

Main Catalogue

Edition 23

6. Subracks/19" chassis



Overview 0

Cabinets 1

Wall mounted
cases 2

Accessories for
cabinets and wall
mounted cases 3

Climate control 4

Desk-top cases 5

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19" chassis 6

Front panels,
plug-in units 7

Systems 8

Power supply
units 9

Backplanes 10

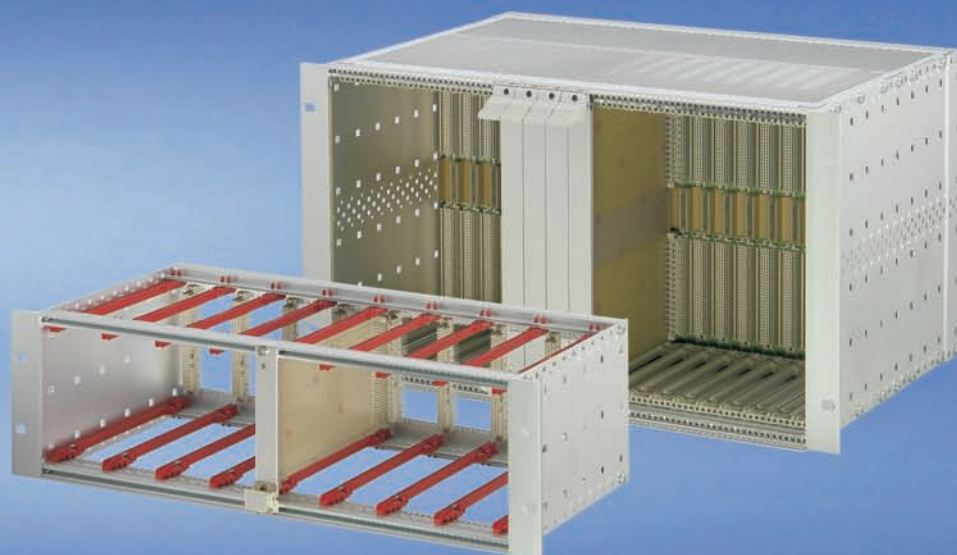
Connectors, front
panel component
system 11

Appendix 12

Subracks/19" chassis

*europac*PRO

19" subrack with high flexibility
EMC shielding upgradeable
Conforms to IEC 60298-3-103 and IEEE 1011.10/11
Kit from stock or to individual configuration



*europac*PRO for mobile rail applications

Shock and vibration tested to
- IEC 61587-1, EN 50155
- BN 411002 and BN 411003
- NF F 61-005 / NF F 60-002
Kit from stock or to individual configuration

