2
- Approvals: PTB 00 ATEX 1101U; PTB 00 ATEX 1052

## Standard Stainless Steel Enclosures



- Universal standard enclosures for hygienic areas
- High surface quality 1.4301
- No gaps in cover/lower section - ingress protection up to IP 66
- Special versions and sizes available as an option for 25 pieces and above

### Included in delivery

Enclosure base with internal mounting support bars for DIN rail mounting, 4 floor break-outs with or without mounting holes, gasket and mounting nuts, cover with internal threaded bolts and captive lid screws.



### Technical Data

|                    |                                                                          |
|--------------------|--------------------------------------------------------------------------|
| Material           | Stainless steel 1.25 mm or 1.5mm; 1.4301/304. Other materials on request |
| Ingress Protection | IP 66, EN 60529. High pressure cleaning-resistant on request             |
| Surface            | Polished 240 grain. Other surface on request                             |
| Temperature Range  | -76°F to +266°F                                                          |

| Part Number<br>Enclosure with floor break-outs and mounting holes | Part Number<br>Enclosure without mounting holes | Dimensions<br>mm<br>L x W x H | Dimensions<br>Inches<br>L x W x H |
|-------------------------------------------------------------------|-------------------------------------------------|-------------------------------|-----------------------------------|
| 37101006 00                                                       | 37101096 00                                     | 100 x 100 x 61                | 3.94 x 3.94 x 2.40                |
| 37151006 00                                                       | 37151096 00                                     | 150 x 100 x 61                | 5.90 x 3.94 x 2.40                |
| 37151508 00                                                       | 37151598 00                                     | 150 x 150 x 81                | 5.90 x 5.90 x 3.19                |
| 37201006 00                                                       |                                                 | 200 x 100 x 61                | 7.87 x 3.94 x 2.40                |
| 37202008 00                                                       | 37202098 00                                     | 200 x 200 x 81                | 7.87 x 7.87 x 3.19                |
| 37202012 00                                                       | 37202092 00                                     | 200 x 200 x 121               | 7.87 x 7.87 x 4.76                |
| 37301508 00                                                       |                                                 | 300 x 150 x 81                | 11.81 x 5.90 x 3.19               |
| 37302008 00                                                       |                                                 | 300 x 200 x 81                | 11.81 x 7.87 x 3.19               |
| 37302012 00                                                       | 37302092 00                                     | 300 x 200 x 121               | 11.81 x 7.87 x 4.76               |
| 37303012 00                                                       |                                                 | 300 x 300 x 121               | 11.81 x 11.81 x 4.76              |
| 37303016 00                                                       |                                                 | 300 x 300 x 161               | 11.81 x 11.81 x 6.34              |
| 37383816 00                                                       |                                                 | 380 x 380 x 161               | 14.96 x 14.96 x 6.34              |
| 37401508 00                                                       |                                                 | 400 x 150 x 81                | 15.75 x 5.90 x 3.19               |
| 37402012 00                                                       |                                                 | 400 x 200 x 121               | 15.75 x 7.87 x 4.76               |
| 37403016 00                                                       |                                                 | 400 x 300 x 161               | 15.75 x 11.81 x 6.34              |
| 37503016 00                                                       |                                                 | 500 x 300 x 161               | 19.68 x 11.81 x 6.34              |
| 37504016 00                                                       |                                                 | 500 x 400 x 161               | 19.68 x 15.75 x 6.34              |
| 37602012 00                                                       |                                                 | 600 x 200 x 121               | 23.62 x 7.87 x 4.76               |
| 37999999 00                                                       |                                                 | Special dimension             | Special dimension                 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Accessories                   | Part Number |
|-------------------------------|-------------|
| External bracket set (4 pcs.) | 37105000 00 |
| Mounting plate screws         | 10093041 00 |
| Allen head lid screws         | 10091001 00 |

## IGS Stainless Steel Cabinets with Hinges



- Universal enclosure with hinge and lock
- High quality polished surface 1.4301
- Custom sizes and versions with flange openings or window available (25 piece minimum)

### Included in delivery

Enclosure base with bracket clips and threaded bores for attachment of mounting rail, hinged cover, double ward lock, 4 floor break-outs with attachment holes and sealing plugs.



### Technical Data

|                    |                                                                             |
|--------------------|-----------------------------------------------------------------------------|
| Material           | Stainless steel 1.25 mm or 1.5 mm 1.4301 / 304<br>other material on request |
| Ingress Protection | IP 65 to EN 60529                                                           |
| Temperature Range  | -40°F to +176°F                                                             |
| Seals              | VMQ-(silicone) seal or<br>PUR-(polyurethane) seal<br>EMC on request         |
| Surface            | Polished, 240 grain, other surfaces on request                              |

| Part Number | Dimensions<br>mm                                     | Dimensions<br>Inches | Number of Locks |
|-------------|------------------------------------------------------|----------------------|-----------------|
|             | L x W x H                                            | L x W x H            |                 |
| 37002209 00 | 200 x 250 x 90                                       | 7.87 x 9.84 x 3.54   | 1               |
| 37002215 00 | 200 x 250 x 150                                      | 7.87 x 9.84 x 5.90   | 1               |
| 37003209 00 | 300 x 300 x 165                                      | 11.81 x 11.84 x 6.50 | 1               |
| 37003316 00 | 350 x 250 x 90                                       | 13.78 x 9.84 x 3.54  | 1               |
| 37004416 00 | 380 x 380 x 165                                      | 14.96 x 14.96 x 6.50 | 1               |
| 37004421 00 | 380 x 380 x 215                                      | 14.96 x 14.96 x 8.46 | 1               |
| 37005316 00 | 500 x 300 x 165                                      | 19.68 x 11.81 x 6.50 | 1               |
| 37006316 00 | 600 x 300 x 165                                      | 23.62 x 11.81 x 6.50 | 1               |
| 37006421 00 | 600 x 380 x 215                                      | 23.62 x 14.96 x 8.46 | 1               |
| 37009900 00 | Special sizes<br>(please state requested dimensions) |                      |                 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Accessories                              | Part Number |
|------------------------------------------|-------------|
| Mounting plate for 37002209 and 37002215 | 10011066 00 |
| Mounting plate for 37003209              | 10111067 00 |
| Mounting plate for 37004416              | 10011045 00 |
| Mounting plate for 37006316              | 10011068 00 |
| Mounting plate for 37006421              | 10011069 00 |
| External bracket set (4 pieces)          | 37105000 00 |

## KSS Stainless Steel Switch Gear Cabinets



- Switch gear cabinets with hinged door
- Mounting plate attachment above stud bolts / threaded weld nuts
- Surface polished all sides (240 grain)
- Custom sizes and versions available (25 piece minimum).

### Included in delivery

Enclosure system with door, double ward lock, 4 x M6 threaded stud bolts in lid and 4 x M6 threaded weld nuts in base.



### Technical Data

|                    |                                                  |
|--------------------|--------------------------------------------------|
| Material           | Stainless steel 1.25 mm or 1.5 mm 1.4301 / 304   |
| Ingress Protection | IP 65 to EN 60529                                |
| Temperature Range  | -40°F to + 176°F                                 |
| Gasket             | VMQ gasket (silicone) seal or PUR (polyurethane) |
|                    | EMC on request                                   |
| Surface            | polished, 240 grain                              |

| Part Number | Dimensions<br>mm   | Dimensions<br>Inches | Number of Locks |
|-------------|--------------------|----------------------|-----------------|
|             | L x W x H          | L x W x H            |                 |
| 37012315 00 | 200 x 300 x 155    | 7.87 x 11.81 x 6.10  | 1               |
| 37013421 00 | 300 x 380 x 210    | 11.81 x 14.96 x 8.27 | 1               |
| 37014315 00 | 400 x 300 x 155    | 15.75 x 11.81 x 6.10 | 1               |
| 37014621 00 | 380 x 600 x 210    | 14.96 x 23.62 x 8.27 | 2               |
| 37015521 00 | 500 x 500 x 210    | 19.68 x 19.68 x 8.27 | 2               |
| 37016415 00 | 600 x 400 x 155    | 23.62 x 15.75 x 6.10 | 1               |
| 37016821 00 | 600 x 760 x 210    | 23.62 x 29.92 x 8.27 | 4               |
| 37019900 00 | Special dimensions | -                    |                 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

| Accessories                 | Part Number |
|-----------------------------|-------------|
| Mounting plate for 37012305 | 37019901 00 |
| Mounting plate for 37013421 | 37019902 00 |
| Mounting plate for 37014315 | 37019903 00 |
| Mounting plate for 37014621 | 37019904 00 |
| Mounting plate for 37015521 | 37019905 00 |
| Mounting plate for 37016415 | 37019906 00 |
| Mounting plate for 37016821 | 37019907 00 |

The increasing mobility prevalent in all areas of industry requires portable hand enclosures. Materials, sizes and versions vary depending on the application area. Cable-connected systems made of robust Polyamide or Polyester with high ingress protection are in use, especially in automation engineering. In contrast, the data acquisition and instrumentation industries prefer to use light enclosures with integrated power supplies. The range of hand held enclosure products covers all areas of mobile applications.



## **Taguan 130 / 180 / 230**

- 8 enclosures in four sizes from 125 x 80 x 37 mm to 229 x 97 x 52 mm
- Application area: data acquisition, instrumentation

## **Beluga 180 / 220 / 380**

- 5 enclosures in three sizes from 106 x 187 x 50 mm to 380 x 117 x 68 mm
- Application area: instrumentation and automation engineering, analytical control

## **Limanda**

- Enclosure system for controller components, sizes 270 x 248 x 64 mm and 311 x 281 x 72 mm
- Application area: analytical control and automation engineering

## **Pilot 250**

- 2 enclosures in size 280 x 140 x 86 mm
- Application area: instrumentation and automation engineering, analytical control

## **Mobile Control Units 2911, 2912, 2913**

- 3 enclosures in sizes 280 x 191 x 76 mm to 440 x 191 x 76 mm
- Application area: instrumentation and automation engineering, analytical control

## **Mobile Control Units**

- 3 enclosures with integrated handles in sizes 190 x 70 x 93 mm to 295 x 164 x 116 mm
- Application area: pushbutton and switch enclosures

## **Mobile Control Units 2921**

- 5 enclosures with integrated handle in sizes 206 x 85 x 85 mm to 281 x 160 x 105 mm
- Application area: pushbutton and switch enclosures

## **Alubos**

- 20 profiles are available with profiles that are closed, split horizontally, and/or open on one side, for ergonomic hand-held enclosure designs.
- High mechanical loading capacity of the profile and EMC screening ensure high level of protective functions

## **Tastomat**

- 2 enclosures in sizes 251 x 91 x 46 mm to 251 x 91 x 80 mm
- Application area: ideal for pushbutton or membrane keypad application

## **ARTEB**

- 6 basic enclosures in sizes from 78 x 45 x 18 mm to 236 x 125 x 41 mm
- Application area: ideal for applications requiring a display screen or membrane keypad

## **BOS**

- 9 enclosures in sizes from 100 x 65 x 24 mm to 224 x 106 x 40 mm
- Application area: cost-effective handheld enclosure for mobile data collection and processing applications

## **BOS-Streamline**

- 3 enclosures in sizes from 119.3 x 64.9 x 26.5 mm to 209.3 x 98.0 x 34.8 mm
- Application area: ideal for applications requiring a display screen or membrane keypad



- ABS hand held enclosure for data acquisition and instrumentation
- With integrated battery/accumulator compartment
- Versions with or without display opening
- Prepared for acceptance of keypads/silicone switch mats

## Included in delivery

**Taguan 130:** 5 piece enclosure with top and base, battery compartment, battery compartment cover, head and shaft surround, mounting and enclosure screws.

**Taguan 180/230:** enclosure with top and base, keyboard surround, head and shaft surround, mounting and enclosure screws.

**Please order battery compartment separately.**



Taguan 130



Taguan 180/230

## Technical Data

|                    |                                                                                                                                          |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Color              | Enclosure body - green blue, similar to RAL 5020. Models 180/230-keypad plate, battery compartment/pack, black-gray, similar to RAL 7021 |
| Material           | ABS                                                                                                                                      |
| Ingress Protection | IP 40 to EN60529                                                                                                                         |
| Surface Resistance | 4 x 10 <sup>14</sup> Ohm to DIN 53482                                                                                                    |
| Impact Resistance  | 24 KV/mm to DIN 53481                                                                                                                    |
| Flammability       | UL 94 HB                                                                                                                                 |
| Temperature Range  | -40°F to +176°F                                                                                                                          |

| Model Number  | Part Number | Versions     | Dimensions              | Dimensions                   | Weight |       |
|---------------|-------------|--------------|-------------------------|------------------------------|--------|-------|
|               |             |              | mm<br>W x L x H         | Inches<br>W x L x H          | kg     | lbs   |
| Taguan 130 FO | 27010200 00 | Flat, open   | 80/70 x 125 x 36.7      | 3.15/2.75 x 4.92 x 1.44      | 0.085  | 0.187 |
| Taguan 130 FG | 27010201 00 | Flat, closed | 80/70 x 125 x 36.7      | 3.15/2.75 x 4.92 x 1.44      | 0.085  | 0.187 |
| Taguan 130 TO | 27010210 00 | Deep, open   | 80/70 x 125 x 46        | 3.15/2.75 x 4.92 x 1.81      | 0.085  | 0.187 |
| Taguan 130 TG | 27010211 00 | Deep, closed | 80/70 x 125 x 46        | 3.15/2.75 x 4.92 x 1.81      | 0.09   | 0.198 |
| Taguan 180 O  | 27010400 00 | Open         | 84/70 x 180 x 52.5/37.5 | 3.31/2.75 x 7.07 x 2.07/1.48 | 0.17   | 0.374 |
| Taguan 180 G  | 27010401 00 | Closed       | 84/70 x 180 x 52.5/37.5 | 3.31/2.75 x 7.07 x 2.07/1.48 | 0.12   | 0.264 |
| Taguan 230 G  | 27010600 00 | Open         | 97/70 x 229 x 52.5/37.5 | 3.82/2.75 x 9.01 x 2.07/1.48 | 0.15   | 0.330 |
| Taguan 230 O  | 27010601 00 | Closed       | 97/70 x 229 x 52.5/37.5 | 3.82/2.75 x 9.01 x 2.07/1.48 | 0.16   | 0.352 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Description                                            | Part Number | Description                                            | Part Number |
|--------------------------------------------------------|-------------|--------------------------------------------------------|-------------|
| Battery holder 4 round cells (T130)                    | 27010280 00 | Wrist strap (T 180 / 230)                              | 27010083 00 |
| Battery holder 9 volt (T130)                           | 27010281 00 | Display assembly set (T 180)                           | 27010480 00 |
| Battery holder for 9 volt (T180 / 230)                 | 27010094 00 | Display assembly set (T 230)                           | 27010680 00 |
| Clip (T130)                                            | 27010282 00 | Switch mat set (T 180 / 230)                           | 27010481 00 |
| Keypad FT 130b, 12 printed keys (T130)                 | 82100001 00 | Switch mat set (T 230)                                 | 27010681 00 |
| Keypad FT 130b, 12 keys with plug-in unit (T130)       | 82100002 00 | Switch mat set (T 180 / 230)                           | 27010095 00 |
| End plate in enclosure color                           | 27010285 00 | Hand strap (T 180)                                     | 27010484 00 |
| End plate, transparent                                 | 27010286 00 | Hand strap (T 230)                                     | 27010684 00 |
| End plate, infra-red                                   | 27010287 00 | Spare display screen set (T 130)                       | 27010288 00 |
| Battery compartment empty (T180 / 230) 0.03 kg         | 27010080 00 | Spare display screen set (T180)                        | 27010488 00 |
| Battery pack 1000 mAh                                  | 27010081 00 | Spare display screen set (T 230)                       | 27010688 00 |
| Battery charging station 115 V                         | 27010084 00 | Spare screws                                           | 27010090 00 |
| Battery charging station 230 V                         | 27010086 00 | Head cover, stepped, in enclosure color (T 180/230)    | 27010085 00 |
| Battery charging station without connector charger     | 27010088 00 | Head cover, stepped for infra-red (T 180 / 230)        | 27010087 00 |
| Docking station (T180 / 230) without connector charger | 27010096 00 | Head cover, stepped, transparent (T 180 / 230)         | 27010089 00 |
| Docking station (T180 / 230) with connector charger    | 27010097 00 | Head cover, straight, in enclosure color (T180 / 230)  | 27010091 00 |
| Angle brackets for PCBs for docking station            | 27010098 00 | Head cover, straight, in enclosure color (T 180 / 230) | 27010092 00 |
| Spring contact, 2-pole (T180 / 230)                    | 27010082 00 | Head cover, straight, in enclosure color (T 180 / 230) | 27010093 00 |

## Beluga 180 / 220 / 380



- Polyamide hand held enclosure for measurement control automation engineering
- Ergonomic enclosure shape
- Versions with or without display opening
- Prepared for acceptance of keypads/silicone switch mats

### Included in delivery

**Beluga 180/220:** enclosure with top and base unit, each with mounting bosses, fastening and enclosure screws.

**Beluga 380:** enclosure with top and base unit, each with mounting bosses, mounting hook/set, fastening and enclosure screws.



Beluga 180/220



Beluga 380

### Technical Data

|                    |                                   |
|--------------------|-----------------------------------|
| Color              | Black-gray, similar to RAL 7021   |
| Material           | Polyamide                         |
| Ingress Protection | IP 65 to EN 60529                 |
| Surface Resistance | 10 <sup>12</sup> Ohm to DIN 53482 |
| Impact Resistance  | >7 Nm to DIN 50014                |
| Flammability       | UL 94 V2                          |
| Temperature Range  | -40°F to +140°F                   |

| Model Number | Part Number | Versions | Dimensions mm     | Dimensions Inches       | Weight |      |
|--------------|-------------|----------|-------------------|-------------------------|--------|------|
|              |             |          | W x L x H         | W x L x H               | kg     | lbs  |
| Beluga 180 O | 27020200 00 | open     | 106/75 x 187 x 50 | 4.17/2.95 x 7.36 x 1.97 | 0.16   | 0.35 |
| Beluga 180 G | 27020201 00 | closed   | 106/75 x 187 x 50 | 4.17/2.95 x 7.36 x 1.97 | 0.17   | 0.37 |
| Beluga 220 O | 27020400 00 | open     | 116/85 x 220 x 51 | 4.57/3.35 x 8.66 x 2.01 | 0.20   | 0.44 |
| Beluga 220 G | 27020401 00 | closed   | 116/85 x 220 x 51 | 4.57/3.35 x 8.66 x 2.01 | 0.21   | 0.46 |
| Beluga 380   | 27020501 00 | closed   | 380 x 117 x 68    | 14.96 x 4.61 x 2.68     | 0.52   | 1.15 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Description                                       | Part Number | Description                                              | Part Number |
|---------------------------------------------------|-------------|----------------------------------------------------------|-------------|
| Hook set without magnet (B180 / 220)              | 27020080 00 | Hand strap (B 380)                                       | 27020581 00 |
| Hook set with magnet (B180 / 220)                 | 27020081 00 | Wall holder (B 380)                                      | 27020582 00 |
| Keypad FT 180e, 15 keys, printed (B180)           | 82100003 00 | Spare screws (B 180 / 220)                               | 27020082 00 |
| Keypad FT 180e, 15 keys, with plug-in unit (B180) | 82100004 00 | Spare screws (B 380)                                     | 27020583 00 |
| Keypad FT 220e, 18 keys, printed (B220)           | 82100005 00 | Spare display screen set (B 180)                         | 27010688 00 |
| Keypad FT 220b, 18 keys, with plug-in unit (B220) | 82100006 00 | Spare display screen set (B 220)                         | 27020483 00 |
| Display assembly set (B180)                       | 27010680 00 | 2-stage enable button, blue                              | 83500001 00 |
| Display assembly set, (B220)                      | 27020482 00 | Battery compartment (B 180 / 220)                        | 27020085 00 |
| Cable gland with bending protection M 16 x 1.5    | 08100116 00 | Battery holder for 4 round cells for battery compartment | 27020086 00 |
| Cable gland with bending protection M 20 x 1.5    | 08100120 00 | Battery holder for 9 V battery for battery compartment   | 27020087 00 |
| Hand strap (B180/220)                             | 27020083 00 | Hook set for wall-mounting (B 180/220)                   | 27020084 00 |
| Carrying strap (B380)                             | 28020580 00 |                                                          |             |

- Polyamide hand held enclosure for automation engineering measurement control and data acquisition
- Large component space
- Interface ports for acceptance of interfaces
- Variable enclosure depth (optional)
- Handle set for acceptance of enable button and batteries

## Included in delivery

Enclosure with upper and lower mold, each with mounting bosses including seal and border profile, 3 cover panels for interface compartments, screws and material for front panel mounting.

**Front panels must be ordered separately.**



## Technical Data

|                     |                                                    |
|---------------------|----------------------------------------------------|
| Color               | Black-gray, similar to RAL 7021                    |
| Material            | Polyamide enclosure, anodized aluminum front panel |
| Ingress Protection  | IP 65 to EN 60529, NEMA 12                         |
| Surface Resistance  | 10 <sup>12</sup> Ohm to DIN 53482                  |
| Disruptive Strength | >7Nm to DIN 50014                                  |
| Flammability        | UL 94 V2                                           |
| Temperature Range   | -40°F to +140°F                                    |

| Enclosure Type     | Part Number | Dimensions mm  | Dimensions Inches    | Weight |      |
|--------------------|-------------|----------------|----------------------|--------|------|
|                    |             | W x L x H      | W x L x H            | kg     | lbs  |
| Limanda I          | 27030300 00 | 311 x 281 x 72 | 12.24 x 11.06 x 2.83 | 0.9    | 1.98 |
| Limanda I EMC      | 27030301 00 | 311 x 281 x 72 | 12.24 x 11.06 x 2.83 | 1.0    | 2.20 |
| Limanda I for OP17 | 27030317 00 | 311 x 281 x 97 | 12.24 x 11.06 x 3.82 | 1.4    | 3.09 |
| Limanda II         | 27030200 00 | 270 x 248 x 64 | 10.63 x 9.76 x 2.52  | 0.7    | 1.54 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Description                                                           | Part Number |
|-----------------------------------------------------------------------|-------------|
| Limanda I front plate aluminum, natural anodized finish               | 27030380 00 |
| Limanda I EMC front plate                                             | 27030390 00 |
| Limanda II front plate, aluminum, natural anodized finish             | 27030280 00 |
| Limanda I intermediate frame                                          | 27030381 00 |
| Limanda I EMC intermediate frame                                      | 27030088 00 |
| Limanda I handle set without push button                              | 27030083 00 |
| Limanda holder                                                        | 27030084 00 |
| Limanda I carrying strap                                              | 27030085 00 |
| Limanda I quiver                                                      | 27030086 00 |
| Limanda II table stand ( set = 2 pieces)                              | 27030087 00 |
| Limanda II quiver                                                     | 27030089 00 |
| Limanda I handle set with 3-stage enable button (right-hand version)  | 85701001 00 |
| Limanda I handle set with 3-stage enable button (left-hand version)   | 85701002 00 |
| Enable button (2-stage/1 make contact)                                | 83500001 00 |
| Emergency off switch (2 break contacts)                               | 83500002 00 |
| Cable connection with bending protection M 16                         | 08100116 00 |
| Cable connection with bending protection M 20                         | 08100120 00 |
| Cable connection with bending protection M 25                         | 08100125 00 |
| Inclination adapter for mounting directly on wall or machine          | 50020001 00 |
| Inclination adapter for mounting directly onto 4949 Suspension System | 50020002 00 |
| Inclination adapter for mounting directly onto 4945 Suspension System | 50020003 00 |
| Inclination adapter for mounting directly on 4945 Suspension System   | 50020004 00 |
| Inclination adapter for Limanda bracket on 4949 Suspension System     | 50020005 00 |
| Inclination adapter for Limanda bracket on 4945 Suspension System     | 50020006 00 |
| Inclination adapter for Limanda bracket on wall or machine            | 50020007 00 |

- Polyamide hand held enclosure for automation engineering and data acquisition
- Large component space
- Version 3 with closed or front frame
- Rear battery compartment

## Included in delivery

Enclosure with top and base unit, each with mounting bosses, battery compartment cover, fastening and enclosure screws.



## Technical Data

|                    |                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------|
| Color              | Base and lid: black gray, similar to RAL 7021<br>Rear cover: sapphire blue, similar to RAL 5003 |
| Material           | Polyamide                                                                                       |
| Ingress Protection | IP 65 to EN 60529                                                                               |
| Gasket             | Continuous foamed-in Neoprene                                                                   |
| Impact Resistance  | >7 Nm, EN 50014                                                                                 |
| Temperature Range  | -40°F to +140 ° F                                                                               |

| Enclosure Type | Part Number | Dimensions mm      | Dimensions Inches        | Version                           |
|----------------|-------------|--------------------|--------------------------|-----------------------------------|
|                |             | W x L x H          | W x L x H                |                                   |
| Pilot 250/1    | 29250001 00 | 140/120 x 280 x 86 | 5.51/4.72 x 11.02 x 3.38 | Closed                            |
| Pilot 250/2    | 29250002 00 | 140/120 x 280 x 86 | 5.51/4.72 x 11.02 x 3.38 | as frame for front panel mounting |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Description                                                      | Part Number |
|------------------------------------------------------------------|-------------|
| Front panel, aluminum for Pilot 250/2                            | 29250101 00 |
| Magnet holder, round                                             | 29250102 00 |
| Battery holder for mounting 4 rounds cells in the enclosure base | 29250103 00 |
| Battery holder for mounting a 9V battery in the enclosure base   | 29250104 00 |
| Mounting set (2 hooks, 2 bolts with screws)                      | 29250105 00 |
| Cable gland with bending protection M 16 x 1.5                   | 08100116 00 |
| Cable gland with bending protection M 20 x 1.5                   | 08100120 00 |
| Enable button (3-stage)                                          | on request  |

## Mobile Controls Units 2911, 2912, 2913



- Polyamide hand held enclosure for automation engineering and data acquisition
- Large component space
- Variable length using profile technology
- Optional EMC suitable version with internal enclosure in aluminum

### Included in delivery

Enclosure system consisting of Polyamide internal enclosure with end caps, two PVC side cover profiles, aluminum front panel, rear panel, 2 external end caps, with M 25 x 1.5 threaded hole for cable gland.



### Technical Data

|                    |                                                                                                                                                            |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color              | End caps: yellow, similar to RAL 1021<br>Body and rear panel : black, similar to RAL 9005                                                                  |
| Material           | Inner enclosure body: Polyamide<br>Side cover: Black PVC extrusion<br>Rear panel: Black laminated board, 3mm, plastic-coated<br>End caps: Yellow polyamide |
| Ingress Protection | IP 65 to EN 60529, NEMA 12                                                                                                                                 |
| Gasket             | Neoprene                                                                                                                                                   |
| Impact Resistance  | >7 Nm, EN 50014                                                                                                                                            |
| Temperature Range  | -4°F to +158°F                                                                                                                                             |

| External Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number<br>Standard Complete | Part Number<br>EMC Complete | Part Number<br>Standard Enclosure<br>Body with Front Panel | Part Number<br>Standard Rear Panel<br>Separate | Part Number<br>Standard Front Panel<br>Separate | Part Number<br>Standard Rear Panel<br>Recessed |
|----------------------------------------|-----------------------------------|----------------------------------|-----------------------------|------------------------------------------------------------|------------------------------------------------|-------------------------------------------------|------------------------------------------------|
| 191 x 280 x 76                         | 7.52 x 11.02 x 2.99               | 29111000 00                      | 29141000 00                 | 29110000 00                                                | 29110001 00                                    | 29110002 00                                     | -                                              |
| 191 x 330 x 76                         | 7.52 x 12.99 x 2.99               | 29121000 00                      | 29151000 00                 | 29120000 00                                                | 29120001 00                                    | 29120002 00                                     | -                                              |
| 191 x 440 x 76                         | 7.52 x 17.32 x 2.99               | 29131000 00                      | 29161000 00                 | 29130000 00                                                | 29130001 00                                    | 29190002 00                                     | 29130003 00                                    |
| Special length                         | Special length                    | 29191000 00                      | 29171000 00                 | 29190000 00                                                | 29190001 00                                    | 29190002 00                                     | -                                              |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Description                                           | Part Number |
|-------------------------------------------------------|-------------|
| Wall mount element including enclosure modification   | 29001000 00 |
| Modification for crane cable gland                    | 29000030 00 |
| Cable gland with bending protection M 25 x 1.5        | 08100125 00 |
| Cable gland reduction M 25 / M 12                     | 08102512 00 |
| Cable gland reduction M 25 / M 16                     | 08102516 00 |
| Cable gland reduction M 25 / M 20                     | 08102520 00 |
| Crane cable gland for cable diameter 10-22 mm         | 29000800 00 |
| M4 spring nuts for internal mounting, set of 4 pieces | 29000050 00 |
| PCB mounting set (4 pieces including spring nuts)     | 29000060 00 |
| Wall mount bracket (set single)                       | 29000070 00 |
| Magnetic wall mount, 1 piece                          | 29000080 00 |
| EMC cable gland with bending protection M 25 x 1.5    | 08100125 00 |

## Mobile Controls Units 2930, 2940, 2950



- Hand held enclosure for measurement control and automation engineering
- Robust design (Polyamide or Polyester)
- Versions with handle and integrated cable entry (2940, 2930 standard)

### Included in delivery

**2930/2940:** enclosure with handle, including cable gland M 20 x 1.5, front panel with assembly screw and wall-mount bracket.

**2950:** two-part Polyester enclosure with self-adhesive aluminum front panel, enclosure screws and wall-mount bracket



### Technical Data

|                    |                    |                                                     |
|--------------------|--------------------|-----------------------------------------------------|
| Material           | 2930, 2940<br>2950 | Polyamide<br>Polyester                              |
| Temperature Range  | 2930, 2940<br>2950 | -40°F to +140°F<br>-13°F to +194°F                  |
| Ingress Protection | 2930, 2940<br>2950 | IP 65 to EN 60529<br>IP 66 to EN 60529              |
| Gasket             | 2930, 2940<br>2950 | Stamped foam rubber gasket<br>Round Neoprene gasket |
| Color              |                    | Yellow, similar to RAL 1021                         |

| Enclosure Type | Part Number | Dimensions Including Handle<br>mm<br>W x L x H | Dimensions Including Handle<br>Inches<br>W x L x H | Dimensions Front Panel<br>mm<br>W x H | Dimensions Front Panel<br>Inches<br>W x H | Mounting Depth<br>mm | Mounting Depth<br>Inches |
|----------------|-------------|------------------------------------------------|----------------------------------------------------|---------------------------------------|-------------------------------------------|----------------------|--------------------------|
| 2940           | 29400200 00 | 70 x 93 x 190                                  | 2.75 x 3.66 x 7.48                                 | 61 x 59                               | 2.40 x 2.32                               | 67                   | 2.64                     |
| 2930           | 29300100 00 | 115 x 93 x 200                                 | 4.53 x 3.66 x 7.87                                 | 106 x 69                              | 4.17 x 2.72                               | 67                   | 2.64                     |
| 2950           | 29500100 00 | 164 x 116 x 295                                | 6.46 x 4.57 x 11.61                                | 70 x 280                              | 2.75 x 11.02                              | 71                   | 2.79                     |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Description                               | Part Number |
|-------------------------------------------|-------------|
| Mounting plate 2930                       | 29310000 00 |
| Wall-mount bracket (2 pieces with screws) | 29600100 00 |
| Cable gland M 25 x 1.5 (2950)             | 08100125 00 |



## Mobile Controls Units 2921



- Polyamide hand held enclosure for automation and control technology
- Version with handle and integrated cable exit
- Large component space

### Included in delivery

Enclosure with handle, including cable gland M 20 x 1.5, front panel, enclosure and front panel screws, and wall-mount bracket.



