



## 1001 POSSIBILITIES

### Protection class IP 65

For closed versions (G) without battery compartment when using the sealing kit (accessory).

### EMC

On request the SHELL-TYPE CASES are also available with aluminium metalisation. Aluminium contact strips (accessories) provide additional electrical continuity between the top and base shells of shielded cases.

### THE PRODUCT

The comprehensive SHELL-TYPE CASE range is available in different sizes, heights and types.

Simply choose the case that meets your special requirements.

### YOUR ADVANTAGE

A high degree of rigidity and tight fitting as a result of the tongue-and-groove joint.

Flat design for small-volume components. Higher versions for larger components.

Guide ridges for vertical mounting of partitions and PCBs. Fastening pillars in top and base part.



# SHELL-TYPE CASES

Order data on pages 154-155

**OKW**  
GEHÄUSE  
SYSTEME



## FUNCTIONALLY DESIGNED



### YOUR ADVANTAGE

3 different case types:  
V: open front, closed rear.  
O: open front, open rear.  
G: closed front, closed rear.

Front and rear panels in aluminium or PMMA red (plexiglass®) available as accessories.

Without/with battery compartment.

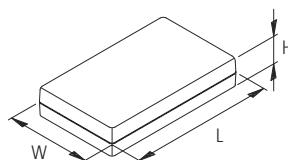
Closed versions with flat top parts (type G), also with recessed area to protect the membrane keyboard.

### APPLICATIONS

Measuring and control technology.

Medical field and laboratory technology.

Peripheral devices and interfaces, switchboxes, modems.



### Sizes (mm) / types

| L x W   | H        | types   | battery comp.*           |
|---------|----------|---------|--------------------------|
| 85x45   | 22       | V, G    | —                        |
|         | 33*      |         |                          |
|         | 45*      |         |                          |
| 114x72  | 33/33.5* | V, G    | 1x9 V                    |
|         | 45       |         |                          |
|         | 57       |         |                          |
| 158x95  | 33/33.5* | V, O, G | 2xAA/1x9 V<br>4xAA/2x9 V |
|         | 45       |         |                          |
|         | 57       |         |                          |
| 190x138 | 45/45.5* | V, O, G | 4xAA/2x9 V               |
|         | 68       |         |                          |
|         | 91       |         |                          |

\*depending on case versions

V = open front; O = open front, open rear;  
G = closed front, closed rear

detailed drawings see our website  
[www.okw.com](http://www.okw.com)