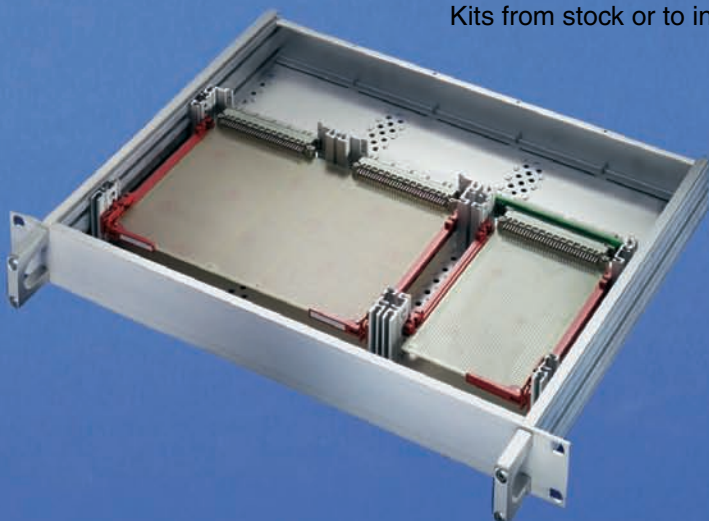


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Sub racks/19" chassis

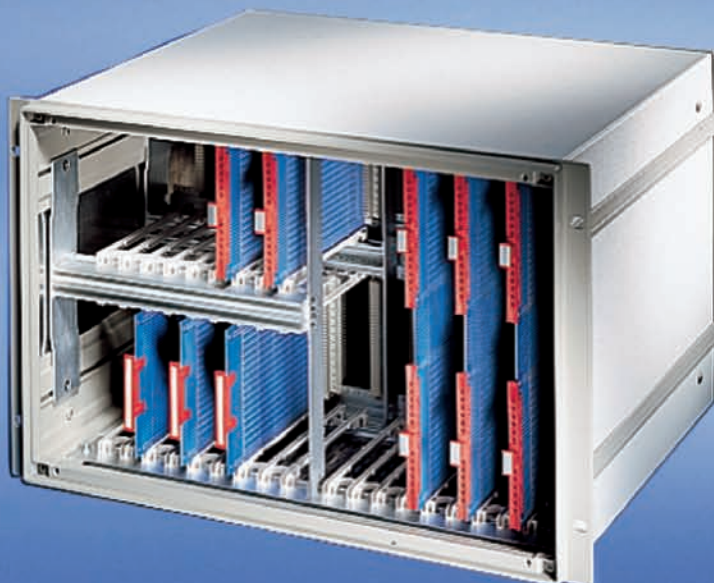
multipacPRO

19" chassis for non-standard components
and horizontal board construction
Version in aluminium and steel plate (AlZn coated)
Kits from stock or to individual configuration



inpac

19" chassis with high mechanical stability
Flexible construction for standard board formats
or individual solutions
Can be used as a desk-top enclosure



Overview 6.0

europacPRO . . 6.2

Sub racks for
mobile rail
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Application examples

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mobile rail
applications

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**Subracks/
19" chassis 6**

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Systems 8

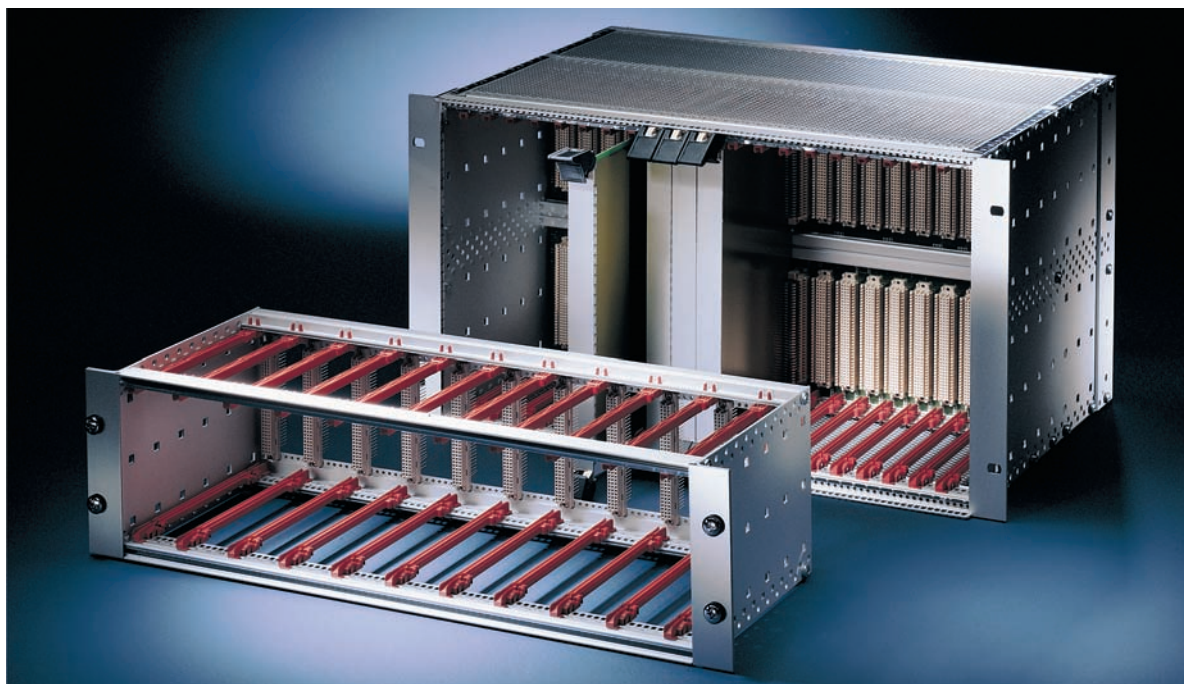
Power supply
units 9

Backplanes 10

Connectors, front
panel component
system 11

Appendix 12

Subracks - *europac* PRO



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08

Horizontal rails in lightweight ("light") or robust ("heavy") versions



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The IEEE handle and shielded front panels are designed for the construction of CompactPCI and VME64x subrack systems