### Technical Data

|                        |                             |
|------------------------|-----------------------------|
| Material Body          | Polyamide                   |
| Cable Gland Material   | Polyamide                   |
| Front Panel Material   | Black Polyester             |
| Body color             | Yellow, similar to RAL 1021 |
| Ingress Protection     | IP 65 to EN 60529, NEMA 12  |
| Impact Resistance      | >7 Nm, EN 50014             |
| Gasket Material        | Stamped foam rubber         |
| Temperature Resistance | -40° to +140°F              |

| Enclosure Type | Part Number | Dimensions Including Handle | Dimensions Including Handle | Dimensions Front Panel | Dimensions Front Panel | Mounting Depth mm | Mounting Depth Inches |
|----------------|-------------|-----------------------------|-----------------------------|------------------------|------------------------|-------------------|-----------------------|
|                |             | mm                          | Inches                      | mm                     | Inches                 |                   |                       |
|                |             | W x L x H                   | W x L x H                   | W x H                  | W x H                  |                   |                       |
| Pilot 110      | 29211000 00 | 85 x 85 x 206               | 3.35 x 3.35 x 8.11          | 77 x 77                | 3.03 x 3.03            | 63.5              | 2.5                   |
| Pilot 120      | 29212000 00 | 115 x 85 x 206              | 4.53 x 3.35 x 8.11          | 107 x 77               | 4.21 x 3.03            | 63.5              | 2.5                   |
| Pilot 130      | 29213000 00 | 85 x 85 x 236               | 3.35 x 3.35 x 9.29          | 77 x 107               | 3.03 x 4.21            | 63.5              | 2.5                   |
| Pilot 140      | 29214000 00 | 160 x 85 x 226              | 6.30 x 3.35 x 8.90          | 152 x 97               | 5.98 x 3.82            | 63.5              | 2.5                   |
| Pilot 150      | 29215000 00 | 105 x 85 x 281              | 4.13 x 3.35 x 11.06         | 97 x 152               | 3.82 x 5.98            | 63.5              | 2.5                   |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

| Description                                              | Part Number |
|----------------------------------------------------------|-------------|
| External wall mounting bracket                           | 10094657 00 |
| Extra power cable PG 11                                  | 10087222 00 |
| Extra power cable PG 16                                  | 10087224 00 |
| Magnetic holder, self-adhesive                           | 29000080 00 |
| External wall mounting bracket for 29214000 and 29215000 | 10094657 00 |

## Tastomat



- Developed for use as a factory floor control unit in tough operating conditions
- Gasketed to provide an ingress protection of IP 65 and made of glassbead-reinforced polyamide.
- Designed for easier handling with molded-in ribs in the bottom half of the enclosure

### Included in delivery

Lid with seal, base, 6 enclosure screws M 4 x 28 and 4 self-tapping screws for mounting plate



### Technical Data

|                    |                                                                                            |
|--------------------|--------------------------------------------------------------------------------------------|
| Material           | Polyamide, 30% glassbead-reinforced                                                        |
| Color              | Light gray, similar to RAL 7035. Special colors on request. Minimum order quantities apply |
| Ingress Protection | IP 65 to DIN EN 60529                                                                      |
| Flammability       | UL 94 HB/1.6                                                                               |

| Model Number | Part Number | Dimensions mm | Dimensions Inches  |
|--------------|-------------|---------------|--------------------|
|              |             | L x W x H     | L x W x H          |
| TAS 100      | 08100000 00 | 251 x 91 x 46 | 9.88 x 3.58 x 1.81 |
| TAS 200      | 08200000 00 | 251 x 91 x 80 | 9.88 x 3.58 x 3.15 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- Ergonomic handheld enclosure made of durable ABS plastic
- Design concept spanning 6 sizes in numerous combinations with end caps in black and 6 colors
- All sizes are membrane keypad ready
- Battery compartments with integrated front panels to prevent contact with other built-in components

#### Included in delivery

**ART 115:** Lid and base, screw, screw cover

**ART 225, 335:** Lid and base

**ART 555, 655, 865:** Lids and bases including tool operated snap locks for caps

**Please order end caps separately.**



#### Technical Data

|                        |                                                                                                                                      |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Material               | ABS                                                                                                                                  |
| Color                  | Agate gray, similar to RAL 7038. Special colors available. Minimum order quantities apply.                                           |
| Ingress Protection     | ART 115: IP 40/DIN EN 60529; ART 225 up to 865, IP 40/DIN EN 60529, can be increased to IP 65/DIN EN 60529 with set of seals ART..DI |
| Flammability           | UL 94 HB/1.6                                                                                                                         |
| Temperature Resistance | -58°F to +158°F                                                                                                                      |

| Model Number           | Part Number | Dimensions mm  | Dimensions Inches  |
|------------------------|-------------|----------------|--------------------|
|                        |             | L x W x H      | L x W x H          |
| ART 115 F              | 34111511 00 | 78 x 45 x 18   | 3.07 x 1.77 x 0.71 |
| ART 225 F              | 34122511 00 | 98 x 55 x 20   | 3.86 x 2.16 x 0.79 |
| ART 335 DIS            | 34133512 00 | 130 x 75 x 26  | 5.12 x 2.95 x 1.02 |
| ART 335 F              | 34133511 00 | 130 x 75 x 26  | 5.12 x 2.95 x 1.02 |
| ART 555 DIS            | 34155512 00 | 165 x 92 x 30  | 6.50 x 3.62 x 1.18 |
| ART 555 F              | 34155511 00 | 165 x 92 x 30  | 6.50 x 3.62 x 1.18 |
| ART 555 DIS with BE 30 | 34155582 00 | 165 x 92 x 30  | 6.50 x 3.62 x 1.18 |
| ART 555 F with BE 30   | 34155581 00 | 165 x 92 x 30  | 6.50 x 3.62 x 1.18 |
| ART 555 DIS with BE 60 | 34155592 00 | 165 x 92 x 30  | 6.50 x 3.62 x 1.18 |
| ART 555 F with BE 60   | 34155591 00 | 165 x 92 x 30  | 6.50 x 3.62 x 1.18 |
| ART 655 DIS            | 34165512 00 | 204 x 110 x 41 | 8.03 x 4.33 x 1.61 |
| ART 655 F              | 34165511 00 | 204 x 110 x 41 | 8.03 x 4.33 x 1.61 |
| ART 655 DIS with BE 30 | 34165582 00 | 204 x 110 x 41 | 8.03 x 4.33 x 1.61 |
| ART 655 F with BE 30   | 34165581 00 | 204 x 110 x 41 | 8.03 x 4.33 x 1.61 |
| ART 655 DIS with BE 60 | 34165592 00 | 204 x 110 x 41 | 8.03 x 4.33 x 1.61 |
| ART 655 F with BE 60   | 34165591 00 | 204 x 110 x 41 | 8.03 x 4.33 x 1.61 |
| ART 865 DIS            | 34186512 00 | 236 x 125 x 41 | 9.29 x 4.92 x 1.61 |
| ART 865 F              | 34186511 00 | 236 x 125 x 41 | 9.29 x 4.92 x 1.61 |
| ART 865 DIS with BE 30 | 34186582 00 | 236 x 125 x 41 | 9.29 x 4.92 x 1.61 |
| ART 865 F with BE 30   | 34186581 00 | 236 x 125 x 41 | 9.29 x 4.92 x 1.61 |
| ART 865 DIS with BE 60 | 34186592 00 | 236 x 125 x 41 | 9.29 x 4.92 x 1.61 |
| ART 865 F with BE 60   | 34186591 00 | 236 x 125 x 41 | 9.29 x 4.92 x 1.61 |

F= continuous membrane area      DIS = display opening      BE=battery compartment

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

| Model Number    | Part Number | Description                                                   | Model Number           | Part Number | Description                                                   |
|-----------------|-------------|---------------------------------------------------------------|------------------------|-------------|---------------------------------------------------------------|
| ART 115 KO-1016 | 34111523 00 | Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)    | ART 555 BEU-2MN        | 34155561 00 | Battery shaft for ARTEB 555 (5 pcs.)                          |
| ART 115 KO-3000 | 34111525 00 | Top end caps, flame red, similar to RAL 3000 (5 pcs.)         | ART 500 DIS            | 34150041 00 | Display screen for ARTEB 555 DIS (5 pcs.)                     |
| ART 115 KO-5015 | 34111527 00 | Top end caps, sky blue, similar to RAL 5015 (5 pcs.)          | ART 555-DI             | 34155551 00 | Seal set for ARTEB 555 DIS to achieve IP 65 (5 pcs.)          |
| ART 115 KO-6027 | 34111522 00 | Top end caps, light green, similar to RAL 6027 (5 pcs.)       | ART 555 BTU 1          | 34155541 00 | Partitions for battery compartment (5 pcs.)                   |
| ART 115 KO-7037 | 34111524 00 | Top end caps, dust gray, similar to RAL 7037 (5 pcs.)         | ART 655 BEU-2MN        | 34165561 00 | Battery shaft for ARTEB 655 (5 pcs.)                          |
| ART 115 KO-7038 | 34111521 00 | Top end caps, agate gray, similar to RAL 7038 (5 pcs.)        | ART 655 KO-1016        | 34165523 00 | Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)    |
| ART 115 KO-IR   | 34111526 00 | Top end caps, black, infrared-permissive (5 pcs.)             | ART 655 KO-3000        | 34165525 00 | Top end caps, flame red, similar to RAL 3000 (5 pcs.)         |
| ART 225 KO-1016 | 34122523 00 | Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)    | ART 655 KO-5015        | 34165527 00 | Top end caps, sky blue, similar to RAL 5015 (5 pcs.)          |
| ART 225 KO-3000 | 34122525 00 | Top end caps, flame red, similar to RAL 3000 (5 pcs.)         | ART 655 KO-6027        | 34165522 00 | Top end caps, light green, similar to RAL 6027 (5 pcs.)       |
| ART 225 KO-5015 | 34122527 00 | Top end caps, sky blue, similar to RAL 5015 (5 pcs.)          | ART 655 KO-7037        | 34165524 00 | Top end caps, dust gray, similar to RAL 7037 (5 pcs.)         |
| ART 225 KO-6027 | 34122522 00 | Top end caps, light green, similar to RAL 6027 (5 pcs.)       | ART 655 KO-7038        | 34165521 00 | Top end caps, agate gray, similar to RAL 7038 (5 pcs.)        |
| ART 225 KO-7037 | 34122524 00 | Top end caps, dust gray, similar to RAL 7037 (5 pcs.)         | ART 655 KO-IR          | 34165526 00 | Top end caps, infrared-permissive (5 pcs.)                    |
| ART 225 KO-7038 | 34122521 00 | Top end caps, agate gray, similar to RAL 7038 (5 pcs.)        | ART 655 KU-1016        | 34165533 00 | Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.) |
| ART 225 KO-IR   | 34122526 00 | Top end caps, black, infrared-permissive (5 pcs.)             | ART 655 KU-3000        | 34165535 00 | Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)      |
| ART 225 KU-1016 | 34122533 00 | Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.) | ART 655 KU-1015        | 34165537 00 | Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)       |
| ART 225 KU-3000 | 34122535 00 | Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)      | ART 655 KU-6027        | 34165532 00 | Bottom end caps, light green, similar to RAL 6027 (5 pcs.)    |
| ART 225 KU-5015 | 34122537 00 | Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)       | ART 655 KU-7037        | 34165534 00 | Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)      |
| ART 225 KU-6027 | 34122532 00 | Bottom end caps, light green, similar to RAL 6027 (5 pcs.)    | ART 655 KU-7038        | 34165531 00 | Bottom end caps, agate gray, similar to RAL 7038              |
| ART 225 KU-7037 | 34122534 00 | Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)      | ART 655 BTU 1          | 34165541 00 | Partitions for battery compartment (5 pcs.)                   |
| ART 225 KU-7038 | 34122531 00 | Bottom end caps, agate gray, similar to RAL 7038 (5 pcs.)     | ART 655 BTU 2          | 34165542 00 | Partitions for battery compartment (5 pcs.)                   |
| ART 225 KO-IR   | 34122526 00 | Bottom end caps, black, infrared-permissive (5 pcs.)          | ART 600 DIS            | 34160041 00 | Display screen for ARTEB 655 DIS (5 pcs.)                     |
| ART 225 DI      | 34122551 00 | Seal set for ARTEB 225 to achieve IP 65 (5 pcs.)              | ART 655-DI             | 34165551 00 | Seal set for ARTEB 655 to achieve IP 65 (5 pcs.)              |
| ART 335 KO-1016 | 34133523 00 | Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)    | ART 865 BEU -2MN       | 34165561 00 | Battery shaft for ARTEB 865 (5 pcs.)                          |
| ART 335 KO-3000 | 34133525 00 | Top end caps, flame red, similar to RAL 3000 (5 pcs.)         | ART 865 KO-1016        | 34186561 00 | Top end caps, sulfur yellow, similar to RAL 7035 (5 pcs.)     |
| ART 335 KO-5015 | 34133527 00 | Top end caps, sky blue, similar to RAL 5015 (5 pcs.)          | ART 865 KO-3000        | 34186525 00 | Top end caps, flame red, similar to RAL 3000 (5 pcs.)         |
| ART 335 KO-6027 | 34133522 00 | Top end caps, light green, similar to RAL 6027 (5 pcs.)       | ART 865 KO-5015        | 34165527 00 | Top end caps, sky blue, similar to RAL 5015 (5 pcs.)          |
| ART 335 KO-7037 | 34133524 00 | Top end caps, dust gray, similar to RAL 7037 (5 pcs.)         | ART 865 KO-6027        | 34186527 00 | Top end caps, light green, similar to RAL 6027 (5 pcs.)       |
| ART 335 KO-7038 | 34133521 00 | Top end caps, agate gray, similar to RAL 7038 (5 pcs.)        | ART 865 KO-7037        | 34186524 00 | Top end caps, dust gray, similar to RAL 7037 (5 pcs.)         |
| ART 335 KO-IR   | 34133526 00 | Top end caps, black, infrared-permissive (5 pcs.)             | ART 865 KO-7038        | 34186521 00 | Top end caps, agate gray, similar to RAL 7038                 |
| ART 335 KU-1016 | 34133533 00 | Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.) | ART 865 KO-IR          | 34186526 00 | Top end caps, infrared-permissive (5 pcs.)                    |
| ART 335 KU-3000 | 34133535 00 | Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)      | ART 865 KU-1016        | 34186533 00 | Bottom end caps, sulfur yellow, similar to RAL 7035 (5 pcs.)  |
| ART 335 KU-5015 | 34133537 00 | Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)       | ART 865 KU-3000        | 34186535 00 | Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)      |
| ART 335 KU-6027 | 34133532 00 | Bottom end caps, light green, similar to RAL 6027 (5 pcs.)    | ART 865 KU-5015        | 34186537 00 | Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)       |
| ART 335 KU-7037 | 34133534 00 | Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)      | ART 865 KU-6027        | 34186532 00 | Bottom end caps, light green, similar to RAL 6027 (5 pcs.)    |
| ART 335 KU-7038 | 34133531 00 | Bottom end caps, agate gray, similar to RAL 7038 (5 pcs.)     | ART 865 KU-7037        | 34186534 00 | Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)      |
| ART 335 KO-IR   | 34133526 00 | Bottom end caps, black, infrared-permissive (5 pcs.)          | ART 865 KU-7038        | 34186531 00 | Bottom end caps, agate gray, similar to RAL 7038              |
| ART 335 BTU 1   | 34133541 00 | Partitions for battery compartment (5 pcs.)                   | ART 865 BTU 1          | 34186541 00 | Partitions for battery compartment (5 pcs.)                   |
| ART 335 BTU 2   | 34133542 00 | Partitions for battery compartment (5 pcs.)                   | ART 865 BTU 2          | 34186542 00 | Partitions for battery compartment (5 pcs.)                   |
| ART 335-DI      | 34133551 00 | Seal set for ARTEB 335 to achieve IP 65 (5 pcs.)              | ART 865 BTU 3          | 34186543 00 | Partitions for battery compartment (5 pcs.)                   |
| ART 335 DIS     | 34130041 00 | Display screen for ARTEB 335 DIS (5 pcs.)                     | ART 800 DIS            | 34180041 00 | Display screen for ARTEB 865 DIS (5 pcs.)                     |
| ART 555 KO-1016 | 34155523 00 | Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)    | ART 865-DI             | 34186551 00 | Seal set for ARTEB 865 to achieve IP 65 (5 pcs.)              |
| ART 555 KO-3000 | 34155525 00 | Top end caps, flame red, similar to RAL 3000 (5 pcs.)         | ART SV-HB-7038         | 34155573 00 | Hand operated snap lock (10 pcs.)                             |
| ART 555 KO-5015 | 34155527 00 | Top end caps, sky blue, similar to RAL 5015 (5 pcs.)          | ART SV-SR-7038         | 34155572 00 | Snap lock, blocking (10 pcs.)                                 |
| ART 555 KO-6027 | 34155522 00 | Top end caps, light green, similar to RAL 6027 (5 pcs.)       | BH 2MC <sup>1</sup>    | 34165572 00 | Battery holder L 52.6 x W 26.9 x H 12.0 (5 pcs.)              |
| ART 555 KO-7037 | 34155524 00 | Top end caps, dust gray, similar to RAL 7037 (5 pcs.)         | BH 4MC <sup>1</sup>    | 34165573 00 | Battery holder L 50.6 x W 17.8 x H 12.8 (5 pcs.)              |
| ART 555 KO-7038 | 34155521 00 | Top end caps, agate gray, similar to RAL 7038 (5 pcs.)        | BH 2MN <sup>3</sup>    | 34165574 00 | Battery holder L 58.0 <sup>4</sup> x W 31.9 x H 17.2 (5 pcs.) |
| ART 555 KO-IR   | 34155526 00 | Top end caps, black, infrared-permissive (5 pcs.)             | BH 3MN <sup>3</sup>    | 34165575 00 | Battery holder L 58.2 <sup>4</sup> x W 49.7 x H 17.5 (5 pcs.) |
| ART 555 KU-1016 | 34155533 00 | Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.) | BH 4MN-BL <sup>3</sup> | 34165576 00 | Battery holder L 58.6 <sup>4</sup> x W 33.0 x H 31.6 (5 pcs.) |
| ART 555 KU-3000 | 34155535 00 | Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)      | BH 6MN-BL3             | 34165577 00 | Battery holder L 59.1 <sup>4</sup> x W 48.4 H 31.5 (5 pcs.)   |
| ART 555 KU-5015 | 34155537 00 | Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)       | BH 9V CLIP             | 34165578 00 | Cable: approximately 100mm long                               |
| ART 555 KU-6027 | 34155532 00 | Bottom end caps, light green, similar to RAL 6027 (5 pcs.)    | ASC 1                  | 34090010 00 | Set-up clip, agate gray, similar to RAL 7038                  |
| ART 555 KU-7037 | 34155534 00 | Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)      |                        | 34333574 00 | Dismantling tool                                              |
| ART 555 KU-7038 | 34155531 00 | Bottom end caps, agate gray, similar to RAL 7038 (5 pcs.)     |                        |             |                                                               |

KO = Cap at Top KU = Cap at Bottom IR = Infrared Permissive

<sup>1</sup> Connection with soldering tags

<sup>2</sup> For battery shaft

<sup>3</sup> Connection clip included

<sup>4</sup> Length including clip: additional 8 mm

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- Ergonomic enclosure ideally suited to handheld or small instrument designs
- Available with profiles that are closed, divided horizontally, or open on one side
- High mechanical loading capacity of the profile and EMC screening ensure a high level of protective function.

## Included in delivery

**ABP:** Closed extrusion only. Black powder-coated aluminum sold by the meter

**ABPH:** Split extrusion only. Black powder-coated aluminum sold by the meter

**ABPU:** Extrusion open on one side. Black powder-coated aluminum sold by the meter.

**Please order end caps and accessories separately.**

## Technical Data

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Material           | Aluminum extrusion, Al Mg Si 0.5, powdercoated; aluminum diecast lid GD-Al Si 12, powdercoated                                |
| Color              | Powdercoated Satin Black, similar to RAL 9005, fine texture finish. Special colors on request. Minimum order quantities apply |
| Ingress Protection | IP 65, DIN EN 60529<br>IP 40 when using parallel adapters (AP-AP) with 600, 800 and 1000 extrusions                           |

| Model Number   | Part Number | Dimensions<br>mm<br>L x W x H | Dimensions<br>Inches<br>L x W x H |
|----------------|-------------|-------------------------------|-----------------------------------|
| ABP 600-1000   | 84060000 00 | 1000 x 57 x 32                | 39.37 x 2.24 x 1.26               |
| ABP 800-1000   | 84080000 00 | 1000 x 82 x 32                | 39.37 x 3.23 x 1.26               |
| ABP 820-1000   | 84820000 00 | 1000 x 82 x 22                | 39.37 x 3.23 x 0.87               |
| ABP 1000-1000  | 84100000 00 | 1000 x 106 x 32               | 39.37 x 4.17 x 1.26               |
| ABP 1040-1000  | 84040000 00 | 1000 x 108 x 32               | 39.37 x 4.25 x 1.26               |
| ABP 1300-1000  | 84130000 00 | 1000 x 138 x 34               | 39.37 x 5.43 x 1.34               |
| ABP 1600-1000  | 84160001 00 | 1000 x 169 x 52               | 39.37 x 6.65 x 2.05               |
| ABP 1680-1000  | 84680000 00 | 1000 x 169 x 82               | 39.37 x 6.65 x 3.23               |
| ABP 2070-1000  | 84207000 00 | 1000 x 210 x 74               | 39.37 x 8.27 x 2.91               |
| ABPH 600-1000  | 84066001 00 | 1000 x 57 x 32                | 39.37 x 2.24 x 1.26               |
| ABPH 800-1000  | 84086001 00 | 1000 x 82 x 32                | 39.37 x 3.23 x 1.26               |
| ABPH 820-1000  | 84826000 00 | 1000 x 82 x 22                | 39.37 x 3.23 x 0.87               |
| ABPH 1000-1000 | 84106001 00 | 1000 x 106 x 32               | 39.37 x 4.17 x 1.26               |
| ABPH 1040-1000 | 84046000 00 | 1000 x 108 x 42               | 39.37 x 4.25 x 1.65               |
| ABPH 1300-1000 | 84136000 00 | 1000 x 138 x 34               | 39.37 x 5.43 x 1.34               |
| ABPH 1680-1000 | 84686000 00 | 1000 x 169 x 82               | 39.37 x 6.65 x 3.23               |
| ABPU 820-1000  | 84827000 00 | 1000 x 82 x 22                | 39.37 x 3.23 x 0.87               |
| ABPU 1040-1000 | 84047000 00 | 1000 x 108 x 42               | 39.37 x 4.25 x 1.65               |
| ABPU 1300-1000 | 84137000 00 | 1000 x 138 x 34               | 39.37 x 5.43 x 1.34               |
| ABPU 1680-1000 | 84687000 00 | 1000 x 169 x 82               | 39.37 x 6.65 x 3.23               |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

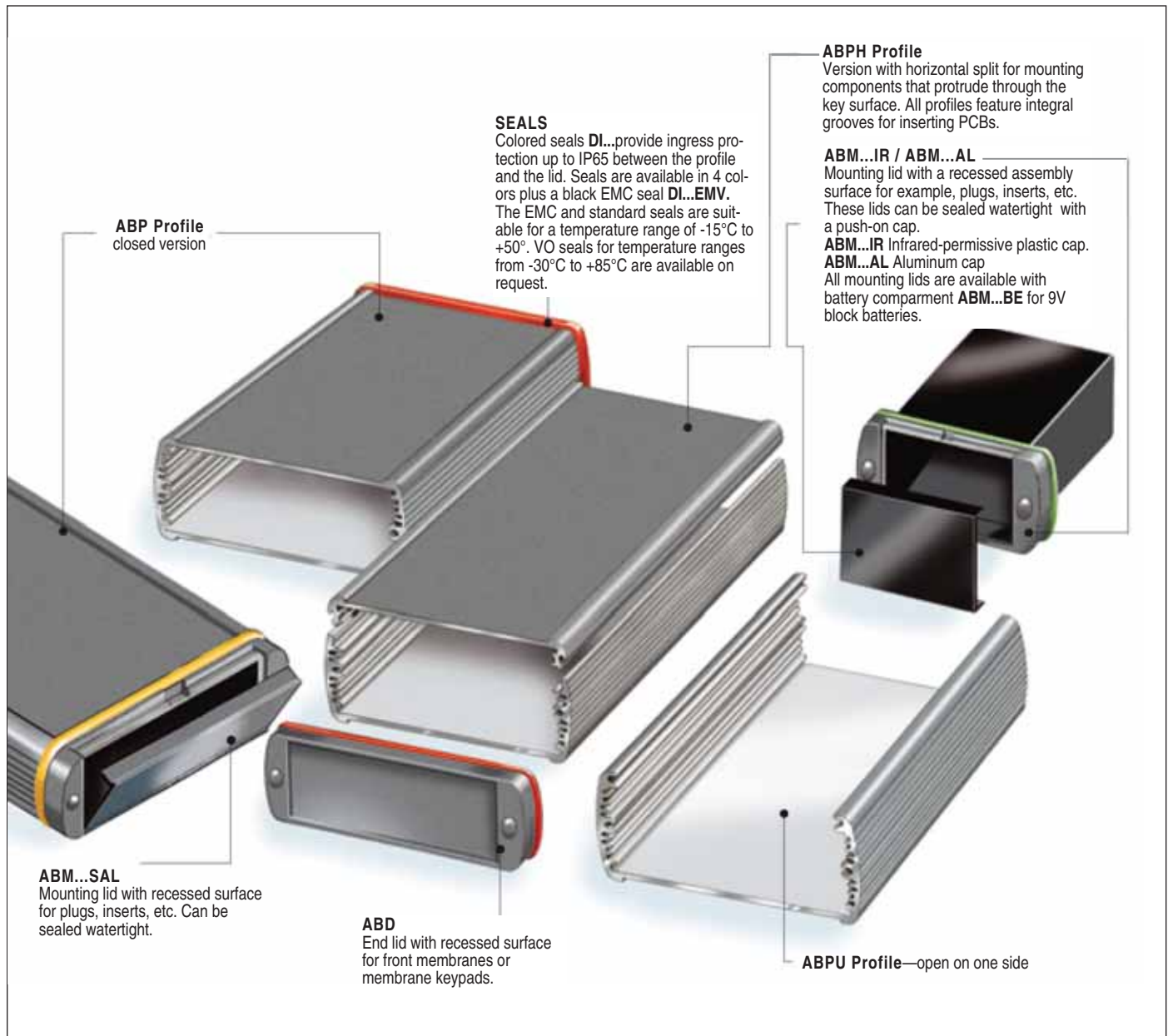


### Pictures top to bottom:

Group shot showing application using parallel adapter (AB-AP) and axial adapter (ABA), as well as closed profiles with endcaps; Wall mount application using wall brackets (AB-WL); Application featuring handles (AB...HS); and Application using parallel adapter (AB-AP).



## The Anatomy of ALUBOS



Depending on requirements, various lid designs are available to complete the Alubos. These designs include simple end lids, lids with battery compartments, and mounting lids with aluminum caps or infrared-permissive plastic caps.



Diecast aluminum lids, diecast aluminum mounting lid with aluminum hinged flap, and diecast aluminum mounting lid with aluminum profile cap. All lids can be sealed with colored gaskets up to IP 65.



Diecast aluminum lids with recessed surface for mounting front membranes or membrane keypads. Colored seals provide ingress protection up to IP 65.



## Accessories

| Model Number      | Part Number | Description                                                           | Model Number       | Part Number | Description                                                  |
|-------------------|-------------|-----------------------------------------------------------------------|--------------------|-------------|--------------------------------------------------------------|
| ABM 600 AL        | 84602000 00 | Mounting lid, aluminum profile cap                                    | DI 1040-5002       | 84200414 00 | Seal, ultramarine (10 pieces)                                |
| AMB 600 IR        | 84063000 00 | Mounting lid, infrared-permissive plastic cap                         | DI 1040-3000       | 84200411 00 | Seal, flame red (10 pieces)                                  |
| ABM 600 SAL       | 84064000 00 | Mounting lid, aluminum hinged flap                                    | DI 1040-1021       | 84200412 00 | Seal, yellow (10 pieces)                                     |
| ABM 600 AL-BE     | 84062100 00 | Mounting lid, aluminum profile cap, battery compartment 9V            | DI 1040-6000       | 84200413 00 | Seal, patina green (10 pieces)                               |
| ABM 600 IR-BE     | 84063100 00 | Mounting lid, infrared-permissive plastic cap, battery compartment 9V | ABPU 1040-1000 FP2 | 84048000 00 | Front panel for ABPU 1040-1000                               |
| ABM 600 SAL-BE    | 84064100 00 | Mounting lid, aluminum hinged flap, battery compartment 9V            | ABM 1300 AL        | 84132000 00 | Mounting lid, aluminum profile cap                           |
| ABD 600           | 84061000 00 | End lid                                                               | ABD 1300 SAL       | 84134000 00 | Mounting lid, aluminum hinged flap                           |
| DI 600-EMV        | 84200615 00 | EMC seal, black (10 pieces)                                           | ABM 1300           | 84131000 00 | End lid                                                      |
| DI 600-5002       | 84200614 00 | Seal, ultramarine (10 pieces)                                         | DI 1300-EMV        | 84201315 00 | EMC seal, black (10 pieces)                                  |
| DI 600-3000       | 84200611 00 | Seal, flame red (10 pieces)                                           | DI 1300-5002       | 84201314 00 | Seal, ultramarine (10 pieces)                                |
| DI 600-1021       | 84200612 00 | Seal, yellow (10 pieces)                                              | DI 1300-3000       | 84201311 00 | Seal, flame red (10 pieces)                                  |
| DI 600-6000       | 84200613 00 | Seal, patina green (10 pieces)                                        | DI 1300-1021       | 84201312 00 | Seal, yellow (10 pieces)                                     |
| ABM 800 AL        | 84082000 00 | Mounting lid, aluminum profile cap                                    | DI 1300-6000       | 84201313 00 | Seal, patina green (10 pieces)                               |
| ABM 800 IR        | 84083000 00 | Mounting lid, infrared-permissive plastic cap                         | ABPU 1300-1000 FP2 | 84138000 00 | Front panel for ABPU 1300-1000                               |
| ABM 800 SAL       | 84084000 00 | Mounting lid, aluminum hinged flap                                    | ABD 1600           | 84161000 00 | End lid, black seals, screws, screw cover for ABD 1600-1000  |
| ABM 800 AL-BE     | 84082100 00 | Mounting lid, aluminum profile cap, battery compartment 9V            | DI 1600-EMV        | 84201615 00 | EMC seal, black (10 pieces)                                  |
| ABM 800 IR-BE     | 84083100 00 | Mounting lid, infrared-permissive plastic cap, battery compartment 9V | DI 1600-5002       | 84201614 00 | Seal, ultramarine (10 pieces)                                |
| ABM 800 SAL-BE    | 84084100 00 | Mounting lid, aluminum hinged flap, battery compartment 9V            | DI 1600-3000       | 84201616 00 | Seal, flame red (10 pieces)                                  |
| ABD 800           | 84081000 00 | End lid, powder-coated aluminum                                       | DI 1600-1021       | 84201612 00 | Seal, yellow (10 pieces)                                     |
| ABA 800-1000      | 84002000 00 | Axial adapter for ALUBOS 800/100                                      | DI 1600-6000       | 84201613 00 | Seal, patina green (10 pieces)                               |
| DI 800-EMV        | 84200815 00 | EMC seal, black (10 pieces)                                           | ABD 1680           | 84168100 00 | End lid, black seals, screws, screw cover for ABD 1680-1000  |
| DI 800-5002       | 84200814 00 | Seal, ultramarine (10 pieces)                                         | DI 1680-EMV        | 84206815 00 | EMC seal, black (10 pieces)                                  |
| DI 800-3000       | 84200811 00 | Seal, flame red (10 pieces)                                           | DI 1680-5002       | 84206814 00 | Seal, ultramarine (10 pieces)                                |
| DI 800-1021       | 84200812 00 | Seal, yellow (10 pieces)                                              | DI 1680-3000       | 84206811 00 | Seal, flame red (10 pieces)                                  |
| DI 800-6000       | 84200813 00 | Seal, patina green (10 pieces)                                        | DI 1680-1021       | 84206812 00 | Seal, yellow (10 pieces)                                     |
| ABD 820           | 84821000 00 | End lid, black seal, screws, screw cover                              | DI 1680-6000       | 84206813 00 | Seal, patina green (10 pieces)                               |
| DI 820-EMV        | 84208215 00 | EMC seal, black (10 pieces)                                           | ABPU 1680-1000 FP3 | 84689000 00 | Front panels for ABPU 1680-1000                              |
| DI 820-5002       | 84208214 00 | Seal, ultramarine (10 pieces)                                         | ABD 2070           | 84271000 00 | End lid, black seals, screws, screw covers for ABP 2070-1000 |
| DI 820-3000       | 84208211 00 | Seal, flame red (10 pieces)                                           | DI 2070-EMV        | 84202715 00 | EMC seal, black (10 pieces)                                  |
| DI 820-1021       | 84208212 00 | Seal, yellow (10 pieces)                                              | DI 2070-5002       | 84202714 00 | Seal, ultramarine (10 pieces)                                |
| DI 820-6000       | 84208213 00 | Seal, patina green (10 pieces)                                        | DI 2070-3000       | 84202711 00 | Seal, flame red (10 pieces)                                  |
| ABPU 820-1000 FP2 | 84828000 00 | Front panel for ABPU 820-1000                                         | DI 2070-1021       | 84202712 00 | Seal, yellow (10 pieces)                                     |
| ABM 1000 AL       | 84102000 00 | Mounting lid, aluminum profile cap                                    | DI 2070-6000       | 84202713 00 | Seal, patina green (10 pieces)                               |
| ABM 1000 IR       | 84103000 00 | Mounting lid, infrared-permissive plastic cap                         | AB-1000 WL         | 84105000 00 | ALUBOS adjustable wall bracket                               |
| ABM 1000 SAL      | 84104000 00 | Mounting lid, aluminum hinged flap                                    | AB-WL              | 84005000 00 | Wall brackets for use with 600/800/1000/1300                 |
| AMB 1000 AL-BE    | 84202100 00 | Mounting lid, aluminum profile cap, battery compartment 9V            | AB-WL 1            | 84006001 00 | Wall brackets for use with 820                               |
| ABM 1000 IR-BE    | 84103100 00 | Mounting lid, infrared-permissive plastic cap, battery compartment 9V | AB-WL 2            | 84007000 00 | Wall brackets for use with 1040                              |
| ABM 1000 SAL-BE   | 84104100 00 | Mounting lid, aluminum hinged flap, battery compartment 9V            | AB-WL 3            | 84008000 00 | Wall brackets for use with 1600/1680/2070                    |
| ABD 1000          | 84101000 00 | End lid                                                               | AB 600 MKL         | 84006600 00 | Mounting clamp for ALUBOS 600                                |
| ABA 800-1000      | 84002000 00 | Axial adapter for ALUBOS 800/1000                                     | AB 800 MKL         | 84006400 00 | Mounting clamp for ALUBOS 800                                |
| DI 1000-EMV       | 84201015 00 | EMC seal, black (10 pieces)                                           | AB 1000 MKL        | 84006500 00 | Mounting clamp for ALUBOS 1000                               |
| DI 1000-5002      | 84201014 00 | Seal, ultramarine (10 pieces)                                         | AB-MKL             | 84006300 00 | Mounting clamp for ALUBOS 600/800/1000                       |
| DI 1000-3000      | 84201011 00 | Seal, flame red (10 pieces)                                           | AB 1600 HS         | 84162000 00 | Handle for use with ALUBOS 1600/1680                         |
| DI 1000-1021      | 84201012 00 | Seal, yellow (10 pieces)                                              | AB 2000 HS         | 84200000 00 | Handle for use ALUBOS 2070                                   |
| DI 1000-6000      | 84201013 00 | Seal, patina green (10 pieces)                                        | AB-AP 60           | 84006000 00 | Parallel adapter for ALUBOS 600/800/1000, 60 mm length       |
| ABM 1040 AL       | 84042000 00 | Mounting lid, aluminum profile cap                                    | AB-AP 100          | 84010000 00 | Parallel adapter for ALUBOS 600/800/1000, 100 mm length      |
| ABM 1040 SAL      | 84044000 00 | Mounting lid, aluminum hinged flap                                    | AB-AP 150          | 84015000 00 | Parallel adapter for ALUBOS 600/800/1000, 150 mm length      |
| ABM 1040          | 84041000 00 | End lid                                                               | ABA 800-1000       | 84002000 00 | Axial adapter, adapts ABP 800 to an ABP 1000                 |
| DI 1040-EMV       | 84200415 00 | EMC seal, black (10 pieces)                                           | AB-GF              | 84006700 00 | Rubber feet                                                  |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



Application showing battery compartment with a closed profile, diecast lid, and seal.



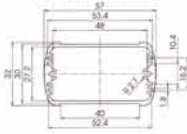
Besides stationary wall brackets, as shown on page 95, an adjustable wall bracket is offered, which allows angles from 0° to 90°.



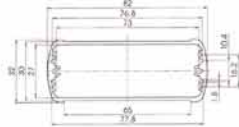
This Alubos mounting lid, ABM...SAL, can be sealed watertight, even with hinged flap.

## Closed Profiles

**ABP 600**



**ABP 800**



**ABP 820**



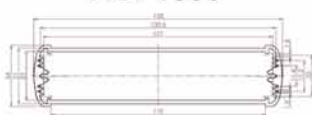
**ABP 1000**



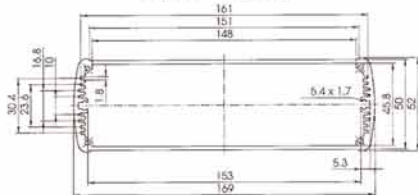
**ABP 1040**



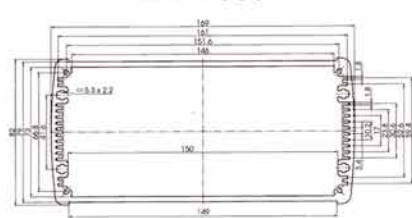
**ABP1300**



**ABP 1600**



**ABP 1680**

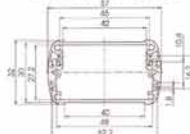


**ABP 2070**

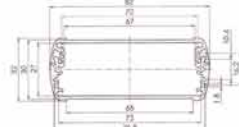


## Split Profiles

**ABPH 600**



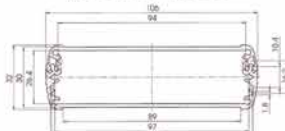
**ABPH 800**



**ABPH 820**



**ABPH 1000**



**ABPH 1040**



**ABPH 1300**



**ABPH 1680**

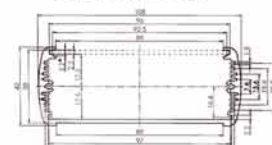


## U-Shaped Profiles

**ABPU 820**



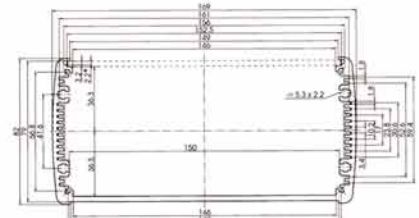
**ABPU1040**



**ABPU 1300**



**ABPU 1680**



- Versatile ABS handheld enclosure available in either black or gray and over 50 configurations
- Each enclosure provides different equipment features and accessories
- Ideal enclosure for use with a wide range of mobile data collection and processing applications

### Included in delivery

Lid, base, and enclosure screws as required. See website for more detailed information on various configurations.