## SHELL-TYPE CASES

| SHELL-TYPE CASE                                                                    | Outside dim. in mm |     |     | Version / Equipment (dim. in mm) |                       |                       | Material       | Part-No.<br>off-white<br>RAL 9002 |
|------------------------------------------------------------------------------------|--------------------|-----|-----|----------------------------------|-----------------------|-----------------------|----------------|-----------------------------------|
|                                                                                    | L                  | W   | H   | battery comp.                    | max.<br>dim. keypad   | max.<br>size of PCB*1 |                |                                   |
|    | V 85               | 85  | 45  | 22                               | I — —                 | 71 x 38 / 71 x 38     | ABS (UL 94 HB) | A 94 04 333                       |
|                                                                                    | V 110              | 114 | 72  | 33                               | I — —                 | 99 x 54 / 99 x 54     | ABS (UL 94 HB) | A 94 06 333                       |
|                                                                                    |                    | 114 | 72  | 45                               | I — —                 | 99 x 54 / 98 x 54     | ABS (UL 94 HB) | A 94 06 343                       |
|                                                                                    |                    | 114 | 72  | 57                               | I — —                 | 69 x 54 / 99 x 54     | ABS (UL 94 HB) | A 94 06 443                       |
|                                                                                    |                    | 114 | 72  | 33                               | II*2 1 x 9 V          | 69 x 54 / 98 x 54     | ABS (UL 94 HB) | A 94 06 334                       |
|                                                                                    |                    | 114 | 72  | 45                               | II*2 1 x 9 V          | 69 x 54 / 98 x 54     | ABS (UL 94 HB) | A 94 06 344                       |
|   | V 155              | 158 | 95  | 33                               | I — —                 | 143 x 77 / 143 x 77   | ABS (UL 94 HB) | A 94 08 333                       |
|                                                                                    |                    | 158 | 95  | 45                               | I — —                 | 143 x 77 / 142 x 77   | ABS (UL 94 HB) | A 94 08 343                       |
|                                                                                    |                    | 158 | 95  | 57                               | I — —                 | 142 x 77 / 142 x 77   | ABS (UL 94 HB) | A 94 08 443                       |
|                                                                                    |                    | 158 | 95  | 33                               | V*3 4 x AA / 2 x 9 V  | 83 x 77 / 143 x 77    | ABS (UL 94 HB) | A 94 08 638                       |
|                                                                                    |                    | 158 | 95  | 45                               | V*3 4 x AA / 2 x 9 V  | 83 x 77 / 142 x 77    | ABS (UL 94 HB) | A 94 08 648                       |
|                                                                                    | V 190              | 158 | 95  | 33                               | IV*4 2 x AA / 1 x 9 V | 113 x 77 / 143 x 77   | ABS (UL 94 HB) | A 94 08 336                       |
|                                                                                    |                    | 158 | 95  | 45                               | IV*4 2 x AA / 1 x 9 V | 113 x 77 / 142 x 77   | ABS (UL 94 HB) | A 94 08 346                       |
|                                                                                    |                    | 190 | 138 | 45                               | I — —                 | 174 x 118 / 174 x 118 | ABS (UL 94 HB) | A 94 13 333                       |
|                                                                                    |                    | 190 | 138 | 68                               | I — —                 | 174 x 118 / 173 x 118 | ABS (UL 94 HB) | A 94 13 343                       |
|                                                                                    |                    | 190 | 138 | 91                               | I — —                 | 174 x 118 / 173 x 118 | ABS (UL 94 HB) | A 94 13 443                       |
|  | O 155              | 190 | 138 | 45                               | V*3 4 x AA / 2 x 9 V  | 114 x 118 / 174 x 118 | ABS (UL 94 HB) | A 94 13 638                       |
|                                                                                    |                    | 190 | 138 | 68                               | V*3 4 x AA / 2 x 9 V  | 114 x 118 / 173 x 118 | ABS (UL 94 HB) | A 94 13 648                       |
|                                                                                    |                    | 158 | 95  | 33                               | I — —                 | 142 x 77 / 142 x 77   | ABS (UL 94 HB) | A 94 08 330                       |
|                                                                                    |                    | 158 | 95  | 45                               | I — —                 | 142 x 77 / 142 x 77   | ABS (UL 94 HB) | A 94 08 340                       |
|                                                                                    |                    | 158 | 95  | 57                               | I — —                 | 142 x 77 / 142 x 77   | ABS (UL 94 HB) | A 94 08 440                       |
|                                                                                    | O 190              | 190 | 138 | 45                               | I — —                 | 173 x 118 / 173 x 118 | ABS (UL 94 HB) | A 94 13 330                       |
|                                                                                    |                    | 190 | 138 | 68                               | I — —                 | 173 x 118 / 173 x 118 | ABS (UL 94 HB) | A 94 13 340                       |
|                                                                                    |                    | 190 | 138 | 91                               | I — —                 | 173 x 118 / 173 x 118 | ABS (UL 94 HB) | A 94 13 440                       |