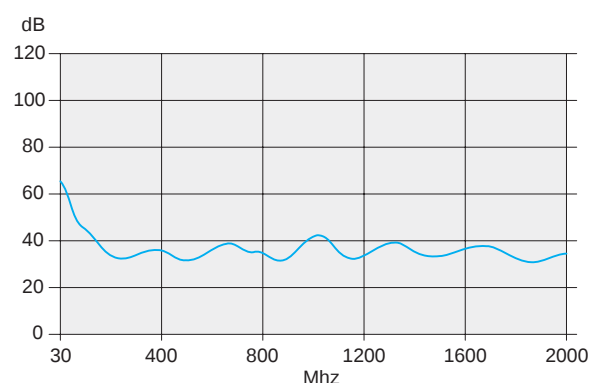
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Sequential numbering on horizontal rails (> 28 HP) and markings on the guide rails provide quick optical positioning aids.
ESD clips applicable to front and rear protect the electronics against electrostatic discharge.

Standards/certifications

- Inner and outer dimensions meet:
IEC 60297-3-100, -101, -102, -103, -104,
IEEE 1101.1 and IEEE 1101.10/11
- Type of protection IP 20 in accordance with
IEC 60529
- EMC testing to IEC 61587-3
- Shock and vibration test report:
German "Bahn" standards BN 411002, BN 411003;
NF F 60002, NF F 67012
IEC 61587-2, EN 50155
- Nuclear plants KTA 1401

EMC curve



06108061



Downloads and further important information can be found
on the Internet under www.schroff.biz



19" subracks

- Kits or individual configuration
- EMC shielding easily retrofittable if needed
- Designed for extractor handles to IEEE 1101.10/11 and IEC 60297-3-103 for CompactPCI and VME 64x application
- IEEE 1101.1 compatible
- Shock and vibration resistant to IEC 61587-2, EN 50155, NF F 67012/NF F 60002, German railway standards BN 411002/411003

Introduction 6.4



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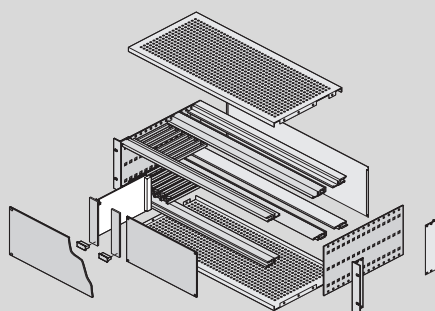
Kits

- Heights 3, 6 U and depths 175 ... 475 mm
- In "light" and robust "heavy" versions
- Unshielded and shielded versions
- Shielded versions for CompactPCI applications
- Delivered as flatpack

Kits

- Unshielded 6.6
- Shielded 6.11
- Shielded, for CompactPCI 6.13

Individual configuration . 6.16



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ServicePLUS configuration

- Height from 3 to 9 U
- Width from 20 HP to 1 m
- Shielded, unshielded
- Flexible internal mounting/combined mounting
- Other accessories and assembly parts

ServicePLUS configuration

- Side panels 6.19
- Horizontal rails, threaded inserts, perforated strips . 6.26
- Guide rails 6.34
- Cover plates 6.42
- EMC shielding . . . 6.51
- Internal mounting 6.57
- Assembly parts . . 6.67

Application examples 6.73



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Subracks for use on rolling stock

- Shielded and unshielded versions
- Certification in accordance with
 - European Railway Standard DIN EN 50155
 - German Railway Standards BN 411002, BN 411003
 - French Railway Standards NF F 61-005, NF F 60-002

Subracks for use on rolling stock see page . 6.74



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ServicePLUS from page 6.16

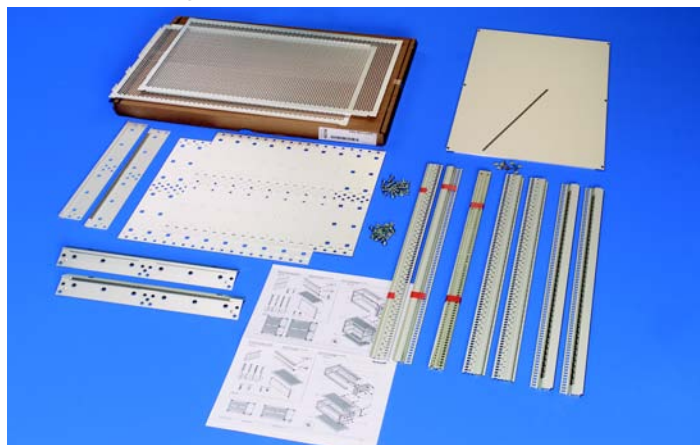
- e.g. individual configuration and assembly
 - e.g. modifications (cut-outs)
 - e.g. downloads (CAD drawings, user manuals, test reports)
 - e.g. custom solutions
- www.schrack.biz/serviceplus/

Subracks - *europacPRO* Introduction

Platform-based standard solutions for individual requirements

Practical technology without time-consuming assembly. The modular europacPRO product platform can cover a wide range of possible applications with only a few components. The intelligent design of all components results in remarkably simple and fast management in assembly and components.