### Technical Data

|                    |                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------|
| Material           | ABS; display screen, clear polycarbonate                                                      |
| Color              | Black, similar to RAL 9005 and/or agate gray, similar to RAL 7038. Special colors on request. |
| Ingress Protection | IP 40/DIN VDE 0470                                                                            |
| Surface Resistance | >10 <sup>14</sup> Ohm to DIN 53482                                                            |
| Flammability       | UL 94 HB/1.6                                                                                  |

| Model Number | Type                                                 | Part Number Black | Part Number Agate Gray | Dimensions mm<br>L x W x H | Dimensions Inches<br>L x W x H | Display Opening | Battery Compartment For | Ingress Protection<br>DIN EN 60529 |
|--------------|------------------------------------------------------|-------------------|------------------------|----------------------------|--------------------------------|-----------------|-------------------------|------------------------------------|
| BOS 400      | With battery compartment                             | 34400000 00       | -                      | 100 x 65 x 24              | 3.94 x 2.56 x 0.94             | -               | 9 Volt                  | IP 40                              |
| BOS 400 ASC  | Includes integrated set-up clip                      | 34400500 00       | -                      | 100 x 65 x 24              | 3.94 x 2.56 x 0.94             | -               | 9 Volt                  | IP 40                              |
| BOS 401      | Without battery compartment                          | 34401000 00       | -                      | 100 x 65 x 24              | 3.94 x 2.56 x 0.94             | -               | -                       | IP 40                              |
| BOS 401 ASC  | Includes integrated set-up clip                      | 34401500 00       | -                      | 100 x 65 x 24              | 3.94 x 2.56 x 0.94             | -               | -                       | IP 40                              |
| BOS 500      | With panoramic display screen                        | 34500000 00       | 34500003 00            | 120 x 60 x 25              | 4.72 x 2.36 x 0.98             | x               | 9 Volt                  | IP 40                              |
| BOS 501      | With display screen                                  | 34501000 00       | 34501002 00            | 120 x 60 x 25              | 4.72 x 2.36 x 0.98             | x               | 9 Volt                  | IP 40                              |
| BOS 502      | Without display opening                              | 34502000 00       | 34502002 00            | 120 x 60 x 25              | 4.72 x 2.36 x 0.98             | -               | 9 Volt                  | IP 40                              |
| BOS 503      | With membrane keypad area                            | 34503000 00       | 34503001 00            | 120 x 60 x 25              | 4.72 x 2.36 x 0.98             | -               | 9 Volt                  | IP 40                              |
| BOS 600      | With display screen                                  | 34600000 00       | -                      | 172 x 77 x 25              | 6.77 x 3.03 x 0.98             | x               | 9 Volt                  | IP 40                              |
| BOS 601      | With membrane keypad area                            | 34601000 00       | -                      | 172 x 77 x 25              | 6.77 x 3.03 x 0.98             | -               | 9 Volt                  | IP 40                              |
| BOS 602      | With loudspeaker grill                               | 34602000 00       | -                      | 172 x 77 x 25              | 6.77 x 3.03 x 0.98             | -               | 3 AA                    | IP 40                              |
| BOS 700      | With display opening and battery compartment         | 34700000 00       | -                      | 150 x 80 x 30              | 5.90 x 3.15 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 701      | With display opening and battery compartment         | 34701000 00       | -                      | 150 x 80 x 30              | 5.90 x 3.15 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 704      | With slide for switch                                | 34704000 00       | -                      | 150 x 80 x 30              | 5.90 x 3.15 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 705      | With slide for switch                                | 34705000 00       | -                      | 150 x 80 x 30              | 5.90 x 3.15 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 750      | With panoramic display screen                        | 34750000 00       | 34750001 00            | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 751      | With display screen                                  | 34751000 00       | 34751001 00            | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 752      | With membrane keypad area                            | 34752000 00       | 34752001 00            | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | -               | 9 Volt                  | IP 40                              |
| BOS 753      | With panoramic display screen                        | 34753000 00       | -                      | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | -                       | IP 40                              |
| BOS 754      | With display screen                                  | 34754000 00       | 34754001 00            | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | -                       | IP 40                              |
| BOS 755      | With membrane keypad area                            | 34755000 00       | 34755001 00            | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | -               | -                       | IP 40                              |
| BOS 756      | With panoramic display screen, with slide for switch | 34756000 00       | -                      | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 757      | With display screen, with slide for switch           | 34757000 00       | -                      | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | 9 Volt                  | IP 40                              |
| BOS 758      | With membrane keypad area, with slide for switch     | 34758000 00       | -                      | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | -               | -                       | IP 40                              |
| BOS 759      | With panoramic display screen, with slide for switch | 34759000 00       | -                      | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | -                       | IP 40                              |
| BOS 760      | With display screen, with slide for switch           | 34760000 00       | -                      | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | x               | -                       | IP 40                              |
| BOS 761      | With membrane keypad area, with slide for switch     | 34761000 00       | -                      | 157 x 84 x 30              | 6.18 x 3.31 x 1.18             | -               | -                       | IP 40                              |
| BOS 800      | With panoramic display screen                        | 34800000 00       | 34800001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | x               | 4 AA                    | IP 40                              |
| BOS 801      | With display screen                                  | 34801000 00       | 34801001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | -               | 4 AA                    | IP 40                              |
| BOS 802      | Without display opening                              | 34802000 00       | 34802001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | -               | 4 AA                    | IP 40                              |
| BOS 803      | With panoramic display screen                        | 34803000 00       | 34803001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | x               | -                       | IP 40                              |
| BOS 804      | With display screen                                  | 34804000 00       | 34804001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | x               | -                       | IP 40                              |
| BOS 805      | Without display opening                              | 34805000 00       | 34805001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | -               | -                       | IP 40                              |
| BOS 807      | With membrane keypad area                            | 34807000 00       | 34807001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | -               | 4 AA                    | IP 40                              |
| BOS 808      | With membrane keypad area                            | 34808000 00       | 34808001 00            | 196 x 100 x 40             | 7.72 x 3.94 x 1.57             | -               | -                       | IP 40                              |
| BOS 900      | Without battery compartment and carrying strap       | 34900009 00       | 34900000 00            | 211 x 100 x 26             | 8.31 x 3.94 x 1.02             | x               | -                       | IP 40                              |
| BOS 901      | Without battery compartment with carrying strap      | 34901009 00       | 34901000 00            | 211 x 100 x 26             | 8.31 x 3.94 x 1.02             | x               | -                       | IP 65                              |
| BOS 902      | With carrying strap                                  | 34902009 00       | 34902000 00            | 211 x 100 x 26             | 8.31 x 3.94 x 1.02             | x               | 4 AA                    | IP 65                              |
| BOS 903      | With carrying strap                                  | 34903009 00       | 34903000 00            | 224 x 106 x 26             | 8.82 x 4.17 x 1.02             | x               | 2 - 9 Volt              | IP 65                              |
| BOS 910      | Without battery compartment                          | 34910009 00       | 34910002 00            | 224 x 106 x 40             | 8.82 x 4.17 x 1.57             | x               | -                       | IP 65                              |
| BOS 911      | Without battery compartment                          | 34911009 00       | 34911000 00            | 224 x 106 x 40             | 8.82 x 4.17 x 1.57             | x               | -                       | IP 65                              |
| BOS 912      | With battery compartment                             | 34912009 00       | 34912000 00            | 224 x 106 x 40             | 8.82 x 4.17 x 1.57             | x               | 4 AA                    | IP 65                              |
| BOS 913      | With battery compartment                             | 34913009 00       | 34913000 00            | 224 x 106 x 40             | 8.82 x 4.17 x 1.57             | x               | 2 - 9 Volt              | IP 65                              |

ASC = including integrated set-up clip

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- The construction design permits parallel or inclined arrangement of the half-shells, as well as lengthwise and crosswise use
- Can be used for graphic-capable displays or as a membrane keypad model with continuous membrane keypad
- Ingress protection up to IP 65 depending on design.
- Can be adapted to customers individual requirements with membrane keypads and displays as well as mechanical processing and printing



## Included in delivery

**BS 400/402/600/602/800/802 F:** Lid and base, 4 screws

**BS 401/403/404/601/603/604/801/803/804 F:** Lid and base, 4 screws, battery compartment including screws, battery contacts

**BS 400/402/600/602/800/802 DIS:** Lid and base, display window, adhesive film, 4 screws

**BS 401/403/404/601/603/604/801/803/804 DIS:** Lid and base, display window, adhesive film, 4 screws, battery compartment lid including screws, battery contacts

## Technical Data

|                            |                                                                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color                      | Enclosure: graphite gray, similar to RAL 7024. Light gray, similar to RAL 7035.<br>Silver coated (minimum order 100 pieces) Special colors on request |
| Material                   | ABS plastic                                                                                                                                           |
| Protection Classifications | IP 40, without seal<br>IP 65 DIN EN 60529, with seal                                                                                                  |

| Model Number    | Part Number | Dimensions mm<br>L x W x H | Dimensions Inches<br>L x W x H | Protection Classification | Description                                                                                                      |
|-----------------|-------------|----------------------------|--------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------|
| BS 400 F-7024   | 82400124 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | Continuous membrane surface, graphite gray similar to RAL 7024                                                   |
| BS 400 F-7035   | 82400135 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | Continuous membrane surface, light gray, similar to RAL 7035                                                     |
| BS 400 F-S**    | 82400100 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | Continuous membrane surface, silver                                                                              |
| BS 400 DIS-7024 | 82400224 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | With display cut-out, graphite gray, similar to RAL 7024                                                         |
| BS 400 DIS-7035 | 82400235 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | With display cut-out, light gray, similar to RAL 7035                                                            |
| BS 400 DIS-S**  | 82400200 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | With display cut-out, silver                                                                                     |
| BS 401 F-7024   | 82401124 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40                     | Continuous membrane surface, battery compartment 3 AAA, graphite gray, similar to RAL 7024                       |
| BS 401 F-7035   | 82401135 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40                     | Continuous membrane surface, battery compartment 3 AAA, light gray, similar to RAL 7035                          |
| BS 401 F-S**    | 82401100 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40                     | Continuous membrane surface, battery compartment 3 AAA, silver                                                   |
| BS 401 DIS-7024 | 82401224 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40                     | With display cut-out, battery compartment 3 AAA, graphite gray, similar to RAL 7024                              |
| BS 401 DIS-7035 | 82401235 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40                     | With display cut-out, battery compartment 3 AAA, light gray, similar to RAL 7035                                 |
| BS 401 DIS-S**  | 82401200 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40                     | With display cut-out, battery compartment 3 AAA, silver                                                          |
| BS 402 F-7024   | 82402124 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024                          |
| BS 402 F-7035   | 82402135 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035                             |
| BS 402 F-S**    | 82402100 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | Continuous membrane surface, fitted round cord seal, silver                                                      |
| BS 402 DIS-7024 | 82402224 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | With display cut-out, fitted round cord seal, graphite gray, similar to RAL 7024                                 |
| BS 402 DIS-7035 | 82402235 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | With display cut-out, fitted round cord seal, light gray, similar to RAL 7035                                    |
| BS 402 DIS-S**  | 82402200 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | With display cut-out, fitted round cord seal, silver                                                             |
| BS 403 F-7024   | 82403124 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | Continuous membrane surface, battery compartment 3 AAA, graphite gray, similar to RAL 7024                       |
| BS 403 F-7035   | 82403135 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | Continuous membrane surface, battery compartment 3 AAA, light gray, similar to RAL 7035                          |
| BS 403 F-S**    | 82403100 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | Continuous membrane surface, battery compartment 3 AAA, silver                                                   |
| BS 403 DIS-7024 | 82403224 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | With display cut-out, battery compartment 3 AAA, graphite gray, similar to RAL 7024                              |
| BS 403 DIS-7035 | 82403235 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | With display cut-out, battery compartment 3 AAA, light gray, similar to RAL 7035                                 |
| BS 403 DIS-S**  | 82403200 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 40/IP 65*              | With display cut-out, battery compartment 3 AAA, silver                                                          |
| BS 404 F-7024   | 82404124 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | Continuous membrane surface, battery compartment 3 AAA, fitted round cord seal graphite gray similar to RAL 7024 |
| BS 404 F-7035   | 82404135 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | Continuous membrane surface, battery compartment 3 AAA, fitted round cord seal, light gray, similar to RAL 7035  |
| BS 404 F-S**    | 82404100 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | Continuous membrane surface, battery compartment 3 AAA, fitted round cord seal, silver                           |
| BS 404 DIS-7024 | 82404224 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | With display cut-out, battery compartment 3 AAA, fitted round cord seal, graphite gray, similar to RAL 7024      |
| BS 404 DIS-7035 | 82404235 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | With display cut-out, battery compartment 3 AAA, fitted round cord seal, light gray, similar to RAL 7035         |
| BS 404 DIS-S**  | 82404200 00 | 119.3 x 64.9 x 26.5        | 4.70 x 2.55 x 1.04             | IP 65                     | With display cut-out, battery compartment 3 AAA, fitted round cord seal, silver                                  |

\* IP 65 and anti-knock protection when decorative seal BS 400 DI-D... is used

\*\*Available on request - minimum order quantity 100 pieces

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



| Model Number    | Part Number | Dimensions mm       | External Dimensions Inches | Protection Classification | Description                                                                                                       |
|-----------------|-------------|---------------------|----------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------|
|                 |             | L x W x H           | L x W x H                  |                           |                                                                                                                   |
| BS 600 F-7024   | 82600124 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | Continuous membrane surface, graphite gray, similar to RAL 7024                                                   |
| BS 600 F-7035   | 82600135 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | Continuous membrane surface, light gray, similar to RAL 7035                                                      |
| BS 600 F-S**    | 82600100 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | Continuous membrane surface, silver                                                                               |
| BS 600 DIS-7024 | 82600224 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | With display cut-out, graphite gray, similar to RAL 7024                                                          |
| BS 600 DIS-7035 | 82600235 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | With display cut-out, light gray, similar to RAL 7035                                                             |
| BS 600 DIS-S**  | 82600200 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | With display cut-out, silver                                                                                      |
| BS 601 F-7024   | 82601124 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40                     | Continuous membrane surface, battery compartment 3 AA, graphite gray, similar to RAL 7024                         |
| BS 601 F-7035   | 82601135 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40                     | Continuous membrane surface, battery compartment 3 AA, light gray, similar to RAL 7035                            |
| BS 601 F-S**    | 82601100 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40                     | Continuous membrane surface, battery compartment 3 AA, silver                                                     |
| BS 601 DIS-7024 | 82601224 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40                     | With display cut-out, battery compartment 3 AA, graphite gray, similar to RAL 7024                                |
| BS 601 DIS-7035 | 82601235 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40                     | With display cut-out, battery compartment 3 AA, light gray, similar to RAL 7035                                   |
| BS 601 DIS-S**  | 82601200 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40                     | With display cut-out, battery compartment 3 AA, silver                                                            |
| BS 602 F-7024   | 82602124 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024                           |
| BS 602 F-7035   | 82602135 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035                              |
| BS 602 F-S**    | 82602100 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | Continuous membrane surface, fitted round cord seal, silver                                                       |
| BS 602 DIS-7024 | 82602224 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | With display cut-out, fitted round cord seal, graphite gray, similar to RAL 7024                                  |
| BS 602 DIS-7035 | 82602235 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | With display cut-out, fitted round cord seal, light gray, similar to RAL 7035                                     |
| BS 602 DIS-S**  | 82602200 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | With display cut-out, fitted round cord seal, silver                                                              |
| BS 603 F-7024   | 82603124 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | Continuous membrane surface, battery compartment 3 AA, graphite gray, similar to RAL 7024                         |
| BS 603 F-7035   | 82603135 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | Continuous membrane surface, battery compartment 3 AA, light gray, similar to RAL 7035                            |
| BS 603 F-S**    | 82603100 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | Continuous membrane surface, battery compartment 3 AA, silver                                                     |
| BS 603 DIS-7024 | 82603224 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | With display cut-out, battery compartment 3 AA, graphite gray, similar to RAL 7024                                |
| BS 603 DIS-7035 | 82603235 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | With display cut-out, battery compartment 3 AA, light gray, similar to RAL 7035                                   |
| BS 603 DIS-S**  | 82603200 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 40/65*                 | With display cut-out, battery compartment 3 AA, silver                                                            |
| BS 604 F-7024   | 82604124 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | Continuous membrane surface, battery compartment 3 AA, fitted round cord seal, graphite gray, similar to RAL 7024 |
| BS 604 F-7035   | 82604135 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | Continuous membrane surface, battery compartment 3 AA, fitted round cord seal, light gray, similar to RAL 7035    |
| BS 604 F-S**    | 82604100 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | Continuous membrane surface, battery compartment 3 AA, fitted round cord seal, silver                             |
| BS 604 DIS-7024 | 82604224 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | With display cut-out, battery compartment 3 AA, fitted round cord seal, graphite gray, similar to RAL 7024        |
| BS 604 DIS-7035 | 82604235 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | With display cut-out, battery compartment 3 AA, fitted round cord seal, light gray, similar to RAL 7035           |
| BS 604 DIS-S**  | 82604200 00 | 159.4 x 77.9 x 33.5 | 6.27 x 3.07 x 1.32         | IP 65                     | With display cut-out, battery compartment 3 AA, fitted round cord seal, silver                                    |
| BS 800 F-7024   | 82800124 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | Continuous membrane surface, graphite gray, similar to RAL 7024                                                   |
| BS 800 F-7035   | 82800135 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | Continuous membrane surface, light gray, similar to RAL 7035                                                      |
| BS 800 F-S**    | 82800100 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | Continuous membrane surface, silver                                                                               |
| BS 800 DIS-7024 | 82800224 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | With display cut-out, graphite gray, similar to RAL 7024                                                          |
| BS 800 DIS-7035 | 82800235 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | With display cut-out, light gray, similar to RAL 7035                                                             |
| BS 800 DIS-S**  | 82800200 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | With display cut-out, silver                                                                                      |
| BS 801 F-7024   | 82801124 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40                     | Continuous membrane surface, battery compartment 4 AA, graphite gray, similar to RAL 7024                         |
| BS 801 F-7035   | 82801135 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40                     | Continuous membrane surface, battery compartment 4 AA, light gray, similar to RAL 7035                            |
| BS 801 F-S**    | 82801100 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40                     | Continuous membrane surface, battery compartment 4 AA, silver                                                     |
| BS 801 DIS-7024 | 82801224 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40                     | With display cut-out, battery compartment 4 AA, graphite gray, similar to RAL 7024                                |
| BS 801 DIS-7035 | 82801235 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40                     | With display cut-out, battery compartment 4 AA, light gray, similar to RAL 7035                                   |
| BS 801 DIS-S**  | 82801200 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40                     | With display cut-out, battery compartment 4 AA, silver                                                            |
| BS 802 F-7024   | 82802124 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024                           |
| BS 802 F-7035   | 82802135 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035                              |
| BS 802 F-S**    | 82802100 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | Continuous membrane surface, fitted round cord seal, silver                                                       |
| BS 802 DIS-7024 | 82802224 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | With display cut-out, fitted round cord seal, graphite gray, similar to RAL 7024                                  |
| BS 802 DIS-7035 | 82802235 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | With display cut-out, fitted round cord seal, light gray, similar to RAL 7035                                     |
| BS 802 DIS-S**  | 82802200 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | With display cut-out, fitted round cord seal, silver                                                              |
| BS 803 F-7024   | 82803124 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | Continuous membrane surface, battery compartment 4 AA, graphite gray, similar to RAL 7024                         |
| BS 803 F-7035   | 82803135 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | Continuous membrane surface, battery compartment 4 AA, light gray, similar to RAL 7035                            |
| BS 803 F-S**    | 82803100 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | Continuous membrane surface, battery compartment 4 AA, silver                                                     |
| BS 803 DIS-7024 | 82803224 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | With display cut-out, battery compartment 4 AA, graphite gray, similar to RAL 7024                                |
| BS 803 DIS-7035 | 82803235 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | With display cut-out, battery compartment 4 AA, light gray, similar to RAL 7035                                   |
| BS 803 DIS-S**  | 82803200 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 40/65*                 | With display cut-out, battery compartment 4 AA, silver                                                            |
| BS 804 F-7024   | 82804124 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024                           |
| BS 804 F-7035   | 82804135 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035                              |
| BS 804 F-S**    | 82804100 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | Continuous membrane surface, fitted round cord seal, silver                                                       |
| BS 804 DIS-7024 | 82804224 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | With display cut-out, battery compartment 4 AA, fitted round cord seal, graphite gray, similar to RAL 7024        |
| BS 804 DIS-7035 | 82804235 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | With display cut-out, battery compartment 4 AA, fitted round cord seal, light gray, similar to RAL 7035           |
| BS 804 DIS-S**  | 82804200 00 | 209.3 x 98.0 x 34.8 | 8.24 x 3.86 x 1.37         | IP 65                     | With display cut-out, battery compartment 4 AA, fitted round cord seal, silver                                    |

\* IP 65 and anti-knock protection when decorative seal BS 400 DI-D... is used

\*\*Available on request - minimum order quantity 100 pieces

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

#### Accessories

| Model Number     | Part Number | Description                                         | Model Number     | Part Number | Description                                         |
|------------------|-------------|-----------------------------------------------------|------------------|-------------|-----------------------------------------------------|
| BS 400 DI-D-1003 | 82841003 00 | Decorative seal, signal yellow, similar to RAL 1003 | BS 800 DI-D-1003 | 82881003 00 | Decorative seal, signal yellow, similar to RAL 1003 |
| BS 400 DI-D-3001 | 82843001 00 | Decorative seal, signal red, similar to RAL 3001    | BS 800 DI-D-3001 | 82883001 00 | Decorative seal, signal red, similar to RAL 3001    |
| BS 400 DI-D-5005 | 82845005 00 | Decorative seal, signal blue, similar to RAL 5005   | BS 800 DI-D-5005 | 82885005 00 | Decorative seal, signal blue, similar to RAL 5005   |
| BS 400 DI-D-6032 | 82846032 00 | Decorative seal, signal green, similar to RAL 6032  | BS 800 DI-D-6032 | 82886032 00 | Decorative seal, signal green, similar to RA: 6032  |
| BS 400 DI-D-7024 | 82847024 00 | Decorative seal, graphite gray, similar to RAL 7024 | BS 800 DI-D-7024 | 82887024 00 | Decorative seal, graphite gray, similar to RAL 7024 |
| BS 600 DI-D-1003 | 82861003 00 | Decorative seal, signal yellow, similar to RAL 1003 | BS SA-7024       | 82800011 00 | Screw covers, graphite gray, similar to RAL 7024    |
| BS 600 DI-D-3001 | 82863001 00 | Decorative seal, signal red, similar to RAL 3001    | BS SA-7035       | 82800010 00 | Screw covers, light gray, similar to RAL 7035       |
| BS 600 DI-D-5005 | 82865005 00 | Decorative seal, signal blue, similar to RAL 5005   |                  |             |                                                     |
| BS 600 DI-D-6032 | 82866032 00 | Decorative seal, signal green, similar to RAL 6032  |                  |             |                                                     |
| BS 600 DI-D-7024 | 82867024 00 | Decorative seal, graphite gray, similar to RAL 7024 |                  |             |                                                     |

Note: Screw covers are not required if decorative seal DI-D is used.

Rose Ex enclosures made of aluminum, polyester and stainless steel correspond to ATEX guidelines. They have the approval II 2G/2D and may be used in zones 1 and 2. The standard temperature range for applications corresponds to T6, -4°F to +104°F; optionally aluminum and stainless steel enclosures can be used from -67°F to +203°F (corresponds to temperature classes T6, T5, T4); and polyester enclosures from -67°F to +131°F (corresponds to temperature classes T6, T5).



## Aluminum Ex Enclosures

- Fully assembled enclosure with terminal blocks, cable glands and accessories
- Empty enclosures, component certified

## Polyester Ex Enclosures

- More that 60 variations in more than 20 different sizes
- Worldwide use in all climate environments

## Okta-Box Enclosures

- Fully assembled enclosure with terminal blocks, cable glands, and accessories.
- 9 variations in 3 sizes.
- Empty enclosure, component certified

## Stainless Steel Ex Enclosures

- A rugged enclosure to meet the highest standards
- Robust material, safe system, terminal enclosure for increased and intrinsic safety protection

## Stainless Steel Enclosures with Hinged Lid, Ex-IGS

- Enclosures with hinged lid and terminals for instrinsic and increased safety protection
- Empty enclosure with EC - type examination certificate for individual fittings

## Beluga

- Handheld empty enclosures for applications in hazardous environments
- 3 enclosure sizes, 180, 220, 380 mm and an optional display opening



## Aluminum terminal enclosures E Ex e II T6



- Empty enclosures with EC-type examination certificate for individual fittings
- Terminal enclosure for increased safety and intrinsically safe protection
- Robust aluminum diecast enclosure in standard or flange type

### Included in delivery

**Empty enclosure:** Enclosure with silicone seal and external ground connection

**Terminal enclosure:** Enclosure system - depending on version either with silicone seal, external ground connection, DIN rails, internal ground connection, terminals, manufacturing, cable glands.



**ATEX** 

PTB

### Technical Data

|                                                                                                |                                                                   |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Explosion protection                                                                           | EEx e II T6 (increased safety)                                    |
|  II 2 G / 2 D | EEx ia IIC T6 (intrinsic safety)                                  |
|                                                                                                | EEx e(ia) IIC T6 (mixed fitting)                                  |
|                                                                                                | Temperature class T5 and T4 on request                            |
| Certificates                                                                                   | Empty enclosure: PTB 98 ATEX 3101U                                |
|                                                                                                | Terminal enclosure: PTB 00 ATEX 1063                              |
| Material                                                                                       | Aluminum diecast AlSi 12                                          |
| Painting                                                                                       | Powdercoating                                                     |
| Color                                                                                          | Gray, similar to RAL 7001                                         |
| Ingress protection                                                                             | IP 66, EN 60529                                                   |
| Impact resistance                                                                              | >7 Nm, EN 50014                                                   |
| Temperature range of application acc. EN                                                       | -20°F to +104°F (corresponds T6 = 185°F max. surface temperature) |
|                                                                                                | -20°F to +131°F (corresponds T5 = 212°F max. surface temperature) |
|                                                                                                | -20°F to +195°F (corresponds T4 = 275°F max. surface temperature) |
|                                                                                                | Temperature to -67°F with special marking on request              |

| Part Number                           | Part Number                            | Part Number                              | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H | Part Number                           | Part Number                            | Part Number                              | Dimensions<br>mm<br>W x L x H | Dimensions<br>Inches<br>W x L x H |
|---------------------------------------|----------------------------------------|------------------------------------------|-------------------------------|-----------------------------------|---------------------------------------|----------------------------------------|------------------------------------------|-------------------------------|-----------------------------------|
| Ex-e version<br>EN 50014/<br>EN 50019 | Ex-ia version<br>EN 50014/<br>EN 50020 | Empty enclosure<br>EN 50014/<br>EN 50019 |                               |                                   | Ex-e version<br>EN 50014/<br>EN 50019 | Ex-ia version<br>EN 50014/<br>EN 50020 | Empty enclosure<br>EN 50014/<br>EN 50019 |                               |                                   |
| 05060603 00                           | 15060603 00                            | 25060603 00                              | 64 x 58 x 34                  | 2.52 x 2.28 x 1.34                | 05165609 00                           | 15165609 00                            | 25165609 00                              | 160 x 560 x 90                | 6.30 x 22.04 x 3.54               |
| 05061003 00                           | 15061003 00                            | 25061003 00                              | 64 x 98 x 34                  | 2.52 x 3.86 x 1.34                | 05181810 00                           | 15181810 00                            | 25181810 00                              | 180 x 180 x 100               | 7.09 x 7.09 x 3.94                |
| 05061503 00                           | 15061503 00                            | 25161503 00                              | 64 x 150 x 34                 | 2.52 x 5.90 x 1.34                | 05182810 00                           | 15182810 00                            | 25182810 00                              | 180 x 280 x 100               | 7.09 x 11.02 x 3.94               |
| 05080806 00                           | 15080806 00                            | 25080806 00                              | 80 x 75 x 57                  | 3.15 x 2.95 x 2.24                | 05231011 00                           | 15231011 00                            | 25231011 00                              | 100 x 230 x 110               | 3.94 x 9.05 x 4.33                |
| 05081306 00                           | 15081306 00                            | 25081306 00                              | 80 x 125 x 57                 | 3.15 x 4.92 x 2.24                | 05232011 00                           | 15232011 00                            | 25232011 00                              | 230 x 200 x 110               | 9.05 x 7.87 x 4.33                |
| 05081806 00                           | 15081806 00                            | 25081806 00                              | 80 x 175 x 57                 | 3.15 x 6.89 x 2.24                | 05232018 00                           | 15232018 00                            | 25232018 00                              | 230 x 200 x 180               | 9.05 x 7.87 x 7.09                |
| 05082505 00                           | 15082505 00                            | 25082505 00                              | 80 x 250 x 52                 | 3.15 x 9.84 x 2.24                | 05232811 00                           | 15232811 00                            | 25232811 00                              | 230 x 280 x 110               | 9.05 x 11.02 x 4.33               |
| 05101008 00                           | 15101008 00                            | 25101008 00                              | 100 x 100 x 80                | 3.94 x 3.94 x 3.15                | 05233311 00                           | 15233311 00                            | 25233311 00                              | 230 x 330 x 110               | 9.05 x 12.99 x 4.33               |
| 05101608 00                           | 15101608 00                            | 25101608 00                              | 100 x 160 x 80                | 3.94 x 6.30 x 3.15                | 05233318 00                           | 15233318 00                            | 25233318 00                              | 230 x 330 x 180               | 9.05 x 12.99 x 7.09               |
| 05102008 00                           | 15102008 00                            | 25102008 00                              | 100 x 200 x 80                | 3.94 x 7.87 x 3.15                | 05234011 00                           | 15234011 00                            | 25234011 00                              | 230 x 400 x 110               | 9.05 x 15.75 x 4.33               |
| 05121208 00                           | 15121208 00                            | 25121208 00                              | 120 x 122 x 80                | 4.72 x 4.80 x 3.15                | 05234023 00                           | 15234023 00                            | 25234023 00                              | 230 x 400 x 224               | 9.05 x 15.75 x 8.82               |
| 05121209 00                           | 15121209 00                            | 25121209 00                              | 120 x 122 x 90                | 4.72 x 4.80 x 3.54                | 05236011 00                           | 15236011 00                            | 25236011 00                              | 230 x 600 x 110               | 9.05 x 23.62 x 4.33               |
| 05122208 00                           | 15122208 00                            | 25122208 00                              | 120 x 220 x 80                | 4.72 x 8.66 x 3.15                | 05314011 00                           | 15314011 00                            | 25314011 00                              | 310 x 400 x 110               | 12.20 x 15.75 x 4.33              |
| 05122209 00                           | 15122209 00                            | 25122209 00                              | 120 x 220 x 90                | 4.72 x 8.66 x 3.54                | 05314014 00                           | 15314014 00                            | 25314014 00                              | 310 x 400 x 140               | 12.20 x 15.75 x 5.51              |
| 05123608 00                           | 15123608 00                            | 25123608 00                              | 120 x 360 x 80                | 4.72 x 14.17 x 3.15               | 05314018 00                           | 15314018 00                            | 25314018 00                              | 310 x 400 x 180               | 12.20 x 15.75 x 7.09              |
| 05141409 00                           | 15141409 00                            | 25141409 00                              | 140 x 140 x 90                | 5.51 x 5.51 x 3.54                | 05314023 00                           | 15314023 00                            | 25314023 00                              | 310 x 400 x 230               | 12.20 x 15.75 x 9.05              |
| 04142009 00                           | 15142009 00                            | 25142009 00                              | 140 x 200 x 90                | 5.51 x 7.87 x 3.54                | 05316011 00                           | 15316011 00                            | 25316011 00                              | 310 x 600 x 110               | 12.20 x 23.62 x 4.33              |
| 05161609 00                           | 15161609 00                            | 25161609 00                              | 160 x 160 x 90                | 6.30 x 6.30 x 3.54                | 05316018 00                           | 15316018 00                            | 25316018 00                              | 310 x 600 x 180               | 12.20 x 23.62 x 7.09              |
| 05162609 00                           | 15162609 00                            | 25162609 00                              | 160 x 260 x 90                | 6.30 x 10.24 x 3.54               | 05606020 00                           | 15606020 00                            | 25606020 00                              | 600 x 600 x 200               | 23.62 x 23.62 x 7.87              |
| 05163609 00                           | 15163609 00                            | 25163609 00                              | 160 x 360 x 90                | 6.30 x 14.17 x 3.54               |                                       |                                        |                                          |                               |                                   |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- Fiberglass enclosure with graphite added to reduce surface static
- Terminal enclosure for increased safety and intrinsically safe protection
- Empty enclosure for individual fittings with EG increased safeguard

## Included in delivery

**Empty enclosure:** Enclosure system with silicone seal

**Terminal enclosure:** Enclosure system - depending on version either with silicone seal, DIN rails, internal grounding connection, terminals, continuity plate, manufacturing, cable glands.