|  | G 85               | 85  | 45  | 22                               | I — —                 | 76 x 38 / 75 x 38     | ABS (UL 94 HB) | A 94 04 331                       |
|                                                                                    |                    | 85  | 45  | 33                               | I — —                 | 76 x 38 / 75 x 37     | ABS (UL 94 HB) | A 94 04 341                       |
|                                                                                    |                    | 85  | 45  | 45                               | I — —                 | 75 x 37 / 75 x 37     | ABS (UL 94 HB) | A 94 04 441                       |
|                                                                                    | G 110              | 114 | 72  | 33                               | I — —                 | 104 x 54 / 104 x 54   | ABS (UL 94 HB) | A 94 06 331                       |
|                                                                                    |                    | 114 | 72  | 33.5                             | I — —                 | 101.90 x 59.90        | ABS (UL 94 HB) | A 94 06 351                       |
|                                                                                    |                    | 114 | 72  | 45                               | I — —                 | 104 x 54 / 103 x 54   | ABS (UL 94 HB) | A 94 06 341                       |
|                                                                                    |                    | 114 | 72  | 57                               | I — —                 | 103 x 54 / 103 x 54   | ABS (UL 94 HB) | A 94 06 441                       |
|                                                                                    |                    | 114 | 72  | 33                               | II*2 1 x 9 V          | 75 x 54 / 104 x 54    | ABS (UL 94 HB) | A 94 06 332                       |
|                                                                                    |                    | 114 | 72  | 33.5                             | II*2 1 x 9 V          | 101.90 x 59.90        | ABS (UL 94 HB) | A 94 06 352                       |
|                                                                                    |                    | 114 | 72  | 45                               | II*2 1 x 9 V          | 75 x 54 / 103 x 54    | ABS (UL 94 HB) | A 94 06 342                       |
|                                                                                    |                    | 158 | 95  | 33                               | I — —                 | 149 x 77 / 149 x 77   | ABS (UL 94 HB) | A 94 08 331                       |
|                                                                                    | G 155              | 158 | 95  | 33.5                             | I — —                 | 144.40 x 81.40        | ABS (UL 94 HB) | A 94 08 351                       |
|                                                                                    |                    | 158 | 95  | 45                               | I — —                 | 149 x 77 / 147 x 77   | ABS (UL 94 HB) | A 94 08 341                       |
|                                                                                    |                    | 158 | 95  | 57                               | I — —                 | 148 x 77 / 147 x 77   | ABS (UL 94 HB) | A 94 08 441                       |
|                                                                                    |                    | 158 | 95  | 33                               | V*3 4 x AA / 2 x 9 V  | 88 x 77 / 149 x 77    | ABS (UL 94 HB) | A 94 08 737                       |
|                                                                                    |                    | 158 | 95  | 33.5                             | V*3 4 x AA / 2 x 9 V  | 144.40 x 81.40        | ABS (UL 94 HB) | A 94 08 757                       |
|                                                                                    |                    | 158 | 95  | 45                               | V*3 4 x AA / 2 x 9 V  | 88 x 77 / 147 x 77    | ABS (UL 94 HB) | A 94 08 747                       |
|                                                                                    |                    | 158 | 95  | 33                               | IV*4 2 x AA / 1 x 9 V | 119 x 77 / 149 x 77   | ABS (UL 94 HB) | A 94 08 335                       |
|                                                                                    |                    | 158 | 95  | 33.5                             | IV*4 2 x AA / 1 x 9 V | 144.40 x 81.40        | ABS (UL 94 HB) | A 94 08 355                       |
|                                                                                    |                    | 158 | 95  | 45                               | IV*4 2 x AA / 1 x 9 V | 119 x 77 / 148 x 77   | ABS (UL 94 HB) | A 94 08 345                       |
|                                                                                    | G 190              | 190 | 138 | 45                               | I — —                 | 180 x 118 / 180 x 118 | ABS (UL 94 HB) | A 94 13 331                       |
|                                                                                    |                    | 190 | 138 | 45.5                             | I — —                 | 172.00 x 120.00       | ABS (UL 94 HB) | A 94 13 351                       |
|                                                                                    |                    | 190 | 138 | 68                               | I — —                 | 180 x 118 / 179 x 118 | ABS (UL 94 HB) | A 94 13 341                       |
|                                                                                    |                    | 190 | 138 | 91                               | I — —                 | 180 x 118 / 179 x 118 | ABS (UL 94 HB) | A 94 13 441                       |
|                                                                                    |                    | 190 | 138 | 45                               | V*3 4 x AA / 2 x 9 V  | 120 x 118 / 180 x 118 | ABS (UL 94 HB) | A 94 13 737                       |
|                                                                                    |                    | 190 | 138 | 45.5                             | V*3 4 x AA / 2 x 9 V  | 172.00 x 120.00       | ABS (UL 94 HB) | A 94 13 757                       |
|                                                                                    |                    | 190 | 138 | 68                               | V*3 4 x AA / 2 x 9 V  | 120 x 118 / 179 x 118 | ABS (UL 94 HB) | A 94 13 747                       |

V = Open front, closed rear.

O = Open front, open rear.

G = Closed front, closed rear.

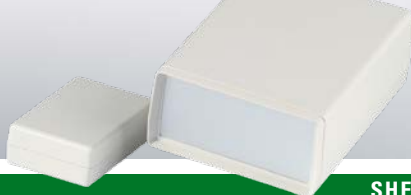
\*1 cutouts for pillars not taken into consideration; PCB mounting in base / top

\*2 plug-in contact for 1 x 9 V flat battery see accessories

\*3 set of battery clips for 4 x AA and plug-in contact for 1 x 9 V flat battery see accessories

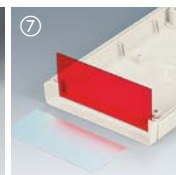
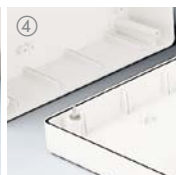
\*4 set of battery clips for 2 x AA and plug-in contact for 1 x 9 V flat battery see accessories

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## SHELL-TYPE CASES ACCESSORIES

| Article                                                                                                                           | Version / Application                                                                                                                                                                           | For SHELL-TYPE CASE       | Part-No.            |                       |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------|-----------------------|
| ① Set of battery clips<br><br>complies with DIN EN 60601<br>(short circuit caused by incorrect insertion of batteries is avoided) | nickel-plated, for 2 x 1.5 V mignon cells (AA)<br>(As alternatives to conventional, tin-plated battery clips<br>1 x A9193003 and 2 x A9193004 see universal accessories page 182)               | V, G 155 version IV       | A 91 90 014         |                       |
|                                                                                                                                   | nickel-plated, for 4 x 1.5 V mignon cells (AA)<br>(As alternatives to conventional, tin-plated battery clips<br>3 x A9193003 and 2 x A9193004 see universal accessories page 182)               | V, G 155, 190 version V   | A 91 90 013         |                       |
| ② Plug-in contact                                                                                                                 | for 1 x 9 V flat battery (PP3)                                                                                                                                                                  | V, G 155, 190 vers. IV, V | A 91 60 003         |                       |
| ③ Ring eyelet                                                                                                                     | plastic, volcano, inside ring ø 2.5 mm,<br>max. wall thickness 3 mm, location hole ø 4 mm required                                                                                              | V, O, G 85                | A 91 00 001         |                       |
|                                                                                                                                   | plastic, volcano, inside ring ø 4 mm,<br>max. wall thickness 4 mm, location hole ø 5 mm required                                                                                                | V, O, G 110, 155          | A 91 00 002         |                       |
| ④ Sealing kit                                                                                                                     | protection class up to IP 65 for cases type G (closed front and rear and without battery compartment),<br>1 O-ring for the case, 4 rubber disks for sealing between the assembly pillars        | G 85                      | A 91 04 250         |                       |
|                                                                                                                                   |                                                                                                                                                                                                 | G 110                     | A 91 06 352         |                       |
|                                                                                                                                   |                                                                                                                                                                                                 | G 155                     | A 91 08 486         |                       |
|                                                                                                                                   |                                                                                                                                                                                                 | G 190                     | A 91 13 630         |                       |
| ⑤ Contact strips                                                                                                                  | aluminium strips which provide additional electrical continuity between the top and base shells of shielded cases (order two pieces, one for each side), cases with al-metallisation on request | V, G 85                   | A 91 04 073         |                       |
|                                                                                                                                   |                                                                                                                                                                                                 | V, G 110                  | A 91 06 095         |                       |
|                                                                                                                                   |                                                                                                                                                                                                 | V, O, G 155               | A 91 08 120         |                       |
|                                                                                                                                   |                                                                                                                                                                                                 | V, O, G 190               | A 91 13 150         |                       |
| ⑥ Wall mounting brackets* <sup>5</sup>                                                                                            | PA, pebble grey, RAL 7032, for exterior wall mounting,<br>fastening to the case by means of the case fixing screws, 4 pcs                                                                       | V, O, G 110, 155, 190     | A 92 04 108         |                       |
| ⑦ Front / rear panel<br>for SHELL-TYPE CASE V<br>and O (1 piece)                                                                  | Dim. in mm                                                                                                                                                                                      | For SHELL-TYPE CASE       | AI<br>matt anodised | PMMA<br>(plexiglass®) |
|                                                                                                                                   | 36.0 x 14.6 x 1                                                                                                                                                                                 | A 94 04 33.               | A 91 04 111         | A 91 04 113           |
|                                                                                                                                   | 59.3 x 25.0 x 1                                                                                                                                                                                 | A 94 06 33.               | A 91 07 111         | A 91 06 113           |
|                                                                                                                                   | 59.3 x 37.0 x 1                                                                                                                                                                                 | A 94 06 34.               | A 91 07 121         | A 91 06 123           |
|                                                                                                                                   | 59.3 x 49.0 x 1                                                                                                                                                                                 | A 94 06 44.               | A 91 07 221         | A 91 06 223           |
|                                                                                                                                   | 81.9 x 23.6 x 1                                                                                                                                                                                 | A 94 08 33. / A 94 08 63. | A 91 09 111         | A 91 08 113           |
|                                                                                                                                   | 81.9 x 35.6 x 1                                                                                                                                                                                 | A 94 08 34. / A 94 08 64. | A 91 09 121         | A 91 08 123           |
|                                                                                                                                   | 81.9 x 47.6 x 1                                                                                                                                                                                 | A 94 08 44.               | A 91 09 221         | A 91 08 223           |
|                                                                                                                                   | 124.2 x 33.6 x 1.5                                                                                                                                                                              | A 94 13 33. / A 94 13 63. | A 91 14 111         | A 91 13 113           |
|                                                                                                                                   | 124.2 x 56.6 x 1.5                                                                                                                                                                              | A 94 13 34. / A 94 13 64. | A 91 14 121         | A 91 13 123           |
|                                                                                                                                   | 124.2 x 79.6 x 1.5                                                                                                                                                                              | A 94 13 44.               | A 91 14 221         | A 91 13 223           |



universal accessories on pages 178-187

\*<sup>5</sup> alternatively, wall suspension element may be installed; see universal accessories page 178