**ATEX** Ex

PTB

## Technical Data

|                                  |                                                                   |
|----------------------------------|-------------------------------------------------------------------|
| Explosion protection             | EEx e II T6 (increased safety)                                    |
| Ex II 2 G / 2 D                  | EEx ia IIC T6 (intrinsic safety)                                  |
|                                  | EEx e(ia) IIC T6 (mixed fitting)                                  |
|                                  | Temperature classes T5 and T4 on request                          |
| Certificates                     | Empty enclosure: PTB 01 ATEX 1061U                                |
|                                  | Terminal enclosure: PTB 00 ATEX 1002                              |
| Material                         | Glassfiber-reinforced duroplastic Polyester, graphite added       |
| Color                            | Black, similar to RAL 9011                                        |
| Ingress protection               | IP 66, EN 60529                                                   |
| Impact resistance                | >7 Nm, EN 50014                                                   |
| Flammability                     | self-extinguishing, UL 94/V0                                      |
| Surface resistance               | <10 <sup>9</sup> Ohm, EN 50014                                    |
| Water absorption                 | max. 0.7%, ASTM D570                                              |
| Toxicity                         | Halogen free                                                      |
| Temperature range of application | -4°F to +104°F (corresponds T6 = 185°F max. surface temperature)  |
| acc. EN                          | -20°F to +131°F (corresponds T5 = 212°F max. surface temperature) |
|                                  | Temperature to -67°F with special marking on request              |

| Part Number                           | Part Number                            | Part Number                              | Dimensions mm<br>W x L x H | Dimensions Inches<br>W x L x H | Part Number                           | Part Number                            | Part Number                              | Dimensions mm<br>W x L x H | Dimensions Inches<br>W x L x H |
|---------------------------------------|----------------------------------------|------------------------------------------|----------------------------|--------------------------------|---------------------------------------|----------------------------------------|------------------------------------------|----------------------------|--------------------------------|
| Ex-e version<br>EN 50014/<br>EN 50019 | Ex-ia version<br>EN 50014/<br>EN 50020 | Empty enclosure<br>EN 50014/<br>EN 50019 |                            |                                | Ex-e version<br>EN 50014/<br>EN 50019 | Ex-ia version<br>EN 50014/<br>EN 50020 | Empty enclosure<br>EN 50014/<br>EN 50019 |                            |                                |
| 06080806 00                           | 16080806 00                            | 26080806 00                              | 75 x 80 x 55               | 2.95 x 3.15 x 2.16             | 06161609 00                           | 16161609 00                            | 26161609 00                              | 160 x 160 x 90             | 6.30 x 6.30 x 3.54             |
| 06080808 00                           | 16080808 00                            | 26080808 00                              | 75 x 80 x 75               | 3.95 x 3.15 x 2.95             | 06162609 00                           | 16162609 00                            | 26162609 00                              | 160 x 260 x 90             | 6.30 x 10.24 x 3.54            |
| 06081106 00                           | 16081106 00                            | 26081106 00                              | 75 x 110 x 55              | 2.95 x 4.33 x 2.16             | 06163609 00                           | 16163609 00                            | 26163609 00                              | 160 x 360 x 90             | 6.30 x 14.17 x 3.54            |
| 06081108 00                           | 16081108 00                            | 26081108 00                              | 75 x 110 x 75              | 2.95 x 4.33 x 2.95             | 06165609 00                           | 16165609 00                            | 26165609 00                              | 160 x 560 x 90             | 6.30 x 22.05 x 3.54            |
| 06081606 00                           | 16081606 00                            | 26081606 00                              | 75 x 160 x 55              | 2.95 x 6.30 x 2.16             | 06252612 00                           | 16252612 00                            | 26252612 00                              | 250 x 255 x 120            | 9.84 x 10.04 x 4.72            |
| 06081608 00                           | 16081608 00                            | 26081608 00                              | 75 x 160 x 75              | 2.95 x 6.30 x 2.95             | 06252616 00                           | 16252616 00                            | 26252616 00                              | 250 x 255 x 160            | 9.84 x 10.04 x 6.30            |
| 06081906 00                           | 16081906 00                            | 26081906 00                              | 75 x 190 x 55              | 2.95 x 7.48 x 2.16             | 06254012 00                           | 16254012 00                            | 26254012 00                              | 250 x 400 x 120            | 9.84 x 15.75 x 4.72            |
| 06081908 00                           | 16081908 00                            | 26081908 00                              | 75 x 190 x 75              | 2.95 x 7.48 x 2.95             | 06254016 00                           | 16254016 00                            | 26254016 00                              | 250 x 400 x 160            | 9.84 x 15.75 x 6.30            |
| 06082306 00                           | 16082306 00                            | 26082306 00                              | 75 x 230 x 55              | 2.95 x 9.05 x 2.16             | 06256012 00                           | 16256012 00                            | 26256012 00                              | 250 x 600 x 120            | 9.84 x 23.62 x 4.72            |
| 06082308 00                           | 16082308 00                            | 26082308 00                              | 75 x 230 x 75              | 2.95 x 9.05 x 2.95             | 06363609 00                           | 16363609 00                            | 26363609 00                              | 360 x 360 x 90             | 14.17 x 14.17 x 3.54           |
| 06121209 00                           | 16121209 00                            | 26121209 00                              | 120 x 122 x 90             | 4.72 x 4.80 x 3.54             | 06414012 00                           | 16414012 00                            | 26414012 00                              | 405 x 400 x 120            | 15.94 x 15.75 x 4.72           |
| 06122209 00                           | 16122209 00                            | 26122209 00                              | 120 x 220 x 90             | 4.72 x 8.66 x 3.54             |                                       |                                        |                                          |                            |                                |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- Polyester enclosure with graphite added with external flanges
- Empty enclosure for individual fittings with EG increased safeguard
- Terminal enclosure for increased safety and intrinsic safety
- Optional version with window

## Included in delivery

**Empty enclosure:** Enclosure with silicone seal

**Terminal enclosure:** Enclosure system - depending on version either with silicone seal, continuity plate, DIN rails, internal grounding connection, terminals, manufacturing, cable glands



**ATEX**

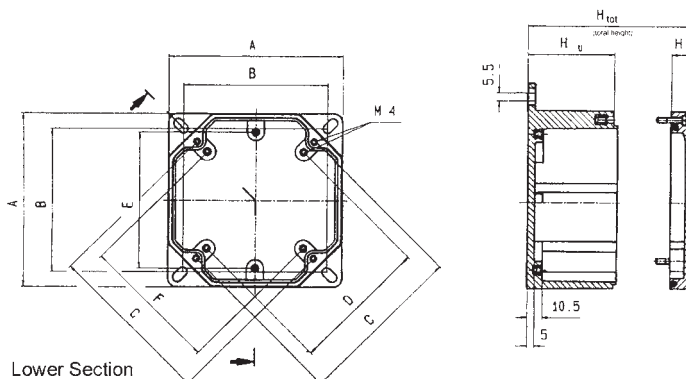
PTB

## Technical Data

|                                          |                                                                   |
|------------------------------------------|-------------------------------------------------------------------|
| Explosion protection                     | EEx e II T6 (increased safety)                                    |
| II 2 G / 2 D                             | EEx ia IIC T6 (intrinsic safety)                                  |
|                                          | EEx e(ia) IIC T6 (mixed fitting)                                  |
|                                          | Temperature classes T5 and T4 on request                          |
| Certificates                             | Empty enclosure: PTB 01 ATEX 1061U                                |
|                                          | Terminal enclosure: PTB 00 ATEX 1002                              |
| Material                                 | Glassfiber-reinforced duroplastic Polyester, graphite added       |
| Color                                    | Black, similar to RAL 9011                                        |
| Ingress protection                       | IP 66, EN 60529                                                   |
| Impact resistance                        | >7 Nm, EN 50014                                                   |
| Flammability                             | self-extinguishing UL 94 V0                                       |
| Surface resistance                       | >10 <sup>9</sup> Ohm, EN 50014                                    |
| Water absorption                         | max. 0.7%, ASTM D570                                              |
| Toxicity                                 | Halogen free                                                      |
| Weather resistance                       | UV stabilized                                                     |
| Temperature range of application acc. EN | -40°F to +104°F (corresponds T6 = 185°F max. surface temperature) |
|                                          | -40°F to +131°F (corresponds T5 = 212°F max. surface temperature) |
|                                          | Temperature to -67°F with special marking on request              |

| Part Number  | Part Number   | Part Number     | Dimensions     | Dimensions         |
|--------------|---------------|-----------------|----------------|--------------------|
| Ex-e version | Ex-ia version | Empty enclosure | mm             | Inches             |
| EN 50019     | EN 50020      | EN 50019        | W x L x H      | W x L x H          |
| 06880100 00  | 16880100 00   | 26880100 00     | 80 x 80 x 70   | 3.15 x 3.15 x 2.75 |
| 06880200 00  | 16880200 00   | 26880200 00     | 120 x 120 x 75 | 4.72 x 4.72 x 2.95 |
| 06880300 00  | 16880300 00   | 26880300 00     | 160 x 160 x 93 | 6.30 x 6.30 x 3.66 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



| Part Number | A   | B   | C   | D   | E  | F  | H <sub>u</sub> | H <sub>D</sub> | H <sub>tot</sub> |
|-------------|-----|-----|-----|-----|----|----|----------------|----------------|------------------|
| 06880100 00 | 81  | 68  | 73  | -   | 59 | -  | 60.5           | 15             | 75.5             |
| 16880100 00 | 81  | 68  | 73  | -   | 59 | -  | 60.5           | 15             | 75.5             |
| 26880100 00 | 81  | 68  | 73  | -   | 59 | -  | 60.5           | 15             | 75.5             |
| 06880200 00 | 121 | 100 | 118 | 92  | 92 | -  | 60.5           | 15             | 75.5             |
| 16880200 00 | 121 | 100 | 118 | 92  | 92 | -  | 60.5           | 15             | 75.5             |
| 26880200 00 | 121 | 100 | 118 | 92  | 92 | -  | 60.5           | 15             | 75.5             |
| 06880300 00 | 161 | 140 | 175 | 132 | 99 | 99 | 73             | 20             | 93               |
| 16880300 00 | 161 | 140 | 175 | 132 | 99 | 99 | 73             | 20             | 93               |
| 26880200 00 | 161 | 140 | 175 | 132 | 99 | 99 | 73             | 20             | 93               |

- Terminal enclosure for increased safety and intrinsically safe protection
- Empty enclosure for individual fittings with EC-type examination certificate
- High quality stainless steel (1.4404)

## Included in delivery

**Empty enclosure:** Enclosure with silicone/PUR seal and external ground connection.

**Terminal enclosure:** Enclosure system depending on version either with silicone/PUR seal, continuity plate, DIN rails, internal ground connection, terminals, manufacturing, cable glands.



**ATEX**

PTB

## Technical Data

|                                          |                                                                   |
|------------------------------------------|-------------------------------------------------------------------|
| Explosion protection                     | EEx e II T6 (increased safety)                                    |
| II 2 G / 2 D                             | EEx ia IIC T6 (intrinsic safety)                                  |
|                                          | EEx e(ia) IIC T6 (mixed fitting)                                  |
|                                          | Temperature class T5 and T4 on request                            |
| Certificates                             | Empty enclosure: PTB 01 ATEX 1101U                                |
|                                          | Terminal enclosure: PTB 00 ATEX 1052                              |
| Material                                 | Stainless steel 1.25 mm or 1.5 mm 1.4404 / 316L                   |
| Surface                                  | Polished grain 240                                                |
| Ingress protection                       | IP 66 EN 60529                                                    |
| Impact resistance                        | >7 Nm, EN 50014                                                   |
| Temperature range of application acc. EN | -40°F to +104°F (corresponds T6 = 185°F max. surface temperature) |
|                                          | -40°F to +131°F (corresponds T5 = 212°F max. surface temperature) |
|                                          | -40°F to +194°F (corresponds T4 = 275°F max. surface temperature) |
|                                          | Temperature to -67°F with special marking on request              |

| Part Number  | Part Number   | Part Number     | Dimensions mm   | Dimensions Inches    |
|--------------|---------------|-----------------|-----------------|----------------------|
| Ex-e version | Ex-ia version | Empty enclosure | W x L x H       | W x L x H            |
| 35101006 00  | 36101006 00   | 34101006 00     | 100 x 100 x 61  | 3.94 x 3.94 x 2.40   |
| 35151006 00  | 36151006 00   | 34151006 00     | 150 x 100 x 61  | 5.90 x 3.94 x 2.40   |
| 35151508 00  | 36151508 00   | 34151508 00     | 150 x 150 x 81  | 5.90 x 5.90 x 3.19   |
| 35201006 00  | 36201006 00   | 34201006 00     | 200 x 100 x 61  | 7.87 x 3.94 x 2.40   |
| 35202008 00  | 36202008 00   | 34202008 00     | 200 x 200 x 81  | 7.87 x 7.87 x 3.19   |
| 35202012 00  | 36202012 00   | 34202012 00     | 200 x 200 x 121 | 7.87 x 7.87 x 4.76   |
| 35301508 00  | 36301508 00   | 34301508 00     | 300 x 150 x 81  | 11.81 x 5.90 x 3.19  |
| 35302008 00  | 36302008 00   | 34302008 00     | 300 x 200 x 81  | 11.81 x 7.87 x 3.19  |
| 35302012 00  | 36302012 00   | 34302012 00     | 300 x 200 x 121 | 11.81 x 7.87 x 4.76  |
| 35303012 00  | 36303012 00   | 34303012 00     | 300 x 300 x 121 | 11.81 x 11.81 x 4.76 |
| 35303016 00  | 36303016 00   | 34303016 00     | 300 x 300 x 161 | 11.81 x 11.81 x 6.34 |
| 35383816 00  | 36383816 00   | 34383816 00     | 380 x 380 x 151 | 14.96 x 14.96 x 5.94 |
| 35401508 00  | 36401508 00   | 34401508 00     | 400 x 150 x 81  | 15.75 x 5.90 x 3.19  |
| 35402012 00  | 36402012 00   | 34402012 00     | 400 x 200 x 121 | 15.75 x 7.87 x 4.76  |
| 35403016 00  | 36403016 00   | 34403016 00     | 400 x 300 x 161 | 15.75 x 11.81 x 6.34 |
| 35503016 00  | 36503016 00   | 34503016 00     | 500 x 300 x 161 | 19.68 x 11.81 x 6.34 |
| 35504016 00  | 36504016 00   | 34504016 00     | 500 x 400 x 161 | 19.68 x 15.75 x 6.34 |
| 35602012 00  | 36602012 00   | 34602012 00     | 600 x 200 x 121 | 23.62 x 7.87 x 4.76  |
| 35999999 00  | 36999999 00   | 34999999 00     | Special size    | Special size         |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

|                                         |             |
|-----------------------------------------|-------------|
| External brackets (4 pieces)            | 31105000 00 |
| Mounting set (gaskets, nuts and screws) | 37990001 00 |
| External hinge set (2 pieces)           | 37000002 00 |

- Enclosure with EC-type examination certificate for individual fittings
- Stainless steel enclosure with terminals for increased safety and intrinsically protection
- High-quality stainless steel version with covered hinges and double ward lock
- Optional flange break outs

## Included in delivery

**Empty enclosure:** Enclosure with hinged lid, double ward lock, silicone/PUR-seal and external ground connection.

**Terminal enclosure:** Depending on design with hinged lid, double ward lock, silicone/PUR-seal, external ground, DIN rail, internal ground connection, terminals, manufacturing, cable glands.



**ATEX**

PTB

## Technical Data

|                                          |                                                                   |
|------------------------------------------|-------------------------------------------------------------------|
| Explosion protection                     | EEx e II T6 (increased safety)                                    |
| II 2 G / 2 D                             | EEx ia IIC T6 (intrinsic safety)                                  |
|                                          | EEx e(ia) IIC T6 (mixed fitting)                                  |
|                                          | Temperature class T5 and T4 on request                            |
| Certificates                             | Empty enclosure: PTB 01 ATEX 1101U                                |
|                                          | Terminal enclosure: PTB 00 ATEX 1052                              |
| Material                                 | Stainless steel 1.25 mm or 1.5 mm 1.4301 / 304                    |
| Surface                                  | Polished grain 240                                                |
| Ingress protection                       | IP 66 EN 60529                                                    |
| Impact resistance                        | >7 Nm, EN 50014                                                   |
| Temperature range of application acc. EN | -40°F to +104°F (corresponds T6 = 185°F max. surface temperature) |
|                                          | -40°F to +131°F (corresponds T5 = 212°F max. surface temperature) |
|                                          | -40°F to +194°F (corresponds T4 = 275°F max. surface temperature) |
|                                          | Temperature to -67°F with special marking on request              |

| Part Number  | Part Number   | Part Number     | Dimensions mm   | Dimensions Inches    |
|--------------|---------------|-----------------|-----------------|----------------------|
| Ex-e version | Ex-ia version | Empty enclosure | W x L x H       | W x L x H            |
| 35002209 00  | 36002209 00   | 34002209 00     | 200 x 250 x 90  | 7.87 x 9.84 x 3.54   |
| 35002215 00  | 36002215 00   | 34002215 00     | 200 x 250 x 150 | 7.87 x 9.84 x 5.90   |
| 35003316 00  | 36003316 00   | 34003316 00     | 300 x 300x 167  | 11.81 x 11.81 x 6.57 |
| 35003209 00  | 36003209 00   | 34003209 00     | 350 x 250 x 90  | 13.78 x 9.84 x 3.54  |
| 35004416 00  | 36004416 00   | 34004416 00     | 380 x 380 x 167 | 14.96 x 14.96 x 6.57 |
| 35004421 00  | 36004421 00   | 34004421 00     | 380 x 380 x 215 | 14.96 x 14.96 x 8.46 |
| 35005316 00  | 36005316 00   | 34005316 00     | 500 x 300 x 167 | 19.68 x 11.81 x 6.57 |
| 35006316 00  | 36006316 00   | 34006316 00     | 600 x 300 x 167 | 23.62 x 11.81 x 6.57 |
| 35006421 00  | 36006421 00   | 34006421 00     | 300 x 380 x 215 | 23.62 x 14.96 x 8.46 |
| 35009999 00  | 36009999 00   | 34009999 00     | Special size    | Special size         |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

|                                         |             |
|-----------------------------------------|-------------|
| External brackets (4 pieces)            | 37105000 00 |
| Mounting set (gaskets, nuts and screws) | 37990001 00 |

- Hand enclosure for potentially explosive environments
- 3 enclosure sizes 180, 220, 380 mm
- Optionally with display opening

## Included in delivery

Lid, base and enclosure screws. See options below.



**ATEX<sub>Ex</sub>**

PTB

## Technical Data

|                      |                                    |
|----------------------|------------------------------------|
| Explosion protection | Ex II 2 G / EEx e II               |
| Certificates         | Empty enclosure: PTB 02 ATEX 1076U |
| Material             | Polyamide 12                       |
| Surface resistance   | <10 <sup>9</sup> Ohm to EN 50014   |
| Flammability         | UL 94 HB                           |
| Color                | Black, similar to RAL 9005         |
| Ingress protection   | IP 65, EN 60529                    |
| Impact resistance    | >7 Nm, EN 50014                    |
| Temperature range    | -4°F to +140°F                     |



**Beluga 180**

Consisting of top and bottom part, enclosure and board mounting screws, sealing ring, tongue-and-groove system with integrated seal. Open version comes complete with display screen and safety glass. Max. display board dimensions approximately 74 x 56.4 mm or 80 x 54 mm.



**Beluga 220**

Consisting of top and bottom part, enclosure and board mounting screws, sealing rings, tongue-and-groove system with integral seal. Open version comes complete with display screen and safety glass. Max. display board dimensions approximately 84 x 74.5 mm or 86 x 70.5 mm.



**Beluga 380**

Consisting of top part with seal, bottom part with hang-up set-up, enclosure and board mounting screws, sealing rings, tongue-and-groove system with integrated seal.

| Enclosure Type | Part Number | Version | Dimensions mm<br>W x L x H | Dimensions Inches<br>W x L x H | Weight lbs. |
|----------------|-------------|---------|----------------------------|--------------------------------|-------------|
| Beluga 180 O   | 28020200 00 | open    | 106/75 x 187 x 50          | 4.17/2.95 x 7.36 x 1.97        | 0.35        |
| Beluga 180 G   | 28020201 00 | closed  | 106/75 x 187 x 50          | 4.72/2.95 x 7.36 x 1.97        | 0.37        |
| Beluga 220 O   | 28020400 00 | open    | 116/85 x 220 x 51          | 4.57/3.35 x 8.66 x 2.00        | 0.44        |
| Beluga 220 G   | 28020401 00 | closed  | 116/85 x 220 x 51          | 4.57/3.35 x 8.66 x 2.00        | 0.46        |
| Beluga 380     | 28020501 00 | closed  | 380 x 117 x 68             | 14.96 x 4.61 x 2.68            | 1.15        |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



Machine control enclosures are used for machine operation. These complex modules, from a simple emergency stop switch up to complete industrial PCs or CNC controllers, must be adapted to the rough environmental conditions placed on the machines. ROSE operating and display enclosures ensure guaranteed protection for built-in electronic components and offer the very best in operator comfort.



### **Machine Control**

For stationary application areas and fitting of controllers and industrial PCs, the ROSE range offers a variety of enclosure types with more than 140 individual solutions, depending on controller size and construction. If your individual solution is not available here, please contact us.

### **Suspension Arm Systems**

Suspension systems link control enclosures with the respective machine. In addition to covering cable routing, they have the task of facilitating optimal positioning of the control enclosure for the user. For this reason we offer a variety of turning knuckles, inclination sets and coupling pieces. The selection of a suitable system depends on the weight and construction of the completely equipped control enclosure.

## 1300 Machine Control



- Small machine control enclosure in aluminum with protective bumper bars
- Membrane Lid Versions: small machine control enclosure in aluminum with front frame for front panel and keypads
- Robust aluminum diecast enclosure body with front panel
- Transparent cover and handle sets (optional)

### Included in delivery

Unpainted diecast aluminum base and bezel.

**Membrane Lid Versions:** Aluminum front plate - 1F membrane, unpainted base for 1F membrane style, bezel designed for membrane front panel.

**Please order front panel separately.**



## Technical Data

|                    |                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Material           | Enclosure body, die cast aluminum, Al Si 12. Bezel, die cast aluminum Al Si 12.<br>Front panel, anodized sheet aluminum, 3mm thick |
| Ingress Protection | IP 65 to EN 60529                                                                                                                  |
| Impact Resistance  | >7Nm, EN 50014                                                                                                                     |
| Seal               | Neoprene                                                                                                                           |
| Temperature Range  | -40°F to +194°F                                                                                                                    |
| Color              | Body, agate gray, similar to RAL 7038. Bezel, transport gray, similar to RAL 7043. Special colors on request.                      |

| Part Number | Dimensions<br>mm | Dimensions<br>Inches | Front Panel | Handle Mounting Options |   |   |   | Ext. hinges<br>diecast aluminum<br>swiveling<br>range 150° | Int. hinges<br>stainless steel<br>swiveling<br>range 150° | Mounting<br>plates sheet<br>steel, non-<br>corrosive | DIN rails<br>non-<br>corrosive<br>TS 35 | Silicone<br>lid seal,<br>resistant up<br>to 130° | Transparent<br>Covers | Turn bolt<br>lock |
|-------------|------------------|----------------------|-------------|-------------------------|---|---|---|------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------|-----------------------------------------|--------------------------------------------------|-----------------------|-------------------|
|             | W x L x H        | W x L x H            |             | A                       | B | C | D |                                                            |                                                           |                                                      |                                         |                                                  |                       |                   |
| 13050000 00 | 230 x 100 x 128  | 9.05 x 3.94 x 5.04   | 10013005 00 | -                       | - | - | - | •                                                          | •                                                         | •                                                    | •                                       | •                                                | -                     | •                 |
| 13070000 00 | 260 x 160 x 108  | 10.23 x 6.30 x 4.25  | 10013007 00 | -                       | - | - | - | •                                                          | •                                                         | •                                                    | •                                       | •                                                | -                     | •                 |
| 13080000 00 | 360 x 160 x 108  | 14.17 x 6.30 x 4.25  | 10013008 00 | -                       | - | - | - | •                                                          | •                                                         | •                                                    | •                                       | •                                                | -                     | •                 |
| 13090000 00 | 560 x 160 x 108  | 22.05 x 6.30 x 4.25  | 10013009 00 | -                       | - | - | - | •                                                          | •                                                         | •                                                    | •                                       | •                                                | -                     | •                 |
| 13100000 00 | 230 x 200 x 128  | 9.05 x 7.87 x 5.04   | 10013010 00 | •                       | • | - | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13110000 00 | 230 x 200 x 198  | 9.05 x 7.87 x 7.79   | 10013010 00 | •                       | • | - | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13120000 00 | 230 x 330 x 128  | 9.05 x 12.99 x 5.04  | 10013012 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13130000 00 | 230 x 330 x 198  | 9.05 x 12.99 x 7.79  | 10013012 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13140000 00 | 230 x 400 x 128  | 9.05 x 15.75 x 5.04  | 10013014 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13150000 00 | 230 x 400 x 242  | 9.05 x 15.75 x 9.53  | 10013014 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13160000 00 | 230 x 600 x 128  | 9.05 x 23.62 x 5.04  | 10013016 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13170000 00 | 230 x 280 x 130  | 9.05 x 11.02 x 5.12  | 10013017 00 | •                       | • | - | - | •                                                          | •                                                         | •                                                    | •                                       | •                                                | -                     | •                 |
| 13200000 00 | 310 x 400 x 128  | 12.20 x 15.75 x 5.04 | 10013020 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13210000 00 | 310 x 400 x 198  | 12.20 x 15.75 x 7.79 | 10013020 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13220000 00 | 310 x 600 x 128  | 12.20 x 23.62 x 5.04 | 10013022 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13230000 00 | 310 x 600 x 198  | 12.20 x 23.62 x 7.79 | 10013022 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13240000 00 | 310 x 400 x 244  | 12.20 x 15.75 x 9.61 | 10013020 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |
| 13250000 00 | 310 x 400 x 158  | 12.20 x 15.75 x 6.22 | 10013020 00 | •                       | • | • | • | •                                                          | •                                                         | •                                                    | •                                       | •                                                | •                     | •                 |

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Membrane Lid Version available. Call your factory representative for more information.



## Slim Line 2000



- Enclosure system for control and display fittings
- Variable size available in width and depth
- All-round adaptation capabilities for accessories
- Front panel insertion from front and rear

### Included in delivery

**Profile 1:** Extruded aluminum, 80 mm max. mounting depth

**Profile 2:** Extruded aluminum, 100 mm max. mounting depth

**Profile 3:** Extruded aluminum, 185 mm max. mounting depth



## Technical Data

|                    |                                                                                                                                                                                                                 |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material           | Enclosure profile: extruded aluminum, Al Mg Si 0.5 DIN 1725<br>Corner elements: diecast aluminum, Al Si 12 DIN 1725<br>Rear panel door: sheet metal, Al Mg 3, DIN 1725<br>Cover profile: thermoplastic material |
| Ingress Protection | IP 65 to EN 60529, NEMA 12                                                                                                                                                                                      |
| Temperature Range  | -22°F to +176°F                                                                                                                                                                                                 |
| Color              | Enclosure: light gray, similar to RAL 7035<br>Handles: ruby red, similar to RAL 3003                                                                                                                            |

| Item Number      | Description                                     |
|------------------|-------------------------------------------------|
| <b>Profile 1</b> | Extruded aluminum, 80mm maximum mounting depth  |
| <b>Profile 2</b> | Extruded aluminum, 110mm maximum mounting depth |
| <b>Profile 3</b> | Extruded aluminum, 185mm maximum mounting depth |

### Accessories

| Part Number | Description                                                                                                   |
|-------------|---------------------------------------------------------------------------------------------------------------|
| 19590020 00 | Standard linking bar, one meter length, for split panels                                                      |
| 19601004 00 | Keyboard holder                                                                                               |
| 19601008 00 | Set of 2 hinges with screws                                                                                   |
| 19601001 00 | Panel mounting set with 12 screws, spring nuts, brackets                                                      |
| 19601002 00 | Fastening set 30 spring nuts, brackets, screws                                                                |
| 19601007 00 | Quick fastening kit for front plate                                                                           |
| 10036001 00 | Set of M5 mounting nuts (8 pieces)                                                                            |
| 19590011 00 | Console mounting kit, 15° fixed                                                                               |
| 19590012 00 | Console mounting kit, 30° fixed                                                                               |
| 19590013 00 | Console mounting kit, adjustable                                                                              |
| 19601005 00 | Floppy disk drive mounting bay                                                                                |
| 19602004 00 | Handle set (1 handle with brackets), 301 mm long for side attachment                                          |
| 19602005 00 | Handle set (1 handle with brackets), 345 mm long for side attachment                                          |
| 19602006 00 | Handle set (1 handle with brackets), 472 mm long for side attachment                                          |
| 19602002 00 | Corner handle set: one L-shaped handle with brackets; three 556/395mm asymmetrical for side/bottom attachment |

### Coupling Adapters for Suspension Arm System 4945, 4949, 4951, 4961, 1981

| ItemNumber  | Description                                  |
|-------------|----------------------------------------------|
| 19602003 00 | Flange coupling adapter for 80 mm profile 1  |
| 19602011 00 | Flange coupling adapter for 100 mm profile 2 |
| 19602012 00 | Flange coupling adapter for 185 mm profile 3 |

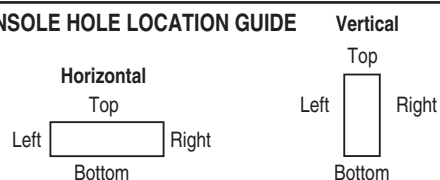
### Coupling Adapters for Suspension Arm System 4945, 4949

| Part Number | Description                                  |
|-------------|----------------------------------------------|
| 19602007 00 | Flange coupling adapter for 110 mm profile 2 |
| 19602008 00 | Flange coupling adapter for 185 mm profile 3 |
| 19602013 00 | Flange coupling adapter for 185 mm profile 3 |

## SL 2000 Ordering Guide

Start at the top of this guide and work down, considering all options required. Circle required options and corresponding part numbers. You will build a 10 digit part number, eg., 19020002 01, plus assembly options. Then, call a Rose+Bopla sales person and they will give you pricing, internal dimensions and coupling hole options for the enclosure you designed.

### CONSOLE HOLE LOCATION GUIDE



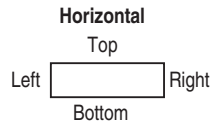
Please Circle All Items Required

NOTE: One Inch equals 25.4 mm

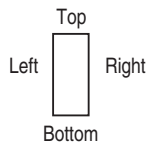
| DESCRIPTION                                                                                                                                                                                                                    | FLANGE COUPLING ADAPTER REQUIRED                                                                                                                                                                                                                    | COUPLING PART NUMBER                                                                           | CONSOLE BOOT LOCATION                                                    | ROSE P.N.                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>COUPLING HOLES</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO<br><b>COUPLING HOLE LOCATION</b><br><b>INSTALL ADAPTER</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO                       | 4945 & 4949 Suspension Systems<br>19602003 - 80mm Profile<br>19602011 - 110mm Profile<br>19602012 - 185mm Profile<br>4951 & 4961 Suspension Systems<br>19602007 - 110mm Profile<br>19602008 - 185mm Profile<br><b>Price of Adapter Not Included</b> |                                                                                                | Top Left<br>Bottom Right<br>N / A                                        | 19                                                                                                                         |
| <b>SELECT PROFILE</b>                                                                                                                                                                                                          | Profile #1 - 80 mm<br>Profile #2 - 110 mm<br>Profile #3 - 185 mm                                                                                                                                                                                    |                                                                                                |                                                                          | 01<br>02<br>03                                                                                                             |
| <b>ENCLOSURE HEIGHT / WIDTH</b><br>Usable Panel Space Required<br>Height: _____ Width: _____<br>Actual Panel Size (Usable Panel Space + 34mm)<br>Height: _____ Width: _____<br>Usable Depth: _____<br>Refer to SL 2000 Drawing | <b>CIRCUMFERENCE</b><br>0 - 1200mm<br>1201 - 1800mm<br>1801 - 2300mm<br>2301 - 2800mm<br>2801 - 3300mm                                                                                                                                              | <b>HEIGHT</b><br>_____ mm<br>_____ mm<br>_____ mm<br>_____ mm<br>_____ mm                      | <b>WIDTH</b><br>_____ mm<br>_____ mm<br>_____ mm<br>_____ mm<br>_____ mm | 0001<br>0002<br>0003<br>0004<br>0005                                                                                       |
|                                                                                                                                                                                                                                | Actual Panel Size + 95.6mm = External Height and Width                                                                                                                                                                                              |                                                                                                |                                                                          |                                                                                                                            |
| <b>DOORS</b>                                                                                                                                                                                                                   | Rear Panel<br>Rear Door                                                                                                                                                                                                                             | Hinge Location, if required (facing the unit).<br>Top Left<br>Bottom Right                     |                                                                          | 00<br>01                                                                                                                   |
| <b>FRONT PANEL (Circle One)</b><br>No Front Panel<br>Clear Anodized<br>Mill Finish / Painted                                                                                                                                   | <b>Install Panel Gasket</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                             | <b>Install Front Panel:</b><br>(Circle One)<br>From Front<br>From Front W / Studs<br>From Rear | <b>YES or NO</b>                                                         |                                                                                                                            |
| <b>MACHINING</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                   | Machine to DWG #                                                                                                                                                                                                                                    |                                                                                                |                                                                          |                                                                                                                            |
| <b>SILK SCREENING</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                              | Silk Screen to DWG #                                                                                                                                                                                                                                |                                                                                                |                                                                          |                                                                                                                            |
| <b>HANDLES</b>                                                                                                                                                                                                                 | <b>Type</b>                                                                                                                                                                                                                                         | <b>Installed</b>                                                                               | <b>Handle Location</b>                                                   |                                                                                                                            |
| <input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                                                                       | Dual Side Handles<br>Corner Handles<br>Console Mounting Kit                                                                                                                                                                                         | Yes - No<br>Yes - No<br>Yes - No                                                               | Horizontal or Vertical                                                   |                                                                                                                            |
|                                                                                                                                                                                                                                | Prices of Handles Not Included                                                                                                                                                                                                                      |                                                                                                |                                                                          |                                                                                                                            |
| <b>INSTALL</b>                                                                                                                                                                                                                 | <b>Front Bezel</b><br><b>Black T-Slot Gasket</b>                                                                                                                                                                                                    | <b>Optional: Keyboard Holder</b>                                                               |                                                                          |                                                                                                                            |
| <b>NOTES OR SPECIAL INSTRUCTIONS:</b>                                                                                                                                                                                          |                                                                                                                                                                                                                                                     |                                                                                                |                                                                          | <b>CONSOLE REQUIRED</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO<br><b>IF YES, PROCEED TO NEXT PAGE</b> |

## SL 2000 Console Ordering Guide

### CONSOLE HOLE LOCATION GUIDE



### Vertical



Start at the top of this guide and work down, considering all options required. Circle required options and corresponding part numbers. You will build a 10 digit Rose part number, eg., 19010001 00, plus assembly options. Then call a Rose+Bopla sales person and they will give you pricing, internal dimensions and coupling hole options for the enclosure you designed.

**Please Circle All Items Required**

NOTE: One Inch equals 25.4 mm

| DESCRIPTION                                                                                                                                                                                        | FIXED CONSOLE MOUNTING KIT                                                                  |                                                                                  | CONSOLE MOUNTING KIT LOCATION                                       | ROSE P.N.      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------|
| <b>CONSOLE MOUNTING KIT-HANDLES</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO<br><b>INSTALL MOUNTING KIT-HANDLES</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO | 19590011 00                                                                                 | 15 Degree Angle                                                                  | Top    Left                                                         | 19             |
|                                                                                                                                                                                                    | 19590012 00                                                                                 | 30 Degree Angle                                                                  | Bottom    Right                                                     |                |
|                                                                                                                                                                                                    | 19590013 00                                                                                 | Variable / Adjustable<br>Price of Mounting Kit Not Included                      |                                                                     |                |
| <b>SELECT PROFILE</b>                                                                                                                                                                              | Profile #1 - 80 mm<br>Profile #2 - 110 mm<br>Profile #3 - 185 mm                            |                                                                                  |                                                                     | 01<br>02<br>03 |
| <b>ENCLOSURE HEIGHT / WIDTH</b>                                                                                                                                                                    | <b>CIRCUMFERENCE</b>                                                                        | <b>HEIGHT</b>                                                                    | <b>WIDTH</b>                                                        |                |
|                                                                                                                                                                                                    | Actual Panel Size + 95.6mm = External Height and Width                                      |                                                                                  |                                                                     |                |
| Usable Panel Space Required<br>Height: _____ Width: _____<br>Actual Panel Size (Usable Panel Space + 34mm)<br>Height: _____ Width: _____<br>Usable Depth: _____<br>Refer to SL 2000 Drawing        | 0 - 1200mm                                                                                  | _____ mm                                                                         | _____ mm                                                            | 0001           |
|                                                                                                                                                                                                    | 1201 - 1800mm                                                                               | _____ mm                                                                         | _____ mm                                                            | 0002           |
|                                                                                                                                                                                                    | 1801 - 2300mm                                                                               | _____ mm                                                                         | _____ mm                                                            | 0003           |
|                                                                                                                                                                                                    | 2301 - 2800mm                                                                               | _____ mm                                                                         | _____ mm                                                            | 0004           |
|                                                                                                                                                                                                    | 2801 - 3300mm                                                                               | _____ mm                                                                         | _____ mm                                                            | 0005           |
| <b>DOORS</b>                                                                                                                                                                                       | Rear Panel<br>Rear Door                                                                     | Hinge Location, if required (facing the unit).<br>Top    Left<br>Bottom    Right |                                                                     | 00<br>01       |
| <b>FRONT PANEL (Circle One)</b><br>No Front Panel<br>Clear Anodized<br>Mill Finish / Painted                                                                                                       | <b>Install Panel Gasket</b><br><br><input type="checkbox"/> YES <input type="checkbox"/> NO | <b>Install Front Panel:</b><br><br>(Circle One)                                  | <b>YES or NO</b><br>From Front<br>From Front W / Studs<br>From Rear |                |
| <b>MACHINING</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                       | Machine to DWG #                                                                            |                                                                                  |                                                                     |                |
| <b>SILK SCREENING</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                  | Silk Screen to DWG #                                                                        |                                                                                  |                                                                     |                |
| <b>HANDLES</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO                                                                                                                         | <b>Type</b><br>Dual Side Handles<br>Corner Handles                                          | <b>Installed</b><br>Yes - No<br>Yes - No                                         | <b>Handle Location</b><br>Horizontal or Vertical                    |                |
| <b>INSTALL</b>                                                                                                                                                                                     | Front Bezel                                                                                 | Black T-Slot Gasket                                                              | Optional: Keyboard Holder                                           |                |
| <b>NOTES OR SPECIAL INSTRUCTIONS:</b>                                                                                                                                                              |                                                                                             |                                                                                  |                                                                     |                |

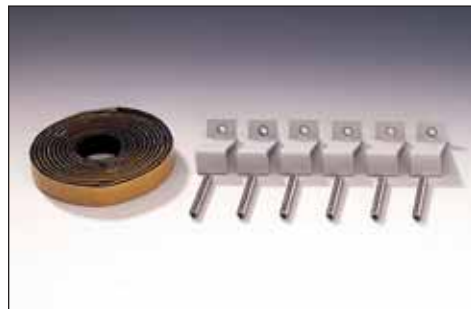
## SL 2000 Ordering Guide Instruction Sheet



1. **Begin to fill in your SL 2000 part number** as 19\_\_ by going down through the SL 2000 Ordering Guide and filling in or circling the required items. You will build a 10-digit part number.
2. **Coupling Hole**—circle yes if you will be using a suspension coupling adapter.
3. **Coupling Hole Location**—select from...top, bottom, left, right. Also circle location guide in top left hand corner of ordering guide sheet.
4. **Install Adapter**—circle yes if you would like us to install the coupling adapter.
5. **Write in the Rose+Bopla flange coupling part number** being used if any.
6. **Select Profile**—your profile choice will depend on your required depth. See drawings and keep in mind that your front plate will affect this choice.
7. **Usable Panel Space**—fill in the usable panel space (in mm) you will need for your control or display panel.
8. **Actual Panel Size**—take your usable space and add 34mm to arrive at this figure.
9. **Usable Depth**—Check your supplied drawings to get this figure. Note: mounting your front plate from the front or rear will affect this dimension.
10. **External Size**—take your actual panel size and add 95.6mm to the height and width to arrive at these circumference dimensions.
11. **Door/Rear Panel**—you have a choice of a screwed-on rear panel or a hinged door. Please circle your choice and also the desired hinge locations.
12. **Front Panel**—Circle your choice of front panel/finish and installation method.
13. **Machining**—Please circle if you would like for us to machine/engrave your panels. If yes, please supply us with your drawing number and fax us a copy for review.
14. **Silkscreen**—Rose+Bopla can provide complete silkscreen services. If you would like this service we will need a drawing for placement and artwork to create the screen.
15. **Handles**—Please provide the part number and location for the handle style you have chosen. Keyboard Holder and Console Mounting Kit are available options. Note: A handle set consists of one handle and the required number of brackets.
16. **Rose+Bopla will install** front bezel material and outside protective rubber unless specified otherwise.
17. **Notes**—please fill in any special notes or instructions for building the unit.
18. **After design review**, a copy of the ordering guide will be faxed to you for final approval and signature.

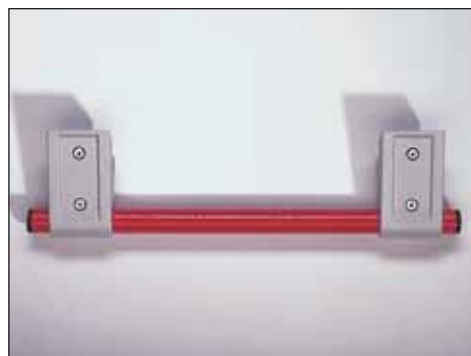
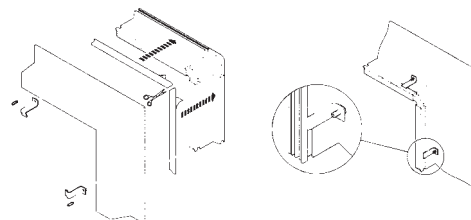
Note: For units with a console, please also fill out the "Console Ordering Guide" using these same guidelines.

## SL 2000 Accessories



**SL Panel Mounting Set** for integrating the SL 2000 into control panels.

**19601000 00** Includes fittings, sealing ring, and screws.



**SL Handle Set** consisting of tube and fittings

**19602002 00** Asymmetrical

**19602004 00** Side Attachment

**19602005 00** Side Attachment

**19602006 00** Side Attachment



## 5400 Machine Control



- Heavy duty aluminum extrusion, self-reinforced with internal ribs and slots
- Choose front and rear panels in either clear anodized aluminum, black anodized aluminum or mill finish aluminum
- Internal gasket protects against dust, water, chips and cutting fluids



### Technical Data

|                            |                                                                                                                                                            |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color                      | Body, doors and rear panel, agate gray, similar to RAL 7038.<br>Corner handles and lock, transport gray, similar to RAL 7043.<br>Custom colors on request. |
| Material                   | Al Si 12, DIN 1725<br>Al Mg 3, DIN 1725<br>Al Mg Si 0.5, DIN 1725                                                                                          |
| Gasket Material            | Neoprene foam rubber                                                                                                                                       |
| Protection Classifications | IP 65 to EN 60529, NEMA 12 including see-through door                                                                                                      |
| Temperature Range          | -40°F to +176°F<br>Transparent door: +14°F to +140°F                                                                                                       |

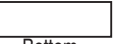
### Panel vs. Enclosure Size

| Panel                  | Description                   |
|------------------------|-------------------------------|
| Working Surface Height | Working Surface Height + 84mm |
| Working Surface Width  | Working Surface Width + 84mm  |
| Visible Surface Height | Visible Surface Height + 75mm |
| Visible Surface Width  | Visible Surface Width + 75mm  |
| Total Height           | Total Height + 48mm           |
| Total Width            | Total Width + 48mm            |

### 5400 Accessory Order Guide

| Part Number | Description                                    |
|-------------|------------------------------------------------|
| 10036001 00 | M5 Captive Nuts for Internal Slots             |
| 10036002 00 | M6 Captive Nuts for Internal Slots             |
| 10033101 00 | Internal Mounting Brackets with nuts and bolts |
|             | Internal Shelf Bracket for 160mm depth         |
|             | Internal Shelf Bracket for 240mm depth         |
|             | Internal Shelf Bracket for 320mm depth         |
|             | Gas Springs for Doors                          |
|             | External Keyboard Tray                         |

## 5400 Ordering Guide

| CONSOLE HOLE LOCATION GUIDE                                                                                                        |                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Horizontal</b><br>Top<br>Left  Right<br>Bottom | <b>Vertical</b><br>Top<br>Left  Right<br>Bottom |

Start at the top of this guide and work down, considering all options required. Circle required options and corresponding part numbers. You will build a 10 digit part number, eg., 54000102 02, plus assembly options. Then, call a Rose+Bopla sales person and they will give you pricing, internal dimensions and coupling hole options for the enclosure you designed.

**Please Circle All Items Required**

NOTE: One Inch equals 25.4 mm

| Description                                                                                        | Series                                                                                                            | Type                                                                                                                                                                                                                                                         | Location                                                                                               | ROSE P.N.                                                                        |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>COUPLING HOLE</b><br><br><input type="checkbox"/> YES <input type="checkbox"/> NO               | 4949<br>4951,    4961,    4981<br>4990<br>OR OTHER TYPE                                                           |                                                                                                                                                                                                                                                              |                                                                                                        | 54                                                                               |
| <b>ENCLOSURE HEIGHT / WIDTH</b><br><br>Inside Usable Height _____mm<br>Inside Usable Width _____mm | <b>External Size</b><br><b>Circumference</b><br>0 - 1800 mm<br>1801 - 2300 mm<br>2301 - 2800 mm<br>2801 - 3300 mm | <b>Height</b><br>_____mm<br>_____mm<br>_____mm<br>_____mm                                                                                                                                                                                                    | <b>Width</b><br>_____mm<br>_____mm<br>_____mm<br>_____mm                                               | 0001<br>0002<br>0003<br>0004                                                     |
| <b>DOORS</b>                                                                                       | <b>Type</b><br>Hinged Front Door<br>Hinged Rear Door<br>Hinged Front Clear Door<br>Hinged Rear Clear Door         | <b>Hinge Location (facing door)</b><br>Left    Right    Top    Bottom<br>Left    Right    Top    Bottom<br>Left    Right    Top    Bottom<br>Left    Right    Top    Bottom                                                                                  | <b>Configuration</b><br>0 - 1 Door<br>2 Doors<br>3 Doors                                               | 01<br>02<br>03                                                                   |
| <b>ENCLOSURE BODY DEPTH</b>                                                                        | Inside Usable Depth _____mm                                                                                       | <b>External Size</b><br>160 mm<br>240 mm +<br>320 mm +<br>160 mm +    160 mm<br>240 mm +    240 mm<br>160 mm +    240 mm<br>240 mm +    320 mm<br>240 mm +    160 mm<br>320 mm +    240 mm<br>160 mm +    320 mm<br>320 mm +    320 mm<br>320 mm +    160 mm |                                                                                                        | 01<br>01<br>02<br>03<br>03<br>03<br>04<br>03<br>04<br>03<br>04<br>03<br>04<br>03 |
| <b>DOOR LOCK / LATCH</b>                                                                           | <b>Flush Square Door Lock With Key</b><br>Front<br>Rear<br>Clear                                                  | <b>Door Handle/Latch</b><br>Front<br>Rear<br>Clear                                                                                                                                                                                                           | <b>Locking Door Handle w/Key</b><br>Front<br>Rear<br>Clear                                             |                                                                                  |
| <b>1/4 WRAP HANDLES</b>                                                                            | <b>Type</b><br>¼ Handle Horizontal (set of two)<br>¼ Handle Vertical (set of two)                                 | <b>Location</b><br>Front    Rear<br>Front    Rear                                                                                                                                                                                                            |                                                                                                        | N/A<br>N/A                                                                       |
| <b>FRONT / REAR PANELS</b>                                                                         | <b>Type</b><br>Grained / Clear Anodized<br>Grained / Black Anodized<br>Mill Finish / Painted<br>None              | <b>Location</b><br>Front    Rear<br>Front    Rear<br>Front    Rear<br>Front    Rear                                                                                                                                                                          | Engrave per Dwg # _____<br>Machine per Dwg # _____<br>Silkscreen per Dwg # _____<br>Paint Instructions |                                                                                  |
| <b>19" ADAPTER PLATES</b>                                                                          | Grained / Clear Anodized                                                                                          | Front    Rear                                                                                                                                                                                                                                                |                                                                                                        | N/A                                                                              |
| <b>INTERNAL MOUNTING PLATES</b>                                                                    | Mill Finish / Painted                                                                                             | H    mm    /    W    mm                                                                                                                                                                                                                                      |                                                                                                        | N/A                                                                              |
| <b>Notes or Special Instructions:</b>                                                              |                                                                                                                   |                                                                                                                                                                                                                                                              |                                                                                                        |                                                                                  |

## 4949 Suspension Arm System



- Industrial tube suspension arm system for supporting machine control enclosures
- Modular construction using steel tubing and individual connection components
- Protected internal cable routing

### Included in delivery

Individual system components including assembly material.



### Technical Data

|                            |                                                                                                                                                                       |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color                      | Transport gray, similar to RAL 7043                                                                                                                                   |
| Material                   | Connection components - aluminum, steel<br>Round Tubing - galvanized steel tube, 48 x 4 mm                                                                            |
| Finish                     | Powder-coat painted connection components                                                                                                                             |
| Protection Classifications | IP 54, EN 60529. Foot 49496800, IP 40                                                                                                                                 |
| Assembly                   | Cut the tubing. Slide components together. Tighten to required torque, 22 lbs. force (30 Newton Meters). Complete assembly instructions are provided with components. |



| Connection Components             |  | Part Number | Weight (lbs) |
|-----------------------------------|--|-------------|--------------|
| Bass bracket                      |  | 49496600 00 | 4.18         |
| Foot                              |  | 49497200 00 | 1.65         |
| Foot                              |  | 49496800 00 | 1.54         |
| Wall bracket (Horizontal Exit)    |  | 49497000 00 | 3.75         |
| Wall bracket (Vertical Exit)      |  | 49496200 00 | 3.31         |
| Elbow                             |  | 49497100 00 | 1.76         |
| Coupling                          |  | 49497300 00 | 1.10         |
| Coupling                          |  | 49497700 00 | 1.10         |
| Elbow coupling                    |  | 49497500 00 | 1.54         |
| Elbow coupling                    |  | 49497800 00 | 1.54         |
| Angled adapter 30°                |  | 49497600 00 | 0.88         |
| Adapter flange for external cable |  | 49497900 00 | 8.82         |
| Tilting adapter                   |  | 49498000 00 | 1.32         |

| Steel Tubing                                           | Part Number | Weight (lbs)    |
|--------------------------------------------------------|-------------|-----------------|
| Round tubing 10 feet, 4 mm wall thickness, zinc plated | 10094158 45 | 30.80 (10 feet) |
| Round tubing 10 feet, 4 mm wall thickness, zinc plated | 10094158 85 | 30.80 (10 feet) |

### 4949 Maximum Weight:

3.3 ft. 4.9 ft.

112 67 lbf.

*lbf.=Pounds Force*

## 4951/61/81 Suspension Arm System



- Robust industrial suspension arm system for supporting machine control enclosures
- Modular construction using square steel tubing and cast steel and aluminum connection components
- High loading capacity, long extension capabilities

### Included in delivery

Individual system components including assembly material.



### Technical Data

|                            |                                                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Color                      | Dark gray, similar to RAL 7043. Tubing: zinc plated.                                                                                          |
| Material                   | Square connection tubing, 5mm thick, steel, to DIN 2395                                                                                       |
| Protection Classifications | IP 65, EN 60529, NEMA 12                                                                                                                      |
| Assembly                   | Cut tubing to desired length. Slide components together. Tighten to required torque. Complete assembly instructions provided with components. |
| Torque Requirements        | 30 Nm, 22 lbs. force                                                                                                                          |



| Connection Components                             |  | 4951<br>Part Number | Weight<br>(lbs) | 4961<br>Part Number | Weight<br>(lbs) | 4981<br>Part Number | Weight<br>(lbs) |
|---------------------------------------------------|--|---------------------|-----------------|---------------------|-----------------|---------------------|-----------------|
| Base unit bracket                                 |  | 49516600 00         | 30.86           | 49616600 00         | 40.12           | 49816600 00         | 51.38           |
| Foot                                              |  | 49517400 00         | 6.61            | 49617400 00         | 6.61            | 49817400 00         | 13.23           |
| Wall bracket                                      |  | 49517000 00         | 13.89           | 49617000 00         | 20.06           | 49817000 00         | 28.66           |
| Adapter angle coupling (for vertical wiring exit) |  | 49517900 00         | 11.02           | 49617900 00         | 13.23           | 49817900 00         | 14.33           |
| Intermediate joint                                |  | 49516700 00         | 13.67           | 49616700 00         | 19.62           | 49816700 00         | 28.00           |
| Elbow                                             |  | 49518000 00         | 9.92            | 49618000 00         | 12.79           | 49818000 00         | 17.64           |
| Elbow coupling                                    |  | 49517500 00         | 4.85            | 49617500 00         | 7.05            | 49817500 00         | 12.57           |
| Flange elbow coupling                             |  | 49517800 00         | 4.85            | 49617800 00         | 7.94            | 49817800 00         | 12.35           |
| Flange coupling                                   |  | 49517700 00         | 4.63            | 49617700 00         | 6.17            | 49817700 00         | 10.80           |
| Adjustable angle coupling                         |  | 49516200 00         | 3.97            | 49616200 00         | 4.85            | 49816200 00         | 6.17            |
| 30° fixed angle adapter for flange coupling       |  | 49517600 00         | 1.76            | 49617600 00         | 2.20            | 49817600 00         | 3.75            |

| Steel Tubing                                                 | Part Number      | Weight (lbs.) |
|--------------------------------------------------------------|------------------|---------------|
| Support tubing, zinc plated steel, 10 foot sections for 4951 | 10094156 45 (51) | 44.00         |
| Support tubing, zinc plated steel, 10 foot sections for 4961 | 10094157 45 (61) | 47.00         |
| Support tubing, zinc plated steel, 10 foot sections for 4981 | 10094159 45 (81) | 71.00         |

### Maximum Weight:

|           | 3.3 ft. | 4.9 ft. | 6.6 ft. | 8.1 ft. | 9.8 ft. | lbf. |
|-----------|---------|---------|---------|---------|---------|------|
| System 51 | 225     | 146     | 112     |         |         | lbf. |
| System 61 | 281     | 180     | 140     | 112     |         | lbf. |
| System 81 | 337     | 213     | 163     | 135     | 112     | lbf. |

lbf.=Pounds Force

### Usable Space:

System 51—40 x 40mm, Inside Dimension of Tubing.  
 System 61—50 x 50mm, Inside Dimension of Tubing.  
 System 81—70 x 70mm, Inside Dimension of Tubing.

## 4990 Suspension Arm System



- Robust industrial suspension arm system for supporting machine control enclosures, with open cable duct for heavy loads
- Modular construction with freely accessible cable duct
- Floor, top-mounting or wall exit options

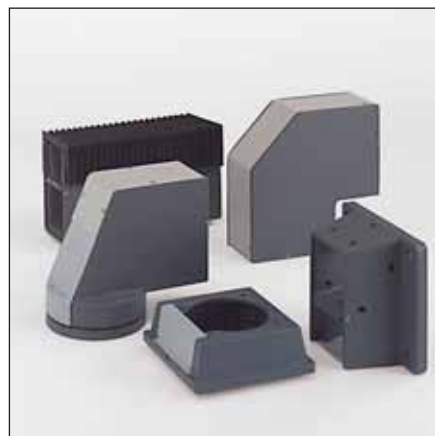
### Included in delivery

System individual components including cable duct covering and assembly material.



### Technical Data

|                           |                                                                                                                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color                     | Connection Components—transport gray, similar to RAL 7043.<br>Aluminum profile—agate gray, similar to RAL 7038                                                                                  |
| Material                  | Tubing—square tubing, 5mm or 8mm thick, steel, to ST 37 DIN 2395.<br>Components—cast iron with copper graphite, or aluminum.<br>Bearing—ball bearing. Textile bellows.                          |
| Cable Duct                | Free cable passage in system components.<br>Approximately 3.15" W x 2.81" H, 80 x 71.37mm                                                                                                       |
| Torque                    | 22 lbs. force (30 Newton Meters)                                                                                                                                                                |
| Protection Classification | IP 65 when special surface-mounted flange is used between enclosure coupling and control panel.                                                                                                 |
| Load                      | When using square steel tube 80 x 80 x 5mm (ST 37 DIN 2395), maximum 500N at 3 meter extension. When using square steel tube 80 x 80 x 8mm (ST 37 DIN 2395), maximum 750N at 3 meter extension. |



| Description                                                |  | Part Number | Weight (kg) |
|------------------------------------------------------------|--|-------------|-------------|
| Brass bracket                                              |  | 49906601 00 | 44.53       |
| Foot/wall flange                                           |  | 49907401 00 | 13.23       |
| Wall bracket                                               |  | 49907001 00 | 38.58       |
| Intermediate joint                                         |  | 49906701 00 | 38.86       |
| Elbow C                                                    |  | 49907111 00 | 20.06       |
| Elbow A                                                    |  | 49907120 00 | 9.48        |
| Elbow coupling                                             |  | 49907501 00 | 9.26        |
| Coupling                                                   |  | 49907301 00 | 8.60        |
| Watertight top flange (used in conjunction with couplings) |  | 49900030 00 | 2.43        |
| Watertight top flange (used in conjunction with couplings) |  | 49900020 00 | 2.43        |

Note: Tubing can be cut to specific lengths. Maximum length for UPS 9 feet (108")

| Description           | Part Number<br>Cable Duct<br>(standard length to fit<br>relevant suspension tube) | Part Number<br>Support Tube<br>80 x 80 x 5 mm | Part Number<br>Support Tube<br>80 x 80 x 8 mm |
|-----------------------|-----------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Cable duct            | 10094238 00                                                                       |                                               |                                               |
| Support tubing, steel |                                                                                   | 10094159 45                                   |                                               |
| Support tubing, steel |                                                                                   |                                               | 10094234 00                                   |

\*The cable duct needs to be 175 mm shorter than the suspension tube length.

### Maximum Weight:

|                                 | 2.4 ft. | 3.3 ft. | 4.9 ft. | 6.6 ft. | 8.1 ft. | 9.8 ft. | lbf. |
|---------------------------------|---------|---------|---------|---------|---------|---------|------|
| Supporting Tubing 80 x 80 x 5mm | 449     | 337     | 225     | 169     | 135     | 112     | lbf. |
| Supporting Tubing 80 x 80 x 8mm | 449     | 449     | 337     | 253     | 198     | 169     | lbf. |

lbf.=Pounds Force

## Moterm



- Mobile stand system for system components
- Optional fixed or manually adjusted version
- 2 and 4 wheels available

### Included in delivery

Moterm with mounting inclining adapter and adapter plate for Machine Control Systems.

**Please order adapter plate separately**



## Technical Data

|                   |                                                                                 |
|-------------------|---------------------------------------------------------------------------------|
| Material          | Foot: sheet steel<br>Profile: AlMgSi 0.5                                        |
| Temperature Range | -40°F to +176°F                                                                 |
| Painting          | Powder coating                                                                  |
| Color             | Profile: light gray similar to RAL 7035<br>Foot: black gray similar to RAL 7021 |
| Maximum Load      | Dependent on system construction - on request                                   |

| Description                                           | Part Number |
|-------------------------------------------------------|-------------|
| Moterm 1, fixed version, height 1000 mm, 2 wheels     | 50010101 00 |
| Moterm 2, manual adjustable (750 - 1000 mm), 2 wheels | 50010102 00 |
| Moterm 4, fixed version, height 980 mm, 4 wheels      | 50010104 00 |
| Moterm 5, manual adjustable (730 - 1000 mm), 4 wheels | 50010105 00 |

### Accessories

| Description                             | Part Number |
|-----------------------------------------|-------------|
| Adapter plate SL 2000 profile 1         | 50010203 00 |
| Adapter plate SL 2000 profile 2         | 50010204 00 |
| Adapter plate SL 2000 profile 3         | 50010205 00 |
| Adapter plate universal (without holes) | 50010209 00 |
| Adapter plate Beckhoff CP 7032          | 50010210 00 |



Inclining Adapter



- Inclining adapter for individual connection between enclosure and suspension systems or for wall mounting
- Simple handling

**Included in delivery**  
Inclining adapter, flange plates, sealing and mounting material



Technical Data

|                   |                                                      |
|-------------------|------------------------------------------------------|
| Material          | Sheet steel, 2.5 mm<br>Bellow: PVC, RAL 9005 (black) |
| Surface           | Black, similar to RAL 9005, powdered                 |
| Temperature Range | -40°F to +140°F                                      |

| Description                                                 | Part Number | Weight (lb) |
|-------------------------------------------------------------|-------------|-------------|
| 1. Inclining adapter for mounting to wall or machinery      | 50020001 00 | 2.87        |
| 2. Inclining adapter for suspension system 4945             | 50020002 00 | 2.20        |
| 3. Inclining adapter for suspension system with flange 4945 | 50020004 00 | 1.98        |

Cable entries and cable glands must be tightly sealed in accordance with design requirements. Rose+Bopla offers a wide range of cable gland products for this purpose:

- versions in plastic, aluminum, brass and stainless steel
- for Standard, Ex and EMC applications
- for ingress protection to IP 68

Note: Other cable glands on request



### Plastic Cable Glands

- Product range in Polyamide (PG and metric thread) as standard or Ex cable gland
- Accessories, blanking plugs, lock nuts, self-sealing grommets and PE seals

### Brass Cable Glands

- Product range PG and metric thread as standard, Ex or EMC cable glands
- Accessories, blanking plugs and lock nuts

### Stainless Steel Cable Glands

- Product range in 2 versions (PG and metric thread) as standard or Ex cable glands

## Polyamide Plastic Cable Glands



|                    |                       |
|--------------------|-----------------------|
| Type               | Polyamide Cable Gland |
| Material           | Polyamide             |
| Color              | RAL 7035              |
| Sealing Inset      | NBR                   |
| External Seal      | -                     |
| Ingress Protection | IP 68                 |
| Temperature Range  | -40°F to +212°F       |

### Polyamide Cable Glands

| Type          | Cable Ø | Pcs/Pack | Part Number |
|---------------|---------|----------|-------------|
| <b>PG</b>     |         |          |             |
| 7             | 3 - 6.5 | 100      | 08020207 00 |
| 9             | 4 - 8   | 100      | 08020209 00 |
| 11            | 5 - 10  | 100      | 08020211 00 |
| 13.5          | 6 - 12  | 100      | 08020213 00 |
| 16            | 10 - 14 | 50       | 08020216 00 |
| 21            | 13 - 18 | 50       | 08020221 00 |
| 29            | 18 - 25 | 25       | 08020229 00 |
| 36            | 22 - 32 | 10       | 08020236 00 |
| 42            | 30 - 38 | 5        | 08020242 00 |
| 48            | 34 - 44 | 5        | 08020248 00 |
| <b>Metric</b> |         |          |             |
| M 12 x 1.5    | 3 - 6   | 100      | 08080512 00 |
| M 16 x 1.5    | 5 - 10  | 100      | 08080516 00 |
| M 20 x 1.5    | 8 - 13  | 100      | 08080520 00 |
| M 25 x 1.5    | 11 - 17 | 100      | 08080525 00 |
| M 32 x 1.5    | 15 - 21 | 50       | 08080532 00 |
| M 40 x 1.5    | 19 - 28 | 10       | 08080540 00 |
| M 50 x 1.5    | 26 - 35 | 5        | 08080550 00 |
| M 63 x 1.5    | 32 - 42 | 5        | 08080563 00 |



|                    |                                             |
|--------------------|---------------------------------------------|
| Type               | Plastic Ex Blind Plugs<br>DIN EN 5014/19/20 |
| Certification      | Ex II 2 G/D<br>acc. guideline 94/9/EG       |
| Material           | Polyamide 6                                 |
| Color              | RAL 9005 (black)                            |
| Ingress Protection | IP 68 with seal                             |
| Temperature Range  | -40°F to +104°F                             |

### Polyamide Ex Blind Plug

| Type          | Cable Ø | Pcs/Pack | Part Number |
|---------------|---------|----------|-------------|
| <b>PG</b>     |         |          |             |
| 7             |         | 100      | 08056707 00 |
| 9             |         | 100      | 08056709 00 |
| 11            |         | 100      | 08056711 00 |
| 13.5          |         | 100      | 08056713 00 |
| 16            |         | 100      | 08056716 00 |
| 21            |         | 100      | 08056721 00 |
| 29            |         | 50       | 08056729 00 |
| 36            |         | 20       | 08056736 00 |
| 42            |         | 20       | 08056742 00 |
| 48            |         | 20       | 08056748 00 |
| <b>Metric</b> |         |          |             |
| M 16 x 1.5    |         | 100      | 08090616 00 |
| M 20 x 1.5    |         | 100      | 08090620 00 |
| M 25 x 1.5    |         | 100      | 08090625 00 |
| M 32 x 1.5    |         | 100      | 08090632 00 |
| M 40 x 1.5    |         | 20       | 08090640 00 |
| M 50 x 1.5    |         | 20       | 08090650 00 |
| M 63 x 1.5    |         | 20       | 08090663 00 |



|                    |                                       |
|--------------------|---------------------------------------|
| Type               | Polyamide Ex<br>DIN EN 50014/19/20    |
| Certification      | Ex II 2 G/D<br>acc. guideline 94/9/EG |
| Material           | Polyamide 6                           |
| Color              | Black (RAL 9005)<br>Blue (RAL 5012)   |
| Ingress Protection | IP 68 with seal                       |
| Temperature Range  | -40°F to +140°F                       |

### Polyamide Ex Cable Glands

| Type          | Cable Ø | Pcs/Pack | Part Number  | Part Number |
|---------------|---------|----------|--------------|-------------|
| <b>PG</b>     |         |          | <b>Black</b> | <b>Blue</b> |
| 7             | 3.5 - 6 |          | 08060007 00  | 08065007 00 |
| 9             | 5 - 8   | 20       | 08060009 00  | 08065009 00 |
| 11            | 6 - 10  | 20       | 08060011 00  | 08065011 00 |
| 13.5          | 8 - 13  | 20       | 08060013 00  | 08065013 00 |
| 16            | 10 - 15 | 20       | 08060016 00  | 08065016 00 |
| 21            | 13 - 19 | 20       | 08060021 00  | 08065021 00 |
| 29            | 17 - 25 | 10       | 08060029 00  | 08065029 00 |
| 36            | 24 - 32 | 10       | 08060036 00  | 08065036 00 |
| 42            | 28 - 38 | 10       | 08060042 00  | 08065042 00 |
| 48            | 34 - 44 | 10       | 08060048 00  | 08065048 00 |
| <b>Metric</b> |         |          |              |             |
| M 16 x 1.5    | 5 - 8   | 20       | 08080616 00  | 08080716 00 |
| M 20 x 1.5    | 8 - 13  | 20       | 08080620 00  | 08080720 00 |
| M 25 x 1.5    | 13 - 19 | 20       | 08080625 00  | 08080725 00 |
| M 32 x 1.5    | 17 - 25 | 10       | 08080632 00  | 08080732 00 |
| M 40 x 1.5    | 24 - 32 | 10       | 08080640 00  | 08080740 00 |
| M 50 x 1.5    | 28 - 38 | 10       | 08080650 00  | 08080750 00 |
| M 63 x 1.5    | 34 - 44 | 10       | 08080663 00  | 08080763 00 |

## Polyamide Cable Glands



Type Polyamide lock nut  
Material Polyamide  
Color RAL 7035  
Sealing Inset -  
External Seal -  
Ingress Protection -  
Temperature Range -40°F to +212°F

| Type          | Cable Ø | Pcs/Pack | Part Number |
|---------------|---------|----------|-------------|
| <b>PG</b>     |         |          |             |
| 7             |         | 100      | 08020907 00 |
| 9             |         | 100      | 08020909 00 |
| 11            |         | 100      | 08020911 00 |
| 13.5          |         | 100      | 08020913 00 |
| 16            |         | 50       | 08020916 00 |
| 21            |         | 50       | 08020921 00 |
| 29            |         | 25       | 08020929 00 |
| 36            |         | 25       | 08020936 00 |
| 42            |         | 25       | 08020942 00 |
| 48            |         | 25       | 08020948 00 |
| <b>Metric</b> |         |          |             |
| M 12          |         | 100      | 08090712 00 |
| M 16          |         | 100      | 08090716 00 |
| M 20          |         | 100      | 08090720 00 |
| M 25          |         | 100      | 08090725 00 |
| M 32          |         | 50       | 08090732 00 |
| M 40          |         | 50       | 08090740 00 |
| M 50          |         | 5        | 08090750 00 |
| M 63          |         | 5        | 08090763 00 |



Type MZI Cable Gland  
Ingress Protection IP 65  
Temperature Range -4°F to +212°F  
Material Polyamide

| MZI Cable Glands |         |                   |             |
|------------------|---------|-------------------|-------------|
| Model            | Cable Ø | Connection Thread | Part Number |
| <b>PG</b>        |         |                   |             |
| MZI 9            | 6 - 8   | 13.5              | 12060200 00 |



Type PA with bending protection  
Ingress Protection IP 54  
IP 68 - 10 bar with seal  
Temperature Range -40°F to +212°F  
Material Polyamide  
Color Black, RAL 9005

| Type          | Cable Ø | Pcs/Pack | Part Number |
|---------------|---------|----------|-------------|
| <b>PG</b>     |         |          |             |
| 7             |         | 50       | 08110107 00 |
| 9             |         | 50       | 08110109 00 |
| 11            |         | 50       | 08110111 00 |
| 13.5          |         | 50       | 08110113 00 |
| 16            |         | 25       | 08110116 00 |
| 21            |         | 20       | 08110121 00 |
| <b>Metric</b> |         |          |             |
| M 12 x 1.5    |         | 50       | 08100112 00 |
| M 16 x 1.5    |         | 50       | 08100116 00 |
| M 20 x 1.5    |         | 50       | 08100120 00 |
| M 25 x 1.5    |         | 20       | 08100125 00 |



Type Blind Plugs  
Material Polyamide  
Color RAL 7035  
Sealing Inset -  
External Seal -  
Ingress Protection IP 54  
Temperature Range -10°F to +176°F

| Type          | Cable Ø | Pcs/Pack | Part Number |
|---------------|---------|----------|-------------|
| <b>PG</b>     |         |          |             |
| 7             |         | 100      | 08020607 00 |
| 9             |         | 100      | 08020609 00 |
| 11            |         | 100      | 08020611 00 |
| 13.5          |         | 100      | 08020613 00 |
| 16            |         | 100      | 08020616 00 |
| 21            |         | 100      | 08020621 00 |
| 29            |         | 50       | 08020629 00 |
| <b>Metric</b> |         |          |             |
| M 12 x 1.5    |         | 100      | 08090512 00 |
| M 16 x 1.5    |         | 100      | 08090516 00 |
| M 20 x 1.5    |         | 100      | 08090520 00 |
| M 25 x 1.5    |         | 100      | 08090525 00 |
| M 32 x 1.5    |         | 50       | 08090532 00 |
| M 40 x 1.5    |         | 50       | 08090540 00 |



Characteristics Integrated strain relief,  
large sealing and terminal  
section, easy to assemble

Ingress Protection IP 68

Temperature Range -4°F to +212°F

| BF/MBF Cable Glands |         |                   |             |
|---------------------|---------|-------------------|-------------|
| Model               | Cable Ø | Connection Thread | Part Number |
| <b>PG</b>           |         |                   |             |
| BF 7                | 3 - 6.5 | PG 7              | 10000100 00 |
| BF 9                | 4 - 8   | PG 9              | 10000200 00 |
| BF 11               | 5 - 10  | PG 11             | 10000300 00 |
| BF 13               | 6 - 12  | PG 13.5           | 10000400 00 |
| BF 16               | 10 - 14 | PG 16             | 10000500 00 |
| BF 21               | 13 - 18 | PG 21             | 10000600 00 |
| BF 29               | 18 - 25 | PG 29             | 10000700 00 |
| BF 36               | 22 - 32 | PG 36             | 10000800 00 |
| <b>Metric</b>       |         |                   |             |
| MBF 12              | 3 - 6   | M 12 x 1.5        | 12002100 00 |
| MBF 16              | 5 - 10  | M 16 x 1.5        | 12002200 00 |
| MBF 20              | 8 - 13  | M 20 x 1.5        | 12002300 00 |
| MBF 25              | 11 - 17 | M 25 x 1.5        | 12002400 00 |
| MBF 32              | 15 - 21 | M 32 x 1.5        | 12002500 00 |
| MBF 40              | 19 - 28 | M 40 x 1.5        | 12002600 00 |



Characteristics Integrated strain relief,  
anti-kink protection, large  
sealing and terminal sec-  
tion, easy to assemble

Ingress Protection IP 68

Temperature Range -4°F to +212°F

| BFK/MBFK Cable Glands                    |         |                   |             |
|------------------------------------------|---------|-------------------|-------------|
| Model                                    | Cable Ø | Connection Thread | Part Number |
| <b>PG, with anti-kink protection</b>     |         |                   |             |
| BFK 7                                    | 3 - 6.5 | PG 7              | 10001100 00 |
| BFK 9                                    | 4 - 8   | PG 9              | 10001200 00 |
| BFK 11                                   | 5 - 10  | PG 11             | 10001300 00 |
| BFK 13                                   | 6 - 12  | PG 13.5           | 10001400 00 |
| BFK 16                                   | 10 - 14 | PG 16             | 10001500 00 |
| BFK 21                                   | 13 - 18 | PG 21             | 10001600 00 |
| <b>Metric, with anti-kink protection</b> |         |                   |             |
| MBFK 12                                  | 3 - 6.5 | M 12 x 1.5        | 12002103 00 |
| MBFK 16                                  | 5 - 10  | M 16 x 1.5        | 12002210 00 |
| MBFK 20-1                                | 6 - 12  | M 20 x 1.5        | 12002303 00 |
| MBFK 20-2                                | 10 - 14 | M 20 x 1.5        | 12002306 00 |
| MBFK 25                                  | 13 - 18 | M 25 x 1.5        | 12002401 00 |



Characteristics With clamping cage for  
strain relief

Ingress Protection IP 65

Temperature Range -22°F to +212°F

| POZ/MPOZ Cable Glands |         |                   |             |
|-----------------------|---------|-------------------|-------------|
| Model                 | Cable Ø | Connection Thread | Part Number |
| <b>PG</b>             |         |                   |             |
| POZ 7                 | 4 - 6   | PG 7              | 12051809 00 |
| POZ 9                 | 6 - 8   | PG 9              | 12051909 00 |
| POZ 11                | 8 - 10  | PG 11             | 12052009 00 |
| POZ 13                | 10 - 12 | PG 13             | 12052109 00 |
| POZ 16                | 12 - 14 | PG 16             | 12052209 00 |
| POZ 21                | 14 - 18 | PG 21             | 12052309 00 |
| POZ 29                | 18 - 24 | PG 29             | 12052409 00 |
| <b>Metric</b>         |         |                   |             |
| MPOZ 12-1             | 4 - 6   | M 12 x 1.5        | 12151800 00 |
| MPOZ 12-2             | 6 - 8   | M 12 x 1.5        | 12151900 00 |
| MPOZ 16               | 6 - 8   | M 16 x 1.5        | 12152000 00 |
| MPOZ 20-1             | 8 - 10  | M 20 x 1.5        | 12152100 00 |
| MPOZ 20-2             | 10 - 12 | M 20 x 1.5        | 12152200 00 |
| MPOZ 20-3             | 12 - 14 | M 20 x 1.5        | 12152300 00 |
| MPOZ 25-2             | 14 - 18 | M 25 x 1.5        | 12152400 00 |
| MPOZ 32               | 18 - 24 | M 32 x 1.5        | 12152500 00 |



**Characteristics**

With clamping cage for strain relief and anti-kink grommet

**Material:** Polyamide

**Ingress Protection** IP 65

**Temperature Range** -22°F to + 212°F

| POZB/MPOZB Cable Glands |         |                   |             |
|-------------------------|---------|-------------------|-------------|
| Model                   | Cable Ø | Connection Thread | Part Number |
| <b>PG</b>               |         |                   |             |
| POZB 7                  | 4 - 6   | PG 7              | 12052609 00 |
| POZB 9                  | 6 - 8   | PG 9              | 12052709 00 |
| POZB 11                 | 8 - 10  | PG 11             | 12052809 00 |
| POZB 13                 | 10 - 12 | PG 13             | 12052909 00 |
| POZB 16                 | 12 - 14 | PG 16             | 12053009 00 |
| POZB 21                 | 14 - 18 | PG 21             | 12053109 00 |
| POZB 29                 | 18 - 24 | PG 29             | 12053209 00 |
| <b>Metric</b>           |         |                   |             |
| MPOZB 12-1              | 4 - 6   | M 12 x 1.5        | 12152600 00 |
| MPOZB 12-2              | 6 - 8   | M 12 x 1.5        | 12152700 00 |
| MPOZB 16                | 6 - 8   | M 16 x 1.5        | 12152800 00 |
| MPOZB 20-1              | 8 - 10  | M 20 x 1.5        | 12152900 00 |
| MPOZB 20-2              | 10 - 12 | M 20 x 1.5        | 12153000 00 |
| MPOZB 20-3              | 12 - 14 | M 20 x 1.5        | 12153100 00 |
| MPOZB 25-2              | 14 - 18 | M 25 x 1.5        | 12153200 00 |
| MPOZB 32                | 18 - 24 | M 32 x 1.5        | 12153300 00 |



**Characteristics**

Polyamide counter nut for all cable glands with PG or metric connection threads.

| GM/MGM Counter Nuts |                   |             |                    |
|---------------------|-------------------|-------------|--------------------|
| Model               | Connection Thread | Part Number | Width Across Flats |
| <b>PG</b>           |                   |             |                    |
| GM 7                | PG 7              | 52080100 00 | SW 19              |
| GM 9                | PG 9              | 52080200 00 | SW 22              |
| GM 11               | PG 11             | 52080300 00 | SW 24              |
| GM 13               | PG 13.5           | 52080400 00 | SW 27              |
| GM 16               | PG 16             | 52080500 00 | SW 30              |
| GM 21               | PG 21             | 52080600 00 | SW 36              |
| GM 29               | PG 29             | 52080700 00 | SW 46              |
| GM 36               | PG 36             | 52080800 00 | SW 60              |
| <b>Metric</b>       |                   |             |                    |
| MGM 12              | M 12 x 1.5        | 52090100 00 | SW 17              |
| MGM 16              | M 16 x 1.5        | 52090200 00 | SW 22              |
| MGM 20              | M 20 x 1.5        | 52090300 00 | SW 26              |
| MGM 25              | M 25 x 1.5        | 52090400 00 | SW 32              |
| MGM 32              | M 32 x 1.5        | 52090500 00 | SW 41              |
| MGM 40              | M 40 x 1.5        | 52090600 00 | SW 50              |



**Characteristics**

Polyamide blind plugs for closing and sealing unused Pg/metric threaded drill holes. For increased protection, please use sealing ring for connection thread DR.

| BL/MBL Blind Plugs        |                   |             |
|---------------------------|-------------------|-------------|
| Model                     | Connection Thread | Part Number |
| <b>PG blind plugs</b>     |                   |             |
| BL 7                      | PG 7              | 52010000 00 |
| BL 9                      | PG 9              | 52010100 00 |
| BL 11                     | PG 11             | 52010200 00 |
| BL 13                     | PG 13.5           | 52010300 00 |
| BL 16                     | PG 16             | 52010400 00 |
| BL 21                     | PG 21             | 52010500 00 |
| BL 29                     | PG 29             | 52010600 00 |
| BL 36                     | PG 36             | 52010700 00 |
| <b>Metric blind plugs</b> |                   |             |
| MBL 12                    | M 12 x 1.5        | 52011100 00 |
| MBL 16                    | M 16 x 1.5        | 52011200 00 |
| MBL 20                    | M 20 x 1.5        | 52011300 00 |
| MBL 25                    | M 25 x 1.5        | 52011400 00 |
| MBL 32                    | M 32 x 1.5        | 52011500 00 |
| MBL 40                    | M 40 x 1.5        | 52011600 00 |





Characteristics Integrated strain relief, large sealing and terminal section, easy to assemble, anti-twist protection.

Ingress Protection IP 68

Temperature Range -4°F to +212°F

| MSBF Cable Glands |           |         |             |
|-------------------|-----------|---------|-------------|
| Connection Thread | Cable Ø   | Model   | Part Number |
| <b>Metric</b>     |           |         |             |
| M 12 x 1.5        | 3 - 6.0   | MSBF 12 | 13002100 00 |
| M 16 x 1.5        | 5 - 9.0   | MSBF 16 | 13002200 00 |
| M 20 x 1.5        | 9 - 13.0  | MSBF 20 | 13002300 00 |
| M 25 x 1.5        | 11 - 16.0 | MSBF 25 | 13002400 00 |
| M 32 x 1.5        | 14 - 21.0 | MSBF 32 | 13002500 00 |
| M 40 x 1.5        | 19 - 27.0 | MSBF 40 | 13002600 00 |



Characteristics With clamping cage for strain relief

Ingress Protection IP 65

Temperature Range -4°F to +212°F

| MSK Cable Glands  |         |        |             |
|-------------------|---------|--------|-------------|
| Connection Thread | Cable Ø | Model  | Part Number |
| <b>PG</b>         |         |        |             |
| 7                 | 4 - 6   | MSK 7  | 13050100 00 |
| 9                 | 6 - 8   | MSK 9  | 13050200 00 |
| 11                | 8 - 10  | MSK 11 | 13050300 00 |
| 13.5              | 10 - 12 | MSK 13 | 13050400 00 |
| 16                | 12 - 14 | MSK 16 | 13050500 00 |
| 21                | 14 - 18 | MSK 21 | 13050600 00 |
| 29                | 18 - 24 | MSK 29 | 13050700 00 |



Characteristics Industrial cable glands in the style of DIN 46320

Ingress Protection IP 54

Temperature Range -22°F to +230°F

| MSS Cable Glands  |         |        |             |
|-------------------|---------|--------|-------------|
| Connection Thread | Cable Ø | Model  | Part Number |
| <b>PG</b>         |         |        |             |
| 7                 | 4 - 6   | MSS 7  | 13020100 00 |
| 9                 | 6 - 8   | MSS 9  | 13020200 00 |
| 11                | 8 - 10  | MSS 11 | 13020300 00 |
| 13.5              | 10 - 12 | MSS 13 | 13020400 00 |
| 16                | 12 - 14 | MSS 16 | 13020500 00 |
| 21                | 15 - 17 | MSS 21 | 13020600 00 |



Type  
Material  
Sealing Inset  
External Seal  
Ingress Protection  
Temperature Range

Brass cable gland  
Nickel-faced brass  
NBR  
O-ring, NBR  
IP 68  
-40° to +212°F  
briefly +248°F

| Brass Cable Glands |         |          |             |
|--------------------|---------|----------|-------------|
| Type               | Cable Ø | Pcs/Pack | Part Number |
| <b>PG</b>          |         |          |             |
| 7                  | 3.5 - 6 | 50       | 08040307 00 |
| 9                  | 4 - 8   | 50       | 08040309 00 |
| 11                 | 5 - 10  | 50       | 08040311 00 |
| 13.5               | 6 - 12  | 50       | 08040313 00 |
| 16                 | 10 - 14 | 25       | 08040316 00 |
| 21                 | 13 - 18 | 25       | 08040321 00 |
| 29                 | 18 - 25 | 20       | 08040329 00 |
| 36                 | 22 - 32 | 1        | 08040336 00 |
| 42                 | 30 - 38 | 1        | 08040342 00 |
| 48                 | 34 - 44 | 1        | 08040348 00 |
| <b>Metric</b>      |         |          |             |
| M 12 x 1.5         | 3 - 6.5 | 50       | 08080412 00 |
| M 16 x 1.5         | 4 - 8   | 50       | 08080416 00 |
| M 20 x 1.5         | 6 - 12  | 50       | 08080420 00 |
| M 25 x 1.5         | 10 - 14 | 25       | 08080425 00 |
| M 32 x 1.5         | 13 - 18 | 20       | 08080432 00 |
| M 40 x 1.5         | 18 - 25 | 1        | 08080440 00 |
| M 50 x 1.5         | 22 - 32 | 1        | 08080450 00 |
| M 63 x 1.5         | 34 - 44 | 1        | 08080463 00 |



Characteristics  
Ingress Protection  
Temperature Range

Large sealing section, easy to assemble.  
IP 68  
-4°F to +212°F

| MSD Cable Glands  |          |        |             |
|-------------------|----------|--------|-------------|
| Connection Thread | Cable Ø  | Model  | Part Number |
| <b>PG</b>         |          |        |             |
| 7                 | 4 - 6.5  | MSD 7  | 13040100 00 |
| 9                 | 5 - 10   | MSD 9  | 13040200 00 |
| 11                | 7 - 11.5 | MSD 11 | 13040300 00 |
| 13.5              | 8 - 15.0 | MSD 13 | 13040400 00 |
| 16                | 8 - 15.0 | MSD 16 | 13040500 00 |



Characteristics

Brass counter nut for all cable glands with PG or metric connection

| GMS/MGMS Counter Nuts |                    |         |             |
|-----------------------|--------------------|---------|-------------|
| Connection Thread     | Width Across Flats | Model   | Part Number |
| <b>PG</b>             |                    |         |             |
| 7                     | SW 15              | GMS 7   | 13150100 00 |
| 9                     | SW 18              | GMS 9   | 13150200 00 |
| 11                    | SW 21              | GMS 11  | 13150300 00 |
| 13.5                  | SW 23              | GMS 13  | 13150400 00 |
| 16                    | SW 26              | GMS 16  | 13150500 00 |
| 21                    | SW 32              | GMS 21  | 13150600 00 |
| 29                    | SW 41              | GMS 29  | 13150700 00 |
| 36                    | SW 51              | GMS 36  | 13150800 00 |
| <b>Metric</b>         |                    |         |             |
| M 12 x 1.5            | SW 15              | MGMS 12 | 13160100 00 |
| M 16 x 1.5            | SW 19              | MGMS 16 | 13160200 00 |
| M 20 x 1.5            | SW 24              | MGMS 20 | 13160300 00 |
| M 25 x 1.5            | SW 30              | MGMS 25 | 13160400 00 |
| M 32 x 1.5            | SW 36              | MGMS 32 | 13160500 00 |
| M 40 x 1.5            | SW 46              | MGMS 40 | 13160600 00 |



Type Brass Ex Cable Gland with Seal  
 Certification II 2 G/D  
 acc. guideline 94/9/EG  
 Ingress Protection IP 68  
 Temperature Range -4°F to +221°F

| Brass Ex Cable Gland with Seal |         |          |             |
|--------------------------------|---------|----------|-------------|
| Type                           | Cable Ø | Pcs/Pack | Part Number |
| <b>PG</b>                      |         |          |             |
| 7                              | 3.5 - 6 | 50       | 08040707 00 |
| 9                              | 4 - 8   | 50       | 08040709 00 |
| 11                             | 5 - 10  | 50       | 08040711 00 |
| 13.5                           | 6 - 12  | 50       | 08040713 00 |
| 16                             | 10 - 14 | 50       | 08040716 00 |
| 21                             | 13 - 18 | 50       | 08040721 00 |
| 29                             | 18 - 25 | 25       | 08040729 00 |
| 36                             | 22 - 32 | 1        | 08040736 00 |
| 42                             | 32 - 38 | 1        | 08040742 00 |
| 48                             | 37 - 44 | 1        | 08040748 00 |
| <b>Metric</b>                  |         |          |             |
| M 12 x 1.5                     | 3 - 6.5 | 50       | 08080812 00 |
| M 16 x 1.5                     | 4 - 8   | 10       | 08080816 00 |
| M 20 x 1.5                     | 6 - 12  | 10       | 08080820 00 |
| M 25 x 1.5                     | 13 - 18 | 10       | 08080825 00 |
| M 32 x 1.5                     | 18 - 25 | 10       | 08080832 00 |
| M 40 x 1.5                     | 22 - 30 | 5        | 08080840 00 |
| M 50 x 1.5                     | 32 - 38 | 1        | 08080850 00 |
| M 63 x 1.5                     | 37 - 44 | 1        | 08080863 00 |



Type Brass Ex Blind Plug  
 Certification II 2 G/D  
 acc. guideline 94/9/EG  
 Ingress Protection IP 68  
 Temperature Range -22°F to +194°F

| Brass Ex Blind Plug |         |          |             |
|---------------------|---------|----------|-------------|
| Type                | Cable Ø | Pcs/Pack | Part Number |
| <b>PG</b>           |         |          |             |
| 7                   |         | 50       | 08080907 00 |
| 9                   |         | 50       | 08080909 00 |
| 11                  |         | 50       | 08080911 00 |
| 13.5                |         | 50       | 08080913 00 |
| 16                  |         | 50       | 08080916 00 |
| 21                  |         | 50       | 08080921 00 |
| 29                  |         | 25       | 08080929 00 |
| 36                  |         | 10       | 08080936 00 |
| 42                  |         | 10       | 08080942 00 |
| 48                  |         | 10       | 08080948 00 |
| <b>Metric</b>       |         |          |             |
| M 16 x 1.5          |         | 50       | 08090816 00 |
| M 20 x 1.5          |         | 50       | 08090820 00 |
| M 25 x 1.5          |         | 50       | 08090825 00 |
| M 32 x 1.5          |         | 25       | 08090832 00 |
| M 40 x 1.5          |         | 10       | 08090840 00 |
| M 50 x 1.5          |         | 5        | 08090850 00 |
| M 63 x 1.5          |         | 5        | 08090863 00 |



Type MS cable gland EMC  
Material Nickel-faced brass  
Sealing Inset NBR  
External Seal NBR  
Ingress Protection IP 68  
Temperature Range -40°F to +212°F  
briefly +248°F

| Brass Cable Glands EMC Versions |         |          |             |
|---------------------------------|---------|----------|-------------|
| Type                            | Cable Ø | Pcs/Pack | Part Number |
| <b>PG</b>                       |         |          |             |
| 7                               |         | 50       | 08070007 00 |
| 9                               |         | 50       | 08070009 00 |
| 11                              |         | 50       | 08070011 00 |
| 13.5                            |         | 50       | 08070013 00 |
| 16                              |         | 50       | 08070016 00 |
| 21                              |         | 50       | 08070021 00 |
| 29                              |         | 25       | 08070029 00 |
| 36                              |         | 1        | 08070036 00 |
| 42                              |         | 1        | 08070042 00 |
| 48                              |         | 1        | 08070048 00 |
| <b>Metric</b>                   |         |          |             |
| M 12 x 1.5                      |         | 50       | 08070112 00 |
| M 16 x 1.5                      |         | 50       | 08070116 00 |
| M 20 x 1.5                      |         | 50       | 08070120 00 |
| M 25 x 1.5                      |         | 25       | 08070125 00 |
| M 32 x 1.5                      |         | 25       | 08070132 00 |
| M 40 x 1.5                      |         | 25       | 08070140 00 |



Type MS Blind Plug  
Material Nickel-faced brass  
External seal O-Ring, NBR  
Ingress protection IP 65  
Temperature range -40°F to +176°F

| Type          | Cable Ø | Pcs/Pack | Part Number |
|---------------|---------|----------|-------------|
| <b>PG</b>     |         |          |             |
| 7             |         | 100      | 08040607 00 |
| 9             |         | 100      | 08040609 00 |
| 11            |         | 100      | 08040611 00 |
| 13.5          |         | 100      | 08040613 00 |
| 16            |         | 100      | 08040616 00 |
| 21            |         | 100      | 08040621 00 |
| 29            |         | 50       | 08040629 00 |
| 36            |         | 25       | 08040636 00 |
| 42            |         | 25       | 08040642 00 |
| <b>Metric</b> |         |          |             |
| M 16 x 1.5    |         | 50       | 08090416 00 |
| M 20 x 1.5    |         | 50       | 08090420 00 |
| M 25 x 1.5    |         | 50       | 08090425 00 |
| M 32 x 1.5    |         | 25       | 08090432 00 |
| M 40 x 1.5    |         | 1        | 08090440 00 |
| M 50 x 1.5    |         | 1        | 08090450 00 |
| M 63 x 1.5    |         | 1        | 08090463 00 |



Type Brass lock nut  
Material Nickel-faced brass  
Sealing insert -  
External insert -  
Ingress protection -  
Temperature range -

| Type          | Cable Ø | Pcs/Pack | Part Number |
|---------------|---------|----------|-------------|
| <b>PG</b>     |         |          |             |
| 7             |         | 100      | 08040907 00 |
| 9             |         | 100      | 08040909 00 |
| 11            |         | 100      | 08040911 00 |
| 13.5          |         | 100      | 08040913 00 |
| 16            |         | 100      | 08040916 00 |
| 21            |         | 100      | 08040921 00 |
| 29            |         | 100      | 08040929 00 |
| <b>Metric</b> |         |          |             |
| M 16 x 1.5    |         | 50       | 08090916 00 |
| M 20 x 1.5    |         | 50       | 08090920 00 |
| M 25 x 1.5    |         | 50       | 08090925 00 |
| M 32 x 1.5    |         | 25       | 08090932 00 |
| M 40 x 1.5    |         | 1        | 08090940 00 |
| M 50 x 1.5    |         | 1        | 08090950 00 |
| M 63 x 1.5    |         | 1        | 08090963 00 |

## Brass Cable Glands EMC Version



|                    |                    |
|--------------------|--------------------|
| Type               | Brass lock nut EMC |
| Material           | Nickel-faced brass |
| Sealing Inset      | -                  |
| External Seal      | -                  |
| Ingress Protection | -                  |
| Temperature Range  | -                  |

| Brass Lock Nut EMC |         |       |             |
|--------------------|---------|-------|-------------|
| Type               | Cable Ø | Model | Part Number |
| <b>PG</b>          |         |       |             |
| 7                  |         | 100   | 08070907 00 |
| 9                  |         | 100   | 08070909 00 |
| 11                 |         | 100   | 08070911 00 |
| 13.5               |         | 100   | 08070913 00 |
| 16                 |         | 100   | 08070916 00 |
| 21                 |         | 100   | 08070921 00 |
| 29                 |         | 100   | 08070929 00 |
| 36                 |         | 100   | 08070936 00 |
| 42                 |         | 100   | 08070942 00 |
| 48                 |         | 100   | 08070948 00 |
| <b>Metric</b>      |         |       |             |
| M 12 x 1.5         |         | 50    | 08070812 00 |
| M 16 x 1.5         |         | 50    | 08070816 00 |
| M 20 x 1.5         |         | 50    | 08070820 00 |
| M 25 x 1.5         |         | 50    | 08070825 00 |
| M 32 x 1.5         |         | 25    | 08070832 00 |
| M 40 x 1.5         |         | 25    | 08070840 00 |

## Brass Cable Glands EMC Version



|                    |                                                                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Characteristics    | For fast, easy EMC connection of cables and leads with the enclosure (via the contact spring and the intermediate connection of the screen mesh). Integrated strain relief, anti-twist protection. |
| Ingress Protection | IP 68                                                                                                                                                                                              |
| Temperature Range  | -4°F to +212°F                                                                                                                                                                                     |

| MEMV EMC Cable Glands |                   |                |             |
|-----------------------|-------------------|----------------|-------------|
| Type                  | Connection Thread | Cable Diameter | Part Number |
| <b>Metric</b>         |                   |                |             |
| MEMV 16               | M 16 x 1.5        | 5.0 - 9.0      | 12102200 00 |
| MEMV 20               | M 20 x 1.5        | 9.0 - 13.0     | 12102300 00 |
| MEMV 25               | M 25 x 1.5        | 11.0 - 16.0    | 12102400 00 |
| MEMV 32               | M 32 x 1.5        | 14.0 - 21.0    | 12102500 00 |
| MEMV 40               | M 40 x 1.5        | 19.0 - 27.0    | 12102600 00 |



|                    |                 |
|--------------------|-----------------|
| Type               | PE seal         |
| Material           | HP Polyethylene |
| Color              | Transparent     |
| Sealing Inset      | -               |
| External Seal      | -               |
| Ingress Protection | -               |
| Temperature Range  | -22°F to +158°F |

| PE Seal   |         |          |             |
|-----------|---------|----------|-------------|
| Type      | Cable Ø | Pcs/Pack | Part Number |
| <b>PG</b> |         |          |             |
| 7         |         | 50       | 08000807 00 |
| 9         |         | 50       | 08000809 00 |
| 11        |         | 50       | 08000811 00 |
| 13.5      |         | 50       | 08000813 00 |
| 16        |         | 50       | 08000816 00 |
| 21        |         | 50       | 08000821 00 |
| 29        |         | 50       | 08000829 00 |
| 36        |         | 50       | 08000836 00 |

# Polyethylene Cable Glands



|                 |                                                                                                                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------|
| Characteristics | Polyethylene twisting nipple with Pg connection thread for feeding through cables, without IP protection or strain relief. |
|-----------------|----------------------------------------------------------------------------------------------------------------------------|

| WN Twisting Nipples |         |                   |             |
|---------------------|---------|-------------------|-------------|
| Model               | Outer Ø | Connection Thread | Part Number |
| WN 9                | 15.2    | PG 9              | 52020100 00 |
| WN 11               | 18.6    | PG 11             | 52020200 00 |
| WN 13               | 20.4    | PG 13.5           | 52020300 00 |
| WN 16               | 22.5    | PG 16             | 52020400 00 |
| WN 21               | 28.3    | PG 21             | 52020500 00 |
| WN 29               | 37      | PG 29             | 52020600 00 |



|                 |                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------|
| Characteristics | Blanking plug for BoplaFlex cable glands not fitted with cables to provide IP 65 ingress protection |
| Material        | Polyethylene                                                                                        |

| VS BF Blanking Plugs for BoplaFlex Cable Glands |                |             |
|-------------------------------------------------|----------------|-------------|
| Model                                           | For Use With   | Part Number |
| VS BF 7                                         | BF 7 / MBF 12  | 10000110 00 |
| VS BF 9                                         | BF 9 / MBF 16  | 10000210 00 |
| VS BF 11                                        | BF 11          | 10000310 00 |
| VS BF 13                                        | BF 13 / MBF 20 | 10000410 00 |
| VS BF 16                                        | BF 16          | 10000510 00 |
| VS BF 21                                        | BF 21 / MBF 25 | 10000610 00 |
| VS BF 29                                        | BF 29          | 10000710 00 |
| VS BF 32                                        | MBF 32         | 10000715 00 |
| VS BF 36                                        | BF 36          | 10000810 00 |
| VS BF 40                                        | MBF 40         | 10000815 00 |



|                 |                                                                                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------|
| Characteristics | Blind washer for all Bopla cable glands. Place the blind washer under the sealing ring if dust protection is required. |
| Material        | Polyethylene                                                                                                           |

| BS Blind Washers for BoplaCon Cable Glands |                                             |             |
|--------------------------------------------|---------------------------------------------|-------------|
| Model                                      | Connection Thread                           | Part Number |
| BS 7                                       | POZ 7 / POZB 7 / MSS 7 / MSD 7 / MSK 7      | 12911280 00 |
| BS 9                                       | POZ 9 / POZB 9 / MSS 9 / MSD 9 / MSK 9      | 12911285 00 |
| BS 11                                      | POZ 11 / POZB 11 / MSS 11 / MSD 11 / MSK 11 | 12911290 00 |
| BS 13                                      | POZ 13 / POZB 13 / MSS 13 / MSD 13 / MSK 13 | 12911300 00 |
| BS 16                                      | POZ 16 / POZB 16 / MSS 16 / MSD 16 / MSK 16 | 12911305 00 |
| BS 21                                      | POZ 21 / POZB 21 / MSS 21 / MSK 21          | 12911310 00 |
| BS 29                                      | POZ 29 / POZB 29 / MSK 29                   | 12911320 00 |





Characteristics Sealing rings for PG or metric type connection threads.

Material Nitrite-rubber

| DR Sealing Rings |                       |             |
|------------------|-----------------------|-------------|
| Model            | For Connection Thread | Part Number |
| <b>PG</b>        |                       |             |
| DR 7             | PG 7                  | 52030000 00 |
| DR 9             | PG 9                  | 52030100 00 |
| DR 11            | PG 11                 | 52030200 00 |
| DR 13            | PG 13                 | 52030300 00 |
| DR 16            | PG 16                 | 52030400 00 |
| DR 21            | PG 21                 | 52030500 00 |
| DR 29            | PG 29                 | 52030600 00 |
| DR 36            | PG 36                 | 52030700 00 |
| <b>Metric</b>    |                       |             |
| MDR 12           | M 12 x 1.5            | 52050100 00 |
| MDR 16           | M 16 x 1.5            | 52050200 00 |
| MDR 20           | M 20 x 1.5            | 52050300 00 |
| MDR 25           | M 25 x 1.5            | 52050400 00 |
| MDR 32           | M 32 x 1.5            | 52050500 00 |
| MDR 40           | M 40 x 1.5            | 52050600 00 |



|                                             |     |
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## Specifications

### Aluminum

#### **ALUMINUM CASTING METHODS**

Rose+Bopla uses three methods to produce their die cast aluminum watertight enclosures:  
Die Casting, Chill Casting, and Sand Casting.

#### **LIMITATIONS**

Like all products, Rose+Bopla's cast aluminum enclosures do have limitations. Rose+Bopla cannot change the size of any of these boxes dimensionally. Rose+Bopla's die cast boxes have depth limitations. Most designs are somewhat shallow. Rose+Bopla cannot increase depth. If depth is a problem, use Rose+Bopla's Build-A-Box® enclosures which are made from aluminum extrusion that can be cut to any depth required. If you cannot find the size you need, please call the factory. We can do a custom size for your application. Tooling costs and minimum order may apply.

#### **ROSE+BOPLA COPPER FREE ALUMINUM**

Rose+Bopla uses AL Si 12 alloy in its cast aluminum housings. The term "Copper Free" is used to describe aluminum alloys which contain less than 0.4% copper. Rose+Bopla's copper content is .10% for Die Castings and .05% for Chill Castings and Sand Castings. It is the reduction in the copper content which increases the natural corrosion resistant properties of aluminum. Copper Free aluminum is particularly resistant to salt atmospheres, sulphur gases and ammonium nitrate. Above a level of 0.4% copper, the range of corrosion due to galvanic action within the structure of the metal increases rapidly.

Rose+Bopla's aluminum alloys are highly superior to most ferrous materials. For military applications we irradiate these enclosures to Mil Spec C-5541, Class 1A or Class 3. Rose+Bopla's "Copper Free" aluminum products provide optimum protection against galvanic corrosion.

#### **ALUMINUM**

| Mechanical, Electrical, and Thermal Properties | Pressure Die-Cast | Chill Cast | Sand Cast | Extrusion | Unit Of Measurement |
|------------------------------------------------|-------------------|------------|-----------|-----------|---------------------|
| Yield                                          | 130               | 80         | 70        | 160       | N/mm <sup>2</sup>   |
| Tensile Strength                               | 240               | 170        | 150       | 215       | N/mm <sup>2</sup>   |
| Ductile Yield                                  | 1                 | 6          | 5         | 12        | %                   |
| Brinell Hardness                               | 60                | 55         | 45        | 70        | HB                  |
| Density                                        | 2.65              | 2.65       | 2.65      | 2.7       | g/cm <sup>3</sup>   |
| Castability                                    | Very Good         | Excellent  | Excellent | -         |                     |
| Polishability                                  | Good              | Adequate   | Adequate  | Excellent |                     |
| Machinability                                  | Good              | Good       | Good      | Excellent |                     |
| Weldability                                    | Limited           | Excellent  | Excellent | Excellent |                     |
| Resistance                                     | 18-27             | 18-27      | 18-27     | 28-34     | m/Ωmm <sup>2</sup>  |
| Thermal Conductivity                           | 130-160           | 140-170    | 140-170   | 190-210   | W/mK                |
| Heat Resistance                                | 200               | 200        | 200       | 200       | °C                  |
| Cold Resistance                                | -100              | -100       | -100      | -100      | °C                  |

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## Specifications

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### Aluminum

#### *GENERAL ALUMINUM*

| Article             | DIN Alloy    | AA Alloy | Closest Equivalent |
|---------------------|--------------|----------|--------------------|
| Aluminum Castings   | AL Si 12     | B4130    | A413               |
| Aluminum Extrusions | AL Mg Si 0.5 | 6060     | 6063               |
| Aluminum Plates     | AL Mg 3      | 5754     | 5052               |

#### *ALUMINUM TOLERANCES*

Sufficient tolerances must be allowed for cast aluminum enclosures and extruded aluminum enclosures. To properly do this, refer to DIN 1688 for castings and DIN EN 12020 for extrusions. Refer to tolerance charts on page 151 through 154.

## Specifications

### Fiberglass

#### COMPRESSION MOLDED FIBERGLASS

- Fiberglass Watertight Enclosures
- Fiberglass Compression Molded Enclosures
- Fiberglass Mobile Control Enclosures

Made of glass fiber (25mm long) reinforced polyester plastic. Heat pressed compression molded under heat and pressure. This guarantees excellent dimensional stability under heat, excellent mechanical strength and dynamic load capacity, very low friction, excellent abrasion resistance to chemicals and weather, excellent surface finish, excellent dimensional stability and little tendency to stress and cracking.

Reinforced glass fiber fiberglass (polyester) mats come in rolls. The rolls are cut in the correct size, weighed and then placed into a heated mold. Under high pressure the material liquifies, and fills the mold completely. After a few minutes under heat and pressure, the completed housing can be removed for trimming and assembly.

In general, the resistance of this material to acids, bleaches and organic solvents ranges from good to excellent.

| Physical Properties   | Approx Value           | Unit of Measurement                                       | Test Standard        |
|-----------------------|------------------------|-----------------------------------------------------------|----------------------|
| Leakage Current       | KA 3c                  | Class                                                     | DIN 53480            |
| Surface Resistance    | 1.0 x 10 <sup>13</sup> | Ohm                                                       | DIN 53482            |
| Absorption of Water   | .6                     | %                                                         | DIN 53472            |
| Combustibility        | self-extinguishing     |                                                           | ASTD D-635 UL 94 VO  |
| Flame Resistance      | self-extinguishing     |                                                           | Almost Non-Flammable |
| Insulation            | fully insulated        |                                                           | VDE 0100-7           |
| Continuous Heat       | -40° C +250° C         |                                                           | DIN 53458            |
| Thermal Conductivity: | .6                     | W/mk (watts per meter x coefficient of thermal expansion) |                      |

NOTE: VALUES SHOWN ARE APPROXIMATE.

| Mechanical Properties  | Approx Value | Unit of Measurement | Test Standard |
|------------------------|--------------|---------------------|---------------|
| Density                | 1.50         | g/cm <sup>3</sup>   | DIN 53479     |
| Resistance to Pressure | 150          | N/mm <sup>2</sup>   | DIN 53453     |
| Elongation             | 1            | %                   | DIN 53455     |
| Modulus of Elasticity  | 7100         | N/mm <sup>2</sup>   | DIN 53457     |
| Bending Strength       | 180          | N/mm <sup>2</sup>   | DIN 53452     |
| Compression Strength   | 120-150      | N/mm <sup>2</sup>   | DIN 53454     |
| Impact Resistance      | 21-25        | KJ/m <sup>2</sup>   | DIN 53453     |
| Shear Resistance       | 180          | N/mm <sup>2</sup>   | DIN 53452     |

NOTE: VALUES SHOWN ARE APPROXIMATE.

## Specifications

### Fiberglass

#### GFK FIBERGLASS

| Physical Properties | Approx. Value             | Unit of Measurement | Test Standard         |
|---------------------|---------------------------|---------------------|-----------------------|
| Surface Resistance  | 4 x 10 <sup>15</sup>      | Ohm                 | KDS 0303<br>DIN 53482 |
| Insulation          | fully insulated           |                     | VDE 0100              |
| Burning Process     | self-extinguishing        |                     | UL 94 VO              |
| Toxic Fumes         | Free of Halogenated Gases |                     |                       |
| Moisture Content    | 0.2% Max                  |                     | DIN 53495<br>ISO/R 62 |

### Polystyrene

| Physical Strength                                   | Approx. Value     | Unit of Measurement | Test Standard          |
|-----------------------------------------------------|-------------------|---------------------|------------------------|
| Tensile strength, yield                             | 27                | MPa                 | ISO 527<br>ASTM D 638  |
| Tensile strain, yield                               | 1.4               | %                   | ISO 527,<br>ASTM D 638 |
| Tensile modulus                                     | 2200              | MPa                 | ISO 527<br>ASTM D 638  |
| Normal strain at break                              | 25                | %                   | ISO 527                |
| Charpy impact, unnotched<br>+ 23° C<br>- 30° C      | 150<br>120        | kJ/m <sup>2</sup>   | ISO 179/1eU            |
| Charpy impact, notched<br>23° C                     | 16                | kJ/m <sup>2</sup>   | ISO 179/1eA            |
| Heat deflation, temperature<br>Method A<br>Method B | 78<br>82          | °C                  | ISO 75                 |
| Vicat Softening, Temperature<br>Method b            | 84                | °C                  | ISO 306                |
| Flame resistance test                               | HB                |                     | UL 94/ISO 1210         |
| Relative Permittivity<br>(100Hz)                    | 2.5               | -                   | ISO 60250              |
| Relative Permittivity<br>(1 MHz)                    | 2.5               | -                   | ISO 60250              |
| Dissipation Factor<br>(100 Hz)                      | 1.5               | E-4                 | ISO 60250              |
| Dissipation Factor<br>(1 MHz)                       | 4                 | E-4                 | ISO 60250              |
| Surface resistivity                                 | >10 <sup>13</sup> | Ohms                | IEC 60093              |



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## Specifications

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### Polycarbonate

#### **POLYCARBONATE**

Features excellent strength, stiffness and impact resistance, very good thermal stability, tough yet flexible down to -150° F, excellent dimensional accuracy and stability, weather resistance, excellent light transmission (up to 89% with translucent grades), good electrical insulating properties. High gloss finish.

Mechanical fastening is a good technique for attaching materials and components to polycarbonate. It is relatively quick and provides high assembly strength. In addition, mechanical fastening does not subject the plastic to chemical changes, accordingly, losses in the properties of the polycarbonate are minimized.

Screws are one form of mechanical fastening used to minimize induced assembly stresses in polycarbonate use. Thread cutting, rather than thread forming screws are recommended. A thread forming screw merely displaces material, setting-up areas of high stress.

THREAD CUTTING screws remove material and do not cause excessive stress when used properly.

#### **NOTE**

POLYCARBONATE IS NOT TOLERANT OF OIL IN GENERAL AND HIGH SULPHIDE OILS, IN PARTICULAR. IF OIL IS CONTINUOUSLY PRESENT, WE DO NOT RECOMMEND POLYCARBONATE.

# Specifications

## Polycarbonate

### POLYCARBONATE

| Physical Properties                                                                                | Approx. Value                    | Unit of Measurement                          | Standard                                                               |
|----------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------|------------------------------------------------------------------------|
| Tensile stress, break                                                                              | 70<br>69                         | MPa                                          | ISO 527<br>ASTM D 638                                                  |
| Tensile strain, break                                                                              | 110<br>130                       | %                                            | ISO 527<br>ASTM D 638                                                  |
| Tensile stress, yield                                                                              | 63<br>62                         | MPa                                          | ISO 527<br>ASTM D 638                                                  |
| Tensile strain, yield                                                                              | 6<br>7                           | %                                            | ISO 527<br>ASTM D 638                                                  |
| Tensile modulus                                                                                    | 2350                             | MPa                                          | ISO 527                                                                |
| Flexural stress, yield                                                                             | 90<br>97                         | MPa                                          | ISO 178<br>ASTM D 790                                                  |
| Flexural modulus                                                                                   | 2300<br>2340                     | MPa                                          | ISO 178<br>ASTM D 790                                                  |
| Izod impact, unnotched<br>+ 23° C<br>- 30° C<br>+ 23° C                                            | No failure<br>No failure<br>3204 | KJ/m <sup>2</sup><br>KJ/m <sup>2</sup><br>Jm | ISO 180/1U<br>ISO 180/1U<br>ASTM D 4812                                |
| Izod impact, notched<br>+ 23° C<br>- 30° C<br>+ 23° C                                              | 25<br>10<br>801                  | KJ/m <sup>2</sup><br><br>Jm                  | ISO 180/1A<br>ISO 180/1A<br>ASTM D 256                                 |
| Charpy impact, unnotched<br>+ 23° C<br>- 30° C                                                     | No failure<br>No failure         | KJ/m <sup>2</sup><br>KJ/m <sup>2</sup>       | ISO 179/1eU<br>ISO 179/1eU                                             |
| Charpy impact, notched<br>+ 23° C                                                                  | 35                               | KJ/m <sup>2</sup>                            | ISO 179/2C                                                             |
| Taber abrasion, CS-17, 1 kg                                                                        | 10                               | Mg/1000cy                                    | ASTM 1044                                                              |
| Ball indentation, 125° C                                                                           | Passes                           | --                                           | IEC 60695-10-2                                                         |
| Thermal conductivity                                                                               | 0.2<br>0.27                      | W/m-°C                                       | ISO 8302<br>ASTM C 177                                                 |
| Specific heat                                                                                      | 1.26                             | J/g-°C                                       | ASTM C 351                                                             |
| Vicat Softening Temperature<br>Method b<br>Method a                                                | 141<br>153                       | °C                                           | ISO 306/ASTM D 1525                                                    |
| Long term service temperature                                                                      | 115-135                          | °C                                           |                                                                        |
| Heat deflection temperature<br>Method A<br>Method B                                                | 135<br>140                       | °C                                           | ISO 75<br>ISO 75                                                       |
| Flame resistance test                                                                              | V-2                              |                                              | UL 94                                                                  |
| Shrinkage                                                                                          | 0.5-0.7                          | %                                            |                                                                        |
| Dielectric strength, in air,<br>3.2mm<br>1.0 mm<br>in oil, 0.8mm<br>in oil, 1.6mm<br>in oil, 3.2mm | 15<br>15<br>35<br>27<br>17       | KV/mm                                        | ASTM D 149<br>IEC 60243-1<br>IEC 60243-1<br>IEC 60243-1<br>IEC 60243-1 |
| Surface resistivity                                                                                | >10 <sup>15</sup>                | Ohms                                         | IEC 60093                                                              |
| Volume resistivity                                                                                 | 10 <sup>15</sup>                 | Ohm-cm                                       | IEC 60093                                                              |
| Permittivity<br>50 Hz<br>1 MHz                                                                     | 2.7<br>2.7                       |                                              | IEC 60250<br>IEC 60250                                                 |
| Water absorption<br>23°C, 50% RH<br>23° C, storage in H <sub>2</sub> O                             | 0.15<br>0.35                     | %                                            | ISO 62<br>ISO 62                                                       |

## Specifications

### ABS

#### ABS

ABS offers an excellent combination of mechanical and thermal properties, outstanding stiffness, impact strength, hardness, heat resistance, and dimensional stability. ABS can be chemically electroplated.

| Physical Properties                                  | Approx. Value     | Unit of Measurement | Test Standard  |
|------------------------------------------------------|-------------------|---------------------|----------------|
| Tensile stress, yield                                | 50                | MPa                 | ISO 527        |
| Tensile strain, yield                                | 2.3               | %                   | ISO 527        |
| Tensile modulus                                      | 2300              | MPa                 | ISO 527        |
| Flexural stress, yield                               | 72                | MPa                 | ISO 178        |
| Flexural modulus                                     | 2460              | MPa                 | ISO 178        |
| Izod impact, notched<br>+ 23°C                       | 16                | KJ/m <sup>2</sup>   | ISO 180/1A     |
| Charpy impact, unnotched<br>+ 23°C<br>-30° C         | No failure<br>75  | KJ/m <sup>2</sup>   | ISO 179/1eU    |
| Charpy impact, notched<br>+23°C<br>- 30°C            | 18<br>8           | KJ/m <sup>2</sup>   | ISO 179/2C     |
| Ball indentation, hardness                           | 108               | MPa                 | ISO 2039-1     |
| Thermal conductivity                                 | 0.18              | W/mK                | DIN 52612      |
| Vicat Softening, temperature<br>Method b<br>Method a | 97                | °C                  | ISO 306        |
| Heat deflection, temperature<br>Method A<br>Method B | 92<br>96          | °C                  | ISO 75         |
| Flame resistance test                                | HB                |                     | UL 94/ISO 1210 |
| Dielectric Strength                                  | 17                | KV/mm               | IEC 60243-1    |
| Surface resistivity                                  | >10 <sup>14</sup> | Ohms                | IEC 60093      |
| Volume resistivity                                   | 1015              | Ohm-cm              | IEC 60093      |
| Water absorption<br>23°C, storage H <sub>2</sub> O   | 0.4               | %                   | ISO 62         |

### ABS

#### **WEATHERABILITY OF POLYCARBONATE & ABS**

Unlike the Rose+Bopla compression molded and GFK fiberglass enclosures, our polycarbonate and ABS enclosures are affected by weather, particularly, ultra-violet light.

The quality of most materials deteriorate if they are exposed to the weather for long periods of time.

For ABS moldings, exposure to direct sunlight is harmful. Yellowing of the material gradually leads to changes in most color shades. The surface of the moldings lose their gloss, become harder and rough. If objects damaged in this way are subjected to mechanical load (eg: impact), a marked reduction in their initial toughness is noticeable, particularly if the damaged side is situated in the tensile zone of deflection with prolonged exposure to ultra violet rays, fine micro cracks will appear. Fine micro cracks act as notches. The original micro-crack damage itself only extends to a slight depth, and polishing the weathered surface restores its original toughness.

To decide whether ABS or polycarbonate can be used depends on the extent to which it is affected by the above mentioned changes, the design of the part, and its application.

For example, a part which suffers surface damage by impact in the compressive zone has a much better performance than a part suffering impact in the tensile zone.

Polycarbonate is affected by weathering, but due to its general technical properties being higher in performance than ABS, the polycarbonate parts will retain higher mechanical values after equal exposure to weather.

## Specifications

### Polyamide

#### POLYAMIDE SPECIFICATIONS

| Material Properties     | Approx. Value |        | Unit of Measurement | Test Standard |
|-------------------------|---------------|--------|---------------------|---------------|
| Impact Strength         | –             | 35     | KJ/m <sup>2</sup>   | DIN 53453     |
| Heat Resistance*        | 80-100*       | 120    | °C                  | –             |
| Cold Resistance*        | -40           | -40    | °C                  | –             |
| Notched Impact Strength | 17            | 20     | KJ/m <sup>2</sup>   | DIN 53453     |
| Maximum Bending Stress  | 150           | 100    | N/mm <sup>2</sup>   | DIN 53452     |
| Elastic Modulus         | 6000          | 2700   | N/mm <sup>2</sup>   | DIN 53455     |
| Elastic Stretch         | 4             | 18     | %                   | –             |
| Flammability            | 94HB          | 94HB   | Class               | UL 94         |
| Water Absorption        | 1             | .9     | %                   | DIN 53472     |
| Creep Resistance        | KB 350        | KB 350 | Class               | DIN 53480     |
| Thermal Conductivity    | .33           | –      | w/m °C              | VDE 0304/1    |

\*The temperature resistance of the enclosure is dependent upon the installed gasket. Temperature limits can also be influenced by mechanical stress.

### Material Properties of Plastics

| Material Properties                           | Unit              | Test Requirements                              | PS                | ABS               | PC                | SE 1 GFN1         | PC / ABS Blend | PA6.6 FR          | PA6 FR (NV12)     | PA6 GF 15         | UP-GF             |
|-----------------------------------------------|-------------------|------------------------------------------------|-------------------|-------------------|-------------------|-------------------|----------------|-------------------|-------------------|-------------------|-------------------|
| Impact strength +20° C                        | KJ/m <sup>2</sup> | ISO 179                                        | –                 | 60                | without           | 30                | –              | –                 | without           | 36                | 49                |
| Impact strength -40° C                        |                   | DIN 53453                                      | –                 | 40                | breaking          | 30                | –              | –                 | breaking          | –                 | –                 |
| Notched impact str. (Charpy) +20° C           | KJ/m <sup>2</sup> | ISO 179                                        | 7                 | 10                | 25                | –                 | –              | –                 | 3.5               | 55                | –                 |
| Notched impact str. (Charpy) -40° C           |                   | DIN 53453                                      | 4                 | 4                 | 10                | –                 | –              | –                 | –                 | –                 | –                 |
| Max. bending stress                           | N/mm <sup>2</sup> | ISO 178<br>DIN 53452                           | –                 | 64                | >70               | 110               | –              | –                 | –                 | –                 | 100               |
| Round body pressure test                      | °C                | ISO 335–1<br>DIN 0471/2–1                      | –                 | 75                | 125               | 125               | 125            | –                 | 125               | –                 | –                 |
| Retention of shape under heat <sup>1)</sup> A | °C                | ISO 75                                         | 75                | 80                | 125               | 120               | 120            | 90                | 70                | 150               | 150               |
| Retention of shape under heat <sup>1)</sup> B |                   | DIN 53461                                      | –                 | 85                | 135               | 130               | 130            | 215               | 190               | 210               | –                 |
| Thermal conductivity                          | W/mK              | DIN 53461<br>ASTM 648                          | 0.17              | 0.18              | 0.2               | 0.23              | –              | –                 | –                 | –                 | 0.6               |
| Glow hot wire test                            | °C<br>with mm     | ISO 695<br>DIN 0471/2–1                        | –                 | 650/2             | 850/1             | 960/3.2           | 960/2          | –                 | 850/1             | –                 | –                 |
| Combustibility                                | Grade<br>from mm  | UL 94                                          | HB/1.47           | HB/1.6            | V2/1.14           | V1/1.47           | VO/1.6         | VO/1              | V2/1.6            | HB/1.6            | VO/4              |
| Water absorption                              | %                 | ISO 62<br>DIN 53495<br>ASTM D 570              | <0.1              | 0.4               | 0.35              | 0.22              | –              | 2.2               | 2.5               | 2.2               | 0.7               |
| Surface resistivity                           | Ohm               | IEC 93<br>DIN 53482<br>ASTM 257                | >10 <sup>13</sup> | >10 <sup>14</sup> | >10 <sup>15</sup> | >10 <sup>15</sup> | –              | >10 <sup>15</sup> | >10 <sup>12</sup> | –                 | >10 <sup>12</sup> |
| Special Volume resistivity                    | Ohm<br>x cm       | IEC 93<br>DIN 53482<br>VDE 303 T3<br>ASTM 257  | >10 <sup>16</sup> | >10 <sup>15</sup> | >10 <sup>16</sup> | >10 <sup>15</sup> | –              | >10 <sup>15</sup> | >10 <sup>15</sup> | >10 <sup>12</sup> | >10 <sup>13</sup> |
| Dielectric strength                           | KV / mm           | IEC 243<br>DIN 53481<br>VDE 303 T2<br>ASTM 149 | –                 | 17                | 28                | 26                | –              | –                 | –                 | –                 | 25                |

<sup>1)</sup> The ability of the enclosure to maintain their shape when subject to heat depends on a seal being inserted. The temperature resistance can still be affected by mechanical stress.

The above data are for guidance only. It has been determined using standardized test pieces and can vary within normal tolerances.

The combustibility classification refers to the material and deviations are possible in finished parts if these have a different material strength.

## Specifications

### Material Chemical Resistance

| Type                                     | PS  | ABS | PC  | PA  | Aluminum | Stainless Steel | Polyester |
|------------------------------------------|-----|-----|-----|-----|----------|-----------------|-----------|
| Acetic acid                              | 50% | 25% | 10% | 5%  | +        | +               | 40%       |
| Acetone                                  | -   | -   | -   | +   | +        | +               | -         |
| Ammonia                                  | +   | 25% | -   | 10% | +        | +               | -         |
| Benzene                                  | -   | -   | •   | +   | +        | +               | +         |
| Benzole                                  | -   | -   | -   | -   | +        | +               | +         |
| Brake fluid                              | /   | •   | -   | +   | /        | /               | +         |
| Butane                                   | -   | +   | +   | +   | +        | /               | /         |
| Butanol                                  | /   | /   | /   | +   | /        | /               | +         |
| Calcium chloride                         | +   | +   | +   | 10% | +        | +               | +         |
| Carbon disulphide                        | -   | -   | -   | +   | +        | +               | -         |
| Carbon tetrachloride                     | -   | -   | /   | +   | +        | /               | +         |
| Caustic potash solution                  | 50% | 50% | -   | 50% | /        | +               | -         |
| Chlorine benzole                         | -   | -   | -   | +   | +        | /               | +         |
| Citric acid                              | +   | +   | 10% | /   | +        | /               | +         |
| Diesel oil                               | -   | +   | •   | +   | /        | /               | +         |
| Detergents                               | /   | /   | +   | /   | /        | +               | /         |
| Engine oils                              | •   | +   | +   | +   | /        | /               | +         |
| Formaldehyde                             | 40% | 30% | /   | •   | +        | +               | 30%       |
| Formic acid                              | 40% | -   | -   | -   | •        | +               | 10%       |
| Frigen                                   | /   | -   | +   | +   | /        | /               | +         |
| Fruit Juice                              | /   | /   | +   | +   | /        | +               | +         |
| Glycerine                                | +   | +   | •   | +   | +        | +               | +         |
| Heating oil                              | -   | •   | •   | +   | +        | +               | +         |
| Hydraulic oil                            | /   | /   | +   | +   | /        | /               | +         |
| Hydrochloric acid                        | 10% | /   | 20% | -   | /        | +               | +         |
| Lactic acid                              | 80% | 80% | +   | •   | +        | +               | +         |
| Linseed oil                              | +   | +   | +   | +   | +        | +               | +         |
| Lubricating oil                          | /   | /   | +   | +   | +        | +               | +         |
| Methanol                                 | /   | /   | -   | •   | +        | +               | -         |
| Methylene chloride                       | -   | -   | -   | •   | +        | +               | -         |
| Mineral oils                             | /   | /   | +   | +   | /        | /               | +         |
| Nitric oils                              | 10% | -   | 10% | -   | +        | +               | 10%       |
| Potassium chloride                       | +   | /   | +   | 10% | •        | +               | +         |
| Potassium hydroxide                      | /   | /   | /   | /   | -        | +               | -         |
| Soap suds                                | /   | /   | •   | /   | /        | +               | +         |
| Soda lye                                 | 50% | 50% | -   | +   | /        | +               | 40%       |
| Sodium carbonate                         | +   | +   | +   | 10% | •        | +               | +         |
| Sodium chloride                          | +   | +   | +   | -   | •        | •               | +         |
| Sodium hydroxide                         | /   | +   | /   | /   | +        | +               | -         |
| Sulphuric acid                           | 50% | 50% | 50% | -   | •        | +               | 70%       |
| Tartaric acid                            | +   | +   | +   | 10% | /        | /               | +         |
| Toluol                                   | -   | -   | -   | +   | +        | /               | +         |
| Trichloroethylene                        | -   | -   | -   | +   | +        | /               | -         |
| Turpentine oil                           | -   | /   | •   | +   | /        | /               | +         |
| Water (distilled, river, tap, sea water) | +   | +   | +   | +   | /        | +               | +         |
| Xylol                                    | -   | -   | -   | +   | +        | /               | +         |
| Zinc sulphate                            | +   | +   | +   | /   | •        | /               | +         |

- + Resistant to all concentrations
- % Resistant to max % concentration
- C° Resistant up to max C°
- Conditionally resistant
- Not resistant
- / No information available

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## Specifications

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### Military

THE FOLLOWING STANDARDS WILL BE APPLIED ONLY WHEN SPECIFIED.

|                                 |                                  |             |
|---------------------------------|----------------------------------|-------------|
| <b>FEDERAL SUPPLY<br/>CODES</b> | Rose Federal Supply Code         | #FSCM-4Y520 |
|                                 | Rose Foreign Country Supply Code | #FSCM-C024  |
|                                 | Cage Code                        | 1L9R7       |

|                               |               |
|-------------------------------|---------------|
| <b>QUALITY<br/>PROCEDURES</b> | ISO 9001:2000 |
|-------------------------------|---------------|

|                                                |               |
|------------------------------------------------|---------------|
| <b>CALIBRATION<br/>SYSTEM<br/>REQUIREMENTS</b> | ISO 9001:2000 |
|------------------------------------------------|---------------|

|                                     |                       |          |
|-------------------------------------|-----------------------|----------|
| <b>ASSEMBLY &amp;<br/>PACKAGING</b> | Mil Spec              | #STD-130 |
|                                     | Special request only. |          |

|                 |             |                |
|-----------------|-------------|----------------|
| <b>ALUMINUM</b> | Mil Spec    | ASTM-B85       |
|                 | ASTM        | #B-8560: S 12A |
|                 | For Europe: | DIN 230 Alloy  |

|                                       |                        |                                                |
|---------------------------------------|------------------------|------------------------------------------------|
| <b>STAINLESS STEEL<br/>LID SCREWS</b> | <b>Hardness Cross:</b> | 70                                             |
|                                       | <b>Torque:</b>         | M4 = 18-26 inch lbs.      M6 = 26-35 inch lbs. |

Torque specs are included for reference only. Rose+Bopla does not recommend using a torque wrench on enclosures (tighten until snug).

|                              |                                                    |  |
|------------------------------|----------------------------------------------------|--|
| <b>MACHINED<br/>SURFACES</b> | When specified, Rose+Bopla can:                    |  |
|                              | (A) Machine Surfaces to 125 micro inches or better |  |
|                              | (B) Deburr / Break All Sharp Edges                 |  |
|                              | (C) Remove All Burrs                               |  |

|                  |                                    |  |
|------------------|------------------------------------|--|
| <b>Helicoils</b> |                                    |  |
| Mil Spec         | #NASM-21209 Helicoil Insert Method |  |

#### Masking Surfaces Prior To Painting

Rose+Bopla will mask all threaded surfaces and connector mating surfaces prior to primer and paint application.

#### Chemical Surface Treatments

|                 |          |                  |
|-----------------|----------|------------------|
| Gold Irridite:  | Mil Spec | #C-5541-Class 1A |
| Clear Irridite: | Mil Spec | #C-5541-Class 3  |

NOTE: Gold irridding to Mil Spec C-5541-Class 1A offers superior protection, but creates a less conductive surface for grounding or shielding. Clear irridding to Mil Spec C-5541-Class 3 offers less protection from corrosion, but leaves a conductive surface which is recommended for optimum EMI shielding. All machined surfaces are irriddited after machining.

#### Anodizing

|                  |                                                                       |  |
|------------------|-----------------------------------------------------------------------|--|
| Mil Spec         | # A 8625: Black Anodize Class 2 Type 2, Nickel acetate sealcoat test. |  |
| Federal Standard | #595A: Color 37038                                                    |  |

NOTE: All machined surfaces can be anodized after machining.



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# Specifications

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## Military: Coatings

Rose+Bopla normally does not paint any inside surfaces on Military boxes, but leaves them gold irriddited bare aluminum (unpainted) in accordance with normal requirements.

Rose+Bopla will evaluate coating requirements on a per contract basis. Our capabilities include both wet spray and powder coating.

### Silk Screen Ink

|          |          |                 |
|----------|----------|-----------------|
| Mil Spec | #A-56032 | Epoxy Ink White |
| Mil Spec | #A-56032 | Epoxy Ink Black |

### Engraving

Per customer's specifications.

# Specifications

## EMI/RFI Coatings and Gaskets

### EMI/RFI SHIELDED COATINGS

We offer the Isolex WP 120 nickel acrylic conductive coating as our standard EMI/RFI coating. Upon request we also have available Electro DAG 7050, copper acrylic conductive coating.

Detailed spec sheet is available upon request.

### EMI/RFI SHIELDED STANDARD GASKETS

All data supplied is from manufacturer's engineering data sheets.

We offer the Cho-Seal 1350 gasket as our standard EMI/RFI gasket.

Cho-Seal is a silver-plated glass-filled material and will not remain sufficiently conductive during vibration or after EMP-induced currents.

|                                                    |                        |        | Test Standard               | Cho-Seal 1350            |
|----------------------------------------------------|------------------------|--------|-----------------------------|--------------------------|
| Grade                                              |                        |        |                             | Industrial<br>Commercial |
| Elastomer Binder                                   |                        |        |                             | Silicone                 |
| Conductive Filler                                  |                        |        |                             | Ag/glass                 |
| Volume Resistivity<br>(ohm-cm, max) as supplied    |                        |        | MIL-G-83528<br>Para. 4.6.11 | 0.01                     |
| Durometer (shore A±5)                              |                        |        | ASTM D2240                  | 65                       |
| Specific Gravity (±0.2)                            |                        |        | ASTM D792                   | 1.8                      |
| Tensile Strength (psi, min)                        |                        |        | ASTM D412                   | 150                      |
| Elongation<br>(percent, min/max)                   |                        |        | ASTM D412                   | 75/300                   |
| Tear Strength (lb./in., min.)                      |                        |        | ASTM D624                   | 25                       |
| Compression Set, 70 hrs @ 100° C<br>(percent, max) |                        |        | ASTM D395<br>Method B       | 30                       |
| Low Temperature Flex, TRIO<br>(° C, minimum)       |                        |        | ASTM D1329                  | -55                      |
| Maximum Continuous Use<br>Temperature (° C)        |                        |        |                             | 160                      |
| Shielding<br>Effectiveness                         | 200 kHz (H Field)      |        | MIL-G-83528<br>Para. 4.6.12 | 50                       |
|                                                    | 100 MHz (E Field)      |        |                             | 100                      |
|                                                    | 500 MHz (E Field)      |        |                             | 100                      |
|                                                    | 2 GHz (Plane Wave)     |        |                             | 90                       |
|                                                    | 10 GHz (Plane Wave)    |        |                             | 80                       |
| Electrical Stability                               | Heat Aging             |        | MIL-G-83528<br>Para. 4.6.15 |                          |
|                                                    | Vibration              | During | MIL-G-83528<br>Para. 4.6.13 | N/A                      |
|                                                    |                        | After  |                             | N/A                      |
|                                                    | Post Tensile Set       |        | MIL-G-83528<br>Para. 4.6.9  | 0.01<br>0.01             |
|                                                    | EMP Survivability (KA) |        | MIL-G-83528<br>Para. 4.6.16 | NS                       |

## Specifications

### Gaskets

**EMI/RFI SHIELDED  
OPTIONAL GASKETS  
(SPECIAL ORDER  
ONLY)**

For military requirements where greater shielding is required, such as EMP survivability, we can supply Cho-Seal 1285 gasket, which meets the Specs listed below. Rose+Bopla DOES NOT stock this gasket. Accordingly, we will have to advise lead-time, delivery, cost and minimum quantity (if applicable), if Rose+Bopla is to supply this higher grade gasket.

|                                                    |                        |                | Cho-Seal 1285               | Test Standard    |
|----------------------------------------------------|------------------------|----------------|-----------------------------|------------------|
| Grade                                              |                        |                |                             | Mil<br>Aerospace |
| Elastomer Binder                                   |                        |                |                             | Silicone         |
| Conductive Filler                                  |                        |                |                             | Ag/AI            |
| Volume Resistivity<br>(ohm-cm, max) as supplied    |                        |                | MIL-G-83528<br>Para. 4.6.11 | 0.008            |
| Durometer (shore A±5)                              |                        |                | ASTM D2240                  | 65               |
| Specific Gravity (±0.2)                            |                        |                | ASTM D792                   | 1.9              |
| Tensile Strength (psi, min)                        |                        |                | ASTM D412                   | 200              |
| Elongation<br>(percent, min/max)                   |                        |                | ASTM D412                   | 100/300          |
| Tear Strength (lb./in., min.)                      |                        |                | ASTM D624                   | 30               |
| Compression Set, 70 hrs @ 100° C<br>(percent, max) |                        |                | ASTM D395<br>Method B       | 32               |
| Low Temperature Flex, TRIO<br>(° C, minimum)       |                        |                | ASTM D1329                  | -65              |
| Maximum Continuous<br>Temperature (° C)            |                        |                |                             | 200              |
| Shielding<br>Effectiveness                         | 200 kHz (H Field)      | (db, min.)     | MIL-G-83528<br>Para. 4.6.12 | 60               |
|                                                    | 100 MHz (E Field)      |                |                             | 115              |
|                                                    | 500 MHz (E Field)      |                |                             | 100              |
|                                                    | 2 GHz (Plane Wave)     |                |                             | 105              |
|                                                    | 10 GHz (Plane Wave)    |                |                             | 100              |
| Electrical Stability                               | Heat Aging             | (ohm-cm, max.) | MIL-G-83528<br>Para. 4.6.15 | 0.01             |
|                                                    | Vibration              |                | MIL-G-83528<br>Para. 4.6.13 | 0.012            |
|                                                    | Resistance             |                |                             | 0.008            |
|                                                    | Post Tensile Set       |                | MIL-G-83528<br>Para. 4.6.9  | 0.015            |
|                                                    | EMP Survivability (KA) |                | MIL-G-83528<br>Para. 4.6.16 | 0.9              |

\* Maximum continuous use is defined as 1000 hours at max. rated temperature (compressed between flanges 7-10%) without electrical degradation above the limits given under Electrical Stability-Heat Aging.

**CROSS REFERENCE  
CHART**

| Rose Part Number | Gasket Size |        |
|------------------|-------------|--------|
|                  | Metric      | Inches |
| 10082020 00      | 2.0mm       | .078   |
| 10082021 00      | 2.5mm       | .098   |
| 10082022 00      | 3.0mm       | .118   |
| 10082023 00      | 3.5mm       | .137   |
| 10082024 00      | 4.0mm       | .157   |
| 10082025 00      | 5.0mm       | .197   |
| 10082026 00      | 5.5mm       | .216   |

## Specifications

### Standard Paint Color Guide

#### STANDARD METALLIC COLOR GUIDE

| Product Category | Description<br>Acrylic Enamel #                       | P. P. G.<br>Industrial | Color           |
|------------------|-------------------------------------------------------|------------------------|-----------------|
| 01               | Painted Aluminum                                      | RAL 7001               | Gray            |
| 04               | Aluform                                               | RAL 7038               | Light Gray      |
| 01               | Corrosion-Proof Aluminum                              | DAR 2825H              | Bright Blue     |
| 07               | P.C. Board Extrusions<br>0701, 0702, 0703, 0710, 0711 | RAL 9005               | Black           |
| 07               | Profitronic 19 Body                                   | RAL 7035               | White Gray      |
| 07               | Profitronic 19 Trim                                   | RAL 7030               | Stone Gray      |
| 88               | 8850 Support Arms                                     | RAL 7035               | Light Gray      |
| 49               | 49, 51, 61, 81 Suspension<br>Components               | RAL 7043               | Dark Gray       |
| 13               | Small Machine Control<br>Enclosures 1300 Base         | RAL 7038               | Light Gray      |
| 13               | Small Machine Control<br>Enclosures 1300 Bezels       | RAL 7043               | Dark Gray       |
| SL 2000          | Thin Profile Machine<br>Control Enclosures            | RAL 7035               | White Gray      |
| 54               | Large Machine Control<br>Enclosures 5400              | DAR 5400 SC            | Gold Smoke Gray |

#### STANDARD NON-METALLIC COLOR GUIDE

| Product Category | Description                            | RAL Color |
|------------------|----------------------------------------|-----------|
| 02               | Fiberglass                             | 7000      |
| 06               | Fiberglass Safety                      | 9011      |
| PK               | Polyamide                              | 7001      |
| 03, 33, EM       | Polycarbonate                          | 7035      |
| 09, ET           | ABS                                    | 7035      |
| 21               | ABS Cabinets                           | 7035      |
| 21               | GFK Cabinets                           | 7032      |
| 21               | Compression-Molded Fiberglass Cabinets | 7038      |
| 14               | Fiberglass Modular Flange              | 7032      |
| 17               | Polycarbonate Modular Flange           | 7032      |
| 08               | Polyamide Cable Grips                  | 7035      |
| 29               | Mobile Control Housings                | 1021      |

## Specifications

### Cable Grip

#### **CABLE GRIP INSTALLATION INFORMATION**

PG cable glands are in the process of being phased out. These will be replaced with metric type glands. Rose+Bopla's PG cable grips employ a special thread not generally available in America, therefore we are standardizing with metric.

Accordingly, Rose+Bopla has a limited stock of taps for sale to customers wishing to drill, tap and install Rose+Bopla's PG type cable grips at their own facilities. We do not offer metric taps, however they can be purchased through your local hardware supplier.

Listed below is the necessary information for drilling and tapping holes for Rose+Bopla's PG or metric cable grips and the appropriate tap part number. Thick wall applications require that you tap holes for cable glands. Thin wall applications may be drilled through with a nut.

#### **CROSS REFERENCE CHART**

| Metric Cable Grip Size | Tap Size   | Metric Tapped Hole Size | Inch Tapped Hole Size | Closest American Drill Size | Metric Through-Hole | Inch Through-Hole |
|------------------------|------------|-------------------------|-----------------------|-----------------------------|---------------------|-------------------|
| M 12                   | M 12 x 1.5 | 10.5 mm                 | 0.413                 | z (.413)                    | 12.2 mm             | 0.480             |
| M 16                   | M 16 x 1.5 | 14.5 mm                 | 0.571                 | 37/64" (.578)               | 16.2 mm             | 0.638             |
| M 20                   | M 20 x 1.5 | 18.5 mm                 | 0.728                 | 47/64" (.734)               | 20.2 mm             | 0.795             |
| M 25                   | M 25 x 1.5 | 23.5 mm                 | 0.925                 | 59/64" (.922)               | 25.2 mm             | 0.992             |
| M 32                   | M 32 x 1.5 | 30.5 mm                 | 1.2                   | -                           | 32.2 mm             | 1.268             |
| M 40                   | M 40 x 1.5 | 38.5 mm                 | 1.516                 | -                           | 40.2 mm             | 1.583             |

If you are going to use a polyamide grip with a nut and are not going to tap the hole, you will need to drill a larger hole to push the grip through. Use the chart below for the correct size hole.

#### **DRILL HOLE AND TAP INFORMATION**

| Cable Grip Size | Rose PG Tap Part Number | Metric Tapped Hole Size | Inch Tapped Hole Size | Closest American Drill Size | Metric Through-Hole | Inch Through-Hole |
|-----------------|-------------------------|-------------------------|-----------------------|-----------------------------|---------------------|-------------------|
| PG 7            | 08070000                | 11.5 mm                 | 0.453                 | 29/64" (.453)               | 12.3 mm             | 0.484             |
| PG 9            | 08090000                | 14 mm                   | 0.551                 | 35/64" (.547)               | 15.1 mm             | 0.594             |
| PG 11           | 08110000                | 17.25 mm                | 0.679                 | 43/64" (.672)               | 19.6 mm             | 0.772             |
| PG 13.5         | 08130000                | 19 mm                   | 0.748                 | 3/4" (.750)                 | 20.2 mm             | 0.795             |
| PG 16           | 08160000                | 21.25 mm                | 0.837                 | 53/64" (.828)               | 22.3 mm             | 0.878             |
| PG 21           | 08210000                | 27 mm                   | 1.063                 | 1 1/16" (1.063)             | 28.2 mm             | 1.11              |
| PG 29           | 08290000                | 35.5 mm                 | 1.398                 | 1 25/64" (1.391)            | 36.9 mm             | 1.453             |
| PG 36           | 08360000                | 45.5 mm                 | 1.791                 | 1 51/64" (1.797)            | 48.8 mm             | 1.921             |
| PG 42           | 08420000                | 52.8 mm                 | 2.079                 | 2 5/64" (2.078)             | -                   | -                 |
| PG 48           | 08480000                | 58 mm                   | 2.283                 | 2 9/32" (2.281)             | -                   | -                 |

#### **CABLE GRIP SELECTION GUIDE**

| Wire Size |           | Metric Size | PG Size | American Size |
|-----------|-----------|-------------|---------|---------------|
| mm        | Inches    |             |         |               |
| 3-6.5     | .12-.26   | M12         | PG 7    | -             |
| 4-8       | .18-.32   | M16         | PG 9    | 3/8" NPT      |
| 6-10      | .24-.39   | M16         | PG 11   | -             |
| 6-12      | .24-.47   | M20         | -       | -             |
| 7-12      | .28-.47   | -           | PG 13.5 | 1/2" NPT      |
| 10-14     | .39-.55   | M20         | PG 16   | -             |
| 13-18     | .51-.71   | -           | PG 21   | 3/4" NPT      |
| 14-18     | .55-.71   | M25         | -       | -             |
| 20-25     | .79-.98   | M32         | PG 29   | 1" NPT        |
| 24-32     | .95-1.26  | M40         | PG 36   | -             |
| 32-38     | 1.26-1.50 | M50         | PG 42   | -             |
| 37-44     | 1.46-1.73 | M63         | PG 48   | -             |

# Tolerances

## Aluminum

### TOLERANCES FOR PRESSURE DIECASTINGS (DIN 1688)\*

#### 1) Determining the spatial diagonal:

The spatial diagonal R is that between the extreme points of the casting.

It is calculated from the nominal dimensions of the prismatic body, which delimits the casting, whatever its shape

$$R = \sqrt{l^2 + b^2 + h^2} \text{ (spatial diagonal)}$$

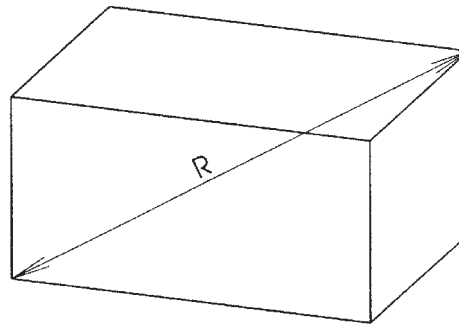


Table 1. Tolerances of dimensions for lengths, widths, heights, central distances, diameters and roundings.

| Spatial diagonal area | Degree of exactitude | Shape dependency | Nominal Dimension Area |                  |                  |                  |                   |                    |                    |                    |                    |                    |                    |                    |                     |                      |
|-----------------------|----------------------|------------------|------------------------|------------------|------------------|------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|----------------------|
|                       |                      |                  | up to 18               | over 18 up to 30 | over 30 up to 50 | over 50 up to 80 | over 80 up to 120 | over 120 up to 180 | over 180 up to 250 | over 250 up to 315 | over 315 up to 400 | over 400 up to 500 | over 500 up to 630 | over 630 up to 800 | over 800 up to 1000 | over 1000 up to 1250 |
| over 180              | GTA 13               | Intrinsic        | ±0.14                  | ±0.17            | ±0.20            | ±0.23            | ±0.27             | ±0.32              |                    |                    |                    |                    |                    |                    |                     |                      |
|                       |                      | Non-Intrinsic    | ±0.24                  | ±0.27            | ±0.30            | ±0.33            | ±0.37             | ±0.42              |                    |                    |                    |                    |                    |                    |                     |                      |
| over 50 up to 500     | GTA 13/5             | Intrinsic        | ±0.17                  | ±0.20            | ±0.25            | ±0.30            | ±0.35             | ±0.40              | ±0.45              | ±0.50              | ±0.55              | ±0.60              |                    |                    |                     |                      |
|                       |                      | Non-Intrinsic    | ±0.32                  | ±0.35            | ±0.40            | ±0.45            | ±0.50             | ±0.55              | ±0.60              | ±0.65              | ±0.70              | ±0.75              |                    |                    |                     |                      |
| over 180              | GTA 14               | Intrinsic        | ±0.22                  | ±0.26            | ±0.31            | ±0.37            | ±0.44             | ±0.50              | ±0.60              | ±0.65              | ±0.70              | ±0.80              | ±0.90              | ±1.00              | ±1.20               | ±1.30                |
|                       |                      | Non-Intrinsic    | ±0.42                  | ±0.46            | ±0.51            | ±0.57            | ±0.64             | ±0.70              | ±0.80              | ±0.85              | ±0.90              | ±1.00              | ±1.10              | ±1.20              | ±1.40               | ±1.50                |
| over 500              | GTA 14/5             | Intrinsic        | ±0.25                  | ±0.35            | ±0.40            | ±0.45            | ±0.55             | ±0.65              | ±0.75              | ±0.80              | ±0.85              | ±0.95              | ±1.10              | ±1.20              | ±1.40               | ±1.60                |
|                       |                      | Non-Intrinsic    | ±0.55                  | ±0.65            | ±0.70            | ±0.75            | ±0.85             | ±0.95              | ±1.00              | ±1.10              | ±1.10              | ±1.20              | ±1.40              | ±1.50              | ±1.70               | ±1.90                |

**Intrinsic** dimensions are those in the same parts of the tool.

**Non-intrinsic** dimensions are those created by the interaction of movable tool components, e.g. wall thickness and base thickness or dimensions affected by additives or extenders.

\*Important: We assume no liability for quoted standards.

# Tolerances

## Aluminum

### **TOLERANCES FOR PRESSURE DIECASTINGS (DIN 1688)\* CONTINUED**

Table 2. Tolerances of dimensions for wall thicknesses, ledges and ribs.

| Spatial<br>diagonal<br>area | Degree of<br>exactitude | Shape<br>dependency | Nominal dimensional area |                         |                          |
|-----------------------------|-------------------------|---------------------|--------------------------|-------------------------|--------------------------|
|                             |                         |                     | up to<br>3               | over<br>3<br>up to<br>6 | over<br>6<br>up to<br>10 |
| up to 180                   | GTA 13                  | Intrinsic           | ±0.15                    | ±0.20                   | ±0.20                    |
|                             |                         | Non-Intrinsic       | ±0.25                    | ±0.30                   | ±0.30                    |
| over 50<br>up to 500        | GTA 13/5                | Intrinsic           | ±0.20                    | ±0.25                   | ±0.30                    |
|                             |                         | Non-Intrinsic       | ±0.35                    | ±0.40                   | ±0.45                    |
| over 180                    | GTA 14                  | Intrinsic           | ±0.25                    | ±0.30                   | ±0.35                    |
|                             |                         | Non-Intrinsic       | ±0.45                    | ±0.50                   | ±0.55                    |
| over 500                    | GTA 14/5                | Intrinsic           | ±0.30                    | ±0.40                   | ±0.45                    |
|                             |                         | Non-Intrinsic       | ±0.55                    | ±0.65                   | ±0.70                    |

**Intrinsic** dimensions are those in the same parts of the tool.

**Non-intrinsic** dimensions are those created by the interaction of movable tool components, e.g. wall thickness and base thickness or dimensions affected by additives or extenders.



# Tolerances

## Aluminum

### **TOLERANCES FOR CHILL CASTINGS (DIN 1688)\***

In the case of raw castings made of light metal alloys in the chill casting process, all deviations in dimensions are essentially dependent on :

- a). the dimensional accuracy of the mold, characterized by the degree of accuracy
- b). the position of the mold division, cores, extenders, characterized by the subdivision into intrinsic and non-intrinsic dimensions (see DIN 1680 part 1)
- c). the nominal dimensions.

Table 1. Deviations in lengthwise dimensions (lengths, widths, heights, central distances, diameters, roundings).

| Degree of accuracy | Shape dependency | Nominal Dimension Area |                  |                  |                  |                   |                    |                    |                    |                    |                    |                    |                    |                     |                      |
|--------------------|------------------|------------------------|------------------|------------------|------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|----------------------|
|                    |                  | up to 18               | over 18 up to 30 | over 30 up to 50 | over 50 up to 80 | over 80 up to 120 | over 120 up to 180 | over 180 up to 250 | over 250 up to 315 | over 315 up to 400 | over 400 up to 500 | over 500 up to 630 | over 630 up to 800 | over 800 up to 1000 | over 1000 up to 1250 |
| GTA 15/5           | Intrinsic        | ±0.45                  | ±0.50            | ±0.60            | ±0.75            | ±0.85             | ±1.00              | ±1.20              | ±1.30              | ±1.40              | ±1.60              | ±1.70              | ±2.00              | ±2.30               | ±2.60                |
|                    | Non-Intrinsic    | ±0.55                  | ±0.65            | ±0.80            | ±0.95            | ±1.10             | ±1.30              | ±1.50              | ±1.60              | ±1.80              | ±2.00              | ±2.20              | ±2.50              | ±2.80               | ±3.30                |

Table 2. Deviations in thickness (wall thicknesses, ledges, ribs).

| Degree of accuracy | Shape dependency | Nominal Dimension Area |                 |                  |
|--------------------|------------------|------------------------|-----------------|------------------|
|                    |                  | up to 6                | over 6 up to 10 | over 10 up to 18 |
| GTA 15/5           | Intrinsic        | ±0.60                  | ±1.20           | ±1.80            |
|                    | Non-Intrinsic    | ±0.80                  | ±1.50           | ±2.20            |

**Intrinsic** dimensions are those in the same parts of the tool. **Non-intrinsic** dimensions are those created by the interactions of movable tool components, e.g. wall thicknesses and base thicknesses or dimensions affected by additives or extenders.

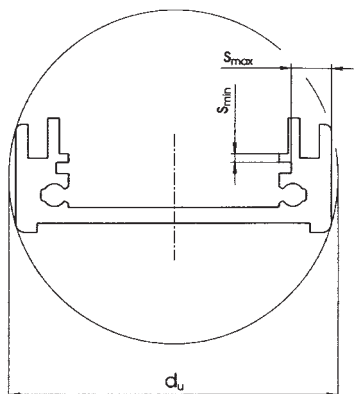
\*Important: We assume no liability for quoted standards!

# Tolerances

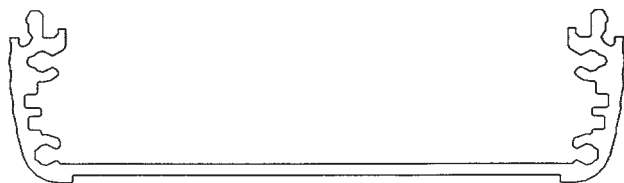
## Aluminum

### TOLERANCES FOR ALUMINUM PROFILES ACCORDING TO DIN EN 12020-2\*

- The tolerances for the nominal dimensions (see table 1) depend on the following ratios:
- diameter of the minimum circumscribing circle  $d_u$  divided by the minimum wall thickness  $s_{min}$ .
  - maximum wall thickness  $s_{max}$  divided by the minimum wall thickness  $s_{min}$ .



ABPH 800 (Full Profile)



ABP 800 (Hollow Profile)

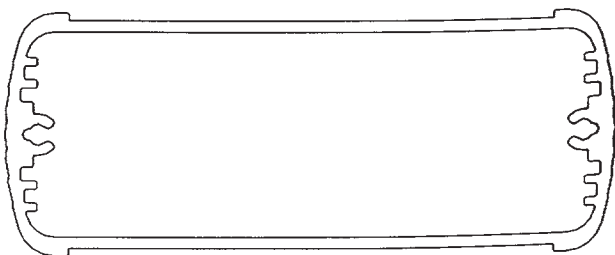


Table 1  
Tolerances for linear measurements

| Range of dimensions |       | Tolerances for a ratio of $d_u : s_{min}$ |             |
|---------------------|-------|-------------------------------------------|-------------|
|                     |       | up to 40 : 1                              | over 40 : 1 |
|                     |       | and a ratio of $s_{max} : s_{min}$        |             |
| over                | up to | up to 6 : 1                               | over 6 : 1  |
| -                   | 10    | $\pm 0.15$                                |             |
| 10                  | 15    | $\pm 0.20$                                |             |
| 15                  | 30    | $\pm 0.25$                                |             |
| 30                  | 45    | $\pm 0.30$                                |             |
| 45                  | 60    | $\pm 0.40$                                |             |
| 60                  | 90    | $\pm 0.45$                                |             |
| 90                  | 120   | $\pm 0.60$                                |             |
| 120                 | 150   | $\pm 0.70$                                | $\pm 0.80$  |
| 150                 | 180   | $\pm 0.90$                                | $\pm 1.00$  |
| 180                 | 240   | $\pm 1.10$                                | $\pm 1.20$  |
| 240                 | 300   | $\pm 1.40$                                | $\pm 1.50$  |

Table 2  
Tolerances for the wall thickness of full profiles

| Range of dimensions |       | Tolerances for wall thickness |
|---------------------|-------|-------------------------------|
| over                | up to |                               |
| -                   | 1.5   | $\pm 0.15$                    |
| 1.5                 | 3     | $\pm 0.20$                    |
| 3                   | 6     | $\pm 0.25$                    |
| 6                   | 10    | $\pm 0.30$                    |
| 10                  | 15    | $\pm 0.40$                    |
| 15                  | 20    | $\pm 0.50$                    |
| 20                  | 30    | $\pm 0.60$                    |
| 30                  | 40    | $\pm 0.70$                    |

Table 3  
Tolerances for the wall thickness of hollow profiles

| Range of dimensions |       | Tolerances for the wall thicknesses with a circumscribing circle $d_u$ |            |            |            |
|---------------------|-------|------------------------------------------------------------------------|------------|------------|------------|
|                     |       | over 75                                                                | over 130   | over 250   |            |
| over                | up to | to 75                                                                  | to 130     | to 250     | to 300     |
| -                   | 1.5   | $\pm 0.20$                                                             | $\pm 0.25$ | -          | -          |
| 1.5                 | 2     | $\pm 0.20$                                                             | $\pm 0.25$ | $\pm 0.30$ | -          |
| 2                   | 3     | $\pm 0.25$                                                             | $\pm 0.30$ | $\pm 0.35$ | $\pm 0.45$ |
| 3                   | 6     | $\pm 0.35$                                                             | $\pm 0.40$ | $\pm 0.50$ | $\pm 0.60$ |
| 6                   | 9     | $\pm 0.50$                                                             | $\pm 0.55$ | $\pm 0.70$ | $\pm 0.80$ |
| 9                   | 12    | $\pm 0.60$                                                             | $\pm 0.70$ | $\pm 0.85$ | $\pm 0.95$ |
| 12                  | 15    | $\pm 0.70$                                                             | $\pm 0.80$ | $\pm 1.00$ | $\pm 1.10$ |
| 15                  | 20    | -                                                                      | $\pm 1.00$ | $\pm 1.20$ | $\pm 1.30$ |

\*Important: We assume no liability for quoted standards!

# Tolerances

## Plastic

### **TOLERANCES OF PLASTICS ACCORDING TO DIN 16901**

Deviations from the nominal dimensions are unavoidable in the manufacture of plastic shapes.

There are various reasons for the deviations:

a) Processing parameters. These are dependent on:

- the evenness of the shape
- the setting of the machine
- the temperature of the tools
- the distortion of the tool under pressure

b) The condition of the tool:

- manufacturing tolerances for tool dimensions (see DIN 16749)
- wear on tools
- deviations in the position of movable tool parts.

The tolerances for this norm have been laid down taking into account these factors and numerous measurements in practice.

The plastics in this norm are divided into tolerance rows. All the plastics used by Rose+Bopla for standard enclosures are in row 130, for which tolerances given below apply. The tolerances apply on the basis of the machining shrinkage working into the tool only for the appropriate enclosure with the standard material stated.

#### Nominal dimension area

|               |        |        |        |         |          |          |          |          |          |          |          |
|---------------|--------|--------|--------|---------|----------|----------|----------|----------|----------|----------|----------|
| over<br>up to | 0<br>1 | 1<br>3 | 3<br>6 | 6<br>10 | 10<br>15 | 15<br>22 | 22<br>30 | 30<br>40 | 40<br>53 | 53<br>70 | 70<br>90 |
| A             | ±0.18  | ±0.19  | ±0.20  | ±0.21   | ±0.23    | ±0.25    | ±0.27    | ±0.30    | ±0.34    | ±0.38    | ±0.44    |
| B             | ±0.08  | ±0.09  | ±0.10  | ±0.11   | ±0.13    | ±0.15    | ±0.17    | ±0.20    | ±0.24    | ±0.28    | ±0.34    |

|               |           |            |            |            |            |            |            |            |            |             |
|---------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| over<br>up to | 90<br>120 | 120<br>160 | 160<br>200 | 200<br>250 | 250<br>315 | 315<br>400 | 400<br>500 | 500<br>630 | 630<br>800 | 800<br>1000 |
| A             | ±0.51     | ±0.60      | ±0.70      | ±0.90      | ±1.10      | ±1.30      | ±1.60      | ±2.00      | ±2.50      | ±3.00       |
| B             | ±0.41     | ±0.50      | ±0.60      | ±0.80      | ±1.00      | ±1.20      | ±1.50      | ±1.90      | ±2.40      | ±2.90       |

A = Dimensions which are not tool specific are those formed by the interaction of movable tool parts, e.g. wall thicknesses and floor thicknesses or dimensions which are affected by additives or pushers.

B = Tool-specific dimensions are those in the same part of the tool.

\*Important: We assume no liability for quoted standards!

## Protection Classifications

### Standards Comparison:

#### NEMA, UL, CSA Standard Enclosures

| Type Designation | National Electrical Manufacturers' Association (NEMA Standard 250)                                                                                                                                                                                               | Underwriters' Laboratories Inc. (UL 50 and UL 508)                                                                                                                                                        | Canadian Standards Association (Standard C22.2, Nos. 14, 40 and 94)                                                                                                                                                                                       |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>         | Enclosures are intended for use indoors, primarily to prevent accidental contact of personnel with the enclosed equipment in areas where unusual service conditions do not exist.                                                                                | Indoor use primarily to provide a degree of protection against contact with the enclosed equipment and against a limited amount of falling dirt.                                                          | General purpose enclosure. Protects against accidental contact with live parts.                                                                                                                                                                           |
| <b>2</b>         | Indoor use primarily to provide a degree of protection against contact with the enclosed equipment and against a limited amount of falling water and dirt.                                                                                                       | An enclosure for indoor use, constructed so as to provide a degree of protection against dripping and light splashing of non-corrosive liquids, and falling dirt.                                         | Indoor use to provide a degree of protection against limited amounts of falling water and dirt.                                                                                                                                                           |
| <b>3</b>         | Enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, sleet, and external ice formation.                                                                                                             | Outdoor use to provide a degree of protection against windblown dust, rain, and sleet; undamaged by the formation of ice on the enclosure.                                                                | An enclosure for either indoor or outdoor use, constructed so as to provide a degree or protection against rain, snow, and windblown dust; undamaged by the external formation of ice on the enclosure.                                                   |
| <b>3R</b>        | Enclosures are intended for outdoor use primarily to provide a degree or protection against windblown falling rain, sleet, and external ice formation. (May be ventilated).                                                                                      | Outdoor use to provide a degree of protection against windblown dust, rain, and sleet; undamaged by the formation of ice on the enclosure.                                                                | An enclosure for either indoor or outdoor use, constructed so as to provide a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure.                    |
| <b>4</b>         | Enclosures are intended for use indoors or out doors, to protect the enclosed equipment against splashing water, seepage of water, falling or hose directed water, and severe external condensation. They are sleet resistant but not sleet (ice) proof.         | Indoor or outdoor use to provide a degree of protection against splashing water, windblown dust and rain, and hose-directed water; undamaged by the formation of ice on the enclosure.                    | An enclosure for either indoor or outdoor use, constructed so as to provide a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure.                    |
| <b>4X</b>        | Type 4X enclosures have the same provisions as Type 4 enclosures and, in addition, are corrosion-resistant.                                                                                                                                                      | Indoor or outdoor use to provide a degree of protection against splashing water, windblown dust and rain, and hose-directed water; undamaged by the formation of ice on the enclosure; resists corrosion. | An enclosure for either indoor or outdoor use, constructed so as to provide a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure; resists corrosion. |
| <b>12</b>        | Enclosures are intended for use indoors to protect the enclosed equipment against fibers, flyings, lint, dust, and dirt, and light splashing, seepage, dripping and external condensation of non-corrosive liquids.                                              | Indoor use to provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquids.                                                                                              | An enclosure for indoor use, constructed so as to provide a degree of protection against circulating dust, lint, fibers, and flyings; drippings and light splashing of non-corrosive liquids; not provided with knockouts.                                |
| <b>13</b>        | Enclosures are intended for use indoors primarily to house pilot devices such as limit switches, foot switches, pilot lights, etc., and to protect these devices against lint and dust, seepage, external condensation, and spraying of water, oil, and coolant. | Indoor use to provide a degree of protection against dust and spraying of water, oil, and non-corrosive coolants.                                                                                         | An enclosure for indoor use, constructed so as to provide a degree of protection against circulating dust, lint, fibers, and flyings; seepage and spraying of non-corrosive liquids including oils and coolants.                                          |

**Please Note:** The information presented here is for reference only and is not meant to be a definitive description of the test requirements and/or qualifications. The complete standards should be obtained from the appropriate association or agency.

## Protection Classifications

### Comparison of NEMA and IEC Standards

#### ENCLOSURE TYPES

Europe IEC specifications 144 & 529 define the degree of protection provided electrical enclosures to safeguard personnel against electric shock and equipment within the enclosure from environmental contamination such as entry of water. This is expressed by the letters IP followed by two numerals.

In the USA, NEMA and UL have established a rating system for enclosures which provided for different levels of protection. A direct comparison between IEC and NEMA is not possible but the following table gives an approximate guide.

#### NEMA TO IEC

##### Enclosure Rating Comparison

| NEMA<br>TYPE | IP 23 | IP 30 | IP 32 | IP 64 | IP 65 | IP 66 | IP 67 |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| 1            | ●     |       |       |       |       |       |       |
| 2            |       | ●     |       |       |       |       |       |
| 3            |       |       |       | ●     |       |       |       |
| 3R           |       |       | ●     |       |       |       |       |
| 4            |       |       |       |       |       | ●     |       |
| 4X           |       |       |       |       |       | ●     |       |
| 6            |       |       |       |       |       |       | ●     |
| 12           |       |       |       |       | ●     |       |       |
| 13           |       |       |       |       | ●     |       |       |

Note: This comparison table is an approximation of NEMA and IEC classifications and is for reference only. Complete standards should be obtained from the appropriate association or agency.

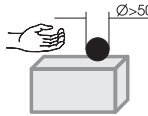
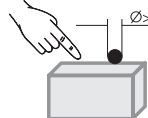
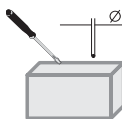
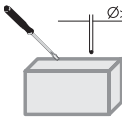
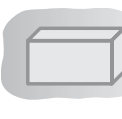
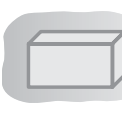
## Protection Classifications

### I.P. Ingress Protection Classifications to DIN VDE 0470/EN 60529\*

The protection classification offered by an enclosure is shown by the letters IP Ingress Protection, and two digits. The first digit indicates two factors (protection for persons and equipment). The second digit indicates only one factor, protection against water.

Similarly, changes in temperature, as may occur, for example, in the open air, are not taken into account. Such changes in temperature may cause a loss of pressure in the enclosure, and dampness may be absorbed through the seal area. Rose+Bopla can supply pressure compensation elements for this purpose.

#### First digit: Protection for persons and equipment

|                                                                                     | Digit | Persons                                                          |                                                                                                                 | Equipment                                                             |                                                             |
|-------------------------------------------------------------------------------------|-------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------|
|                                                                                     |       | Brief Description                                                | Definition                                                                                                      | Brief Description                                                     | Definition                                                  |
|    | 0     | Not protected                                                    | –                                                                                                               | Not protected                                                         | –                                                           |
|    | 1     | Protection against the back of the hand touching dangerous parts | A round body, 50mm in diameter, must be at a sufficient distance from dangerous parts                           | Protection against a solid foreign body of 50mm or more in diameter   | A round body, 50mm in diameter, must not fully penetrate    |
|   | 2     | Protection against a finger touching dangerous parts             | The test finger, jointed, 12mm in diameter and 80mm long, must be at a sufficient distance from dangerous parts | Protection against a solid foreign body of 12.5mm or more in diameter | A round body, 12.5mm in diameter, must not penetrate at all |
|  | 3     | Protection against a tool touching dangerous parts               | A body, 2.5mm in diameter, must not be able to penetrate                                                        | Protection against a solid foreign body of 2.5mm or more in diameter  | A round body, 2.5mm in diameter, must not penetrate at all  |
|  | 4     | Protection against a wire touching dangerous parts               | A body, 1.0mm in diameter, must not be able to penetrate                                                        | Protection against a solid foreign body of 1.0mm or more in diameter  | A round body, 1.0mm in diameter, must not penetrate at all  |
|  | 5     | Protection against a wire touching dangerous parts               | A body, 1.0mm in diameter, must not be able to penetrate                                                        | Protection against dust                                               | No dust penetration                                         |
|  | 6     | Protection against a wire touching dangerous parts               | A body, 1.0mm in diameter, must not be able to penetrate                                                        | Sealed against dust                                                   | No dust penetration                                         |

<sup>1)</sup>Dust must not penetrate in sufficient quantities to prevent the equipment from operating satisfactorily, or to impair safety.

**Important note:** The protection classifications given for the enclosures refer to unmachined enclosures as supplied. In the case of protection against water in particular (second digit), the test conditions will be met if during the given time for the experiment no water has penetrated, or not in harmful quantities. As the tests to show protection classifications take no account of ageing, the maintenance of the protection classification throughout the lifetime of the equipment is not guaranteed.

\*We assume no liability for quoted standards.

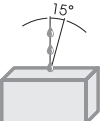
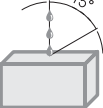
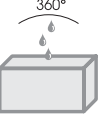
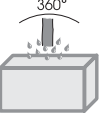
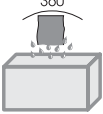
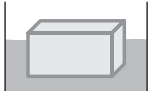
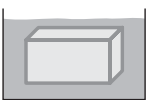
## Protection Classifications

Example: **IP54**

—first digit 5= protection against dust and wire contact with dangerous parts

—second digit 4= protection against splashing water

### Second digit: Protection against water

|                                                                                     | Digit | Brief Description                                                             | Definition                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | 0     | Not protected                                                                 | —                                                                                                                                                                                                                                               |
|    | 1     | Protection against vertical water drops                                       | Drops of water falling vertically onto the enclosure must not have any harmful effects                                                                                                                                                          |
|   | 2     | Protection against vertical water drops when the enclosure is inclined at 15° | Drops of water falling vertically onto the enclosure must not have any harmful effects if the enclosure is inclined by up to 15° on both sides of the vertical                                                                                  |
|  | 3     | Protection against water spray                                                | Water sprayed onto the enclosure at up to 60° on both sides of the vertical must not have any harmful effects                                                                                                                                   |
|  | 4     | Protection against water spray                                                | Water splashed onto the enclosure from any direction must not have any harmful effects                                                                                                                                                          |
|  | 5     | Protection against water jet                                                  | Water splashed onto the enclosure from any direction must not have any harmful effects                                                                                                                                                          |
|  | 6     | Protection against powerful water jet                                         | A strong water jet directed at the enclosure from any direction must not have any harmful effects                                                                                                                                               |
|  | 7     | Protection against the effects of temporary immersion in water                | Water must not enter in a quantity that could have harmful effects if the enclosure is temporarily immersed in water under standardized pressure and time conditions                                                                            |
|  | 8     | Protection against the effects of constant submersion in water                | Water must not enter in a quantity that could have harmful effects if the enclosure is kept permanently under water under conditions agreed between the manufacturer and the user; however, these must be more severe than those under figure 7 |



## Credit Application

30 day credit limit requested \$ \_\_\_\_\_

|                            |                             |            |                                                           |                       |
|----------------------------|-----------------------------|------------|-----------------------------------------------------------|-----------------------|
|                            | Company Name _____          |            | Phone _____                                               |                       |
|                            | Street Address _____        | City _____ | State _____                                               | Zip _____             |
|                            | Fax Number _____            |            | Are you incorporated? _____                               |                       |
|                            | Where _____                 |            | When _____                                                |                       |
|                            | Tax Exemption Number: _____ |            | Please provide Tax Exemption Certificate with Application |                       |
| <b>PRINCIPAL OFFICERS</b>  | Name _____                  |            | Title _____                                               |                       |
|                            | Name _____                  |            | Title _____                                               |                       |
| <b>BANK REFERENCES</b>     | Bank Name _____             |            | Account No. _____                                         | Phone _____           |
|                            | Bank Name _____             |            | Account No. _____                                         | Phone _____           |
|                            | Bank Name _____             |            | Account No. _____                                         | Phone _____           |
| <b>SUPPLIER REFERENCES</b> | Name _____                  |            | Phone _____                                               | Fax _____             |
|                            | Address _____               |            | City _____                                                | State _____ Zip _____ |
|                            | Name _____                  |            | Phone _____                                               | Fax _____             |
|                            | Address _____               |            | City _____                                                | State _____ Zip _____ |
|                            | Name _____                  |            | Phone _____                                               | Fax _____             |
|                            | Address _____               |            | City _____                                                | State _____ Zip _____ |

**TERMS AND APPLICATION FOR CREDIT:** We hereby agree that Rose+Bopla terms are Net 30 days from the date of invoice, with interest charge at 1½ percent per month on all accounts past due.

Signature\*:

|                     |             |            |
|---------------------|-------------|------------|
| Authorized By _____ | Title _____ | Date _____ |
|---------------------|-------------|------------|

### DO NOT WRITE BELOW THIS LINE

\*It is understood that by signing the Rose+Bopla Credit Application you, the customer, agree to Rose+Bopla's Net 30 credit terms, including a 1½% late finance charge per month for any overdue balance. By signing this document, you also agree to give Rose+Bopla permission to investigate your credit worthiness through trade references and credit bureau research.

## Who Is Phoenix Mecano?

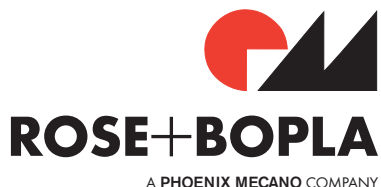


## Phoenix Mecano is dedicated to achieving customer satisfaction through continuous improvement.

Using best business practice, lean manufacturing and sustained supply chain operations Phoenix Mecano Inc. markets its products and services through three product divisions in Maryland. The Frederick, Maryland facility serves as headquarters for North American operations. PMI is part of Phoenix Mecano AG, an international corporation based in Switzerland comprised of independent manufacturing plants worldwide.

Rose+Bopla, a division of PMI, manufactures an extensive line of off-the-shelf and customized enclosures, as well as suspension arm systems. The Rose line is suited for industrial applications and harsh environments in a variety of materials—cast and extruded aluminum; fiberglass; stainless steel; polycarbonate; polyamide; and ABS. By contrast, Bopla produces a diverse line of modular tabletop, handheld, and wall-mount plastic enclosures designed to meet today's demands for aesthetic electronic packaging.

Value-added secondary services at PMI offer our customers a broad range of specialized manufacturing processes. Secondary services include: irriditing, chromating, anodizing, wet painting, powder-coating, silk-screening, engraving, drilling, tapping, milling, etching, in-house prototyping and engineering services, as well as product print generation.



Rose+Bopla sales representatives are available to assist you in choosing the right enclosure for your application. Orders and inquiries are processed during normal business hours, 8:30 am to 5:00 pm ET, Monday through Friday. Feel free to contact us at 301-696-9800, or learn more online at [www.Rose-Bopla.com](http://www.Rose-Bopla.com).

7330 Executive Way  
Frederick, Maryland 21704  
301-696-9800  
301-696-9494, Fax  
[CustomerService@Rose-Bopla.com](mailto:CustomerService@Rose-Bopla.com)  
[www.Rose-Bopla.com](http://www.Rose-Bopla.com)

ISO 9001:2000 Certified



7330 Executive Way  
Frederick, MD 21704  
USA

301-696-9800, Phone  
301-696-9494, Fax

E-Mail: [CustomerService@Rose-Bopla.com](mailto:CustomerService@Rose-Bopla.com)

Web: [www.Rose-Bopla.com](http://www.Rose-Bopla.com)