Simple assembly with europacPRO kits:



Delivered in space-saving flat packs. Simply unpack the parts and bolt together. The threaded inserts or EMC sealing (depending on selected kit) are already pre-mounted on the horizontal rail.

Two ways of reaching your desired product:

- Kits
- Individual configuration



Individual configuration:

		Side panel type F		19" bracket without handle holes		19" bracket with handle holes		19" bracket depth-adjustable		EMC sealing (St, stainless)		Rear angle		Side panel connection	
			without 19" bracket, Al, 2 mm, passivated, please order 19" bracket and corner profile separately		with lateral grooves for EMC stainless steel gasket, Al extrusion, rear side etched, front anodised		with lateral grooves for EMC stainless steel gasket, Al extrusion, rear side etched, front anodised, please order front handles separately, see page 6.25		2 adaptor brackets, Al, 2 mm; equipment support rail, height 35 mm, width 84 HP, depth 7.5 mm; mounted laterally in module support or subrack; power 6.25		inserted laterally into the slots of the front panel		Al extrusion, surface clear passivated, with lateral grooves for EMC stainless steel sealing; rear hood cannot be mounted simultaneously		Zn die-cast, incl. assembly kit, for linking two by two side panels (above one another)
Height	Depth	1 piece	PU 1 pair	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces							
3	175	34560-185													
3	235	34560-187													
3	275 1)	34579-300													
3	277.75 2)	34579-002													
3	295	34560-189	24560-197	24560-198	24560-199	21101-705	24561-198	21101-954							
3	355	34560-191													
3	415	34560-193													
3	475	34560-195													

You design your subrack as you wish, then receive it fully assembled with our **ServicePLUS assembly service** (even for orders of just one). We can also carry out individual modifications and cut-outs; and can do so very fast when time is short with ServicePLUS express.

Horizontal rails for different load-carrying classes

Light



Heavy



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There are horizontal rails for two load-carrying classes, "light" (load up to approx. 7.5 kg) and "heavy" (load > 7.5 kg). The light horizontal rails for optimised airflow or the especially robust version with lateral 2-hole fixing.

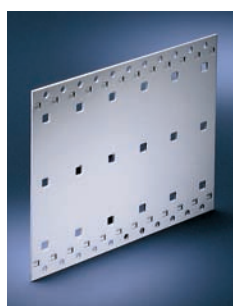
There is a consecutive numbering on the horizontal rail (>28 HP), that serves for an easy positioning of the guide rails.

By means of ESD clips a conductive connection between horizontal rail (subrack) and PCB is created.

Side panels for three different applications



Type L



Type F



Type H

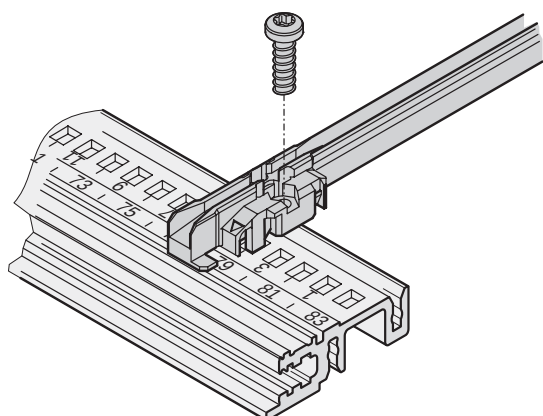
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Side panels for 3 different applications

- Light, low-cost version with integrated 19" mounting bracket (type L, unshielded)
- Flexible with separate 19" mounting bracket (type F, shielded)
- Heavy-duty with integrated (Tox-cold welded) 19" mounting bracket for extreme mechanical loads (type H, shielded), e.g. for applications with high shock and vibration

Subracks - *europacPRO* Introduction

Guide rails in plastic and aluminium profiles



Guide rails form the interface between the subrack mechanics and the sub-assemblies (PCBs, plug-in units, frame-type plug-in units, plug-in drive units ...).

Robust snap-in fixings on the plastic rails ensure steadiness, even when vibration occurs. With H-type horizontal rails the guide rails can additionally be bolted on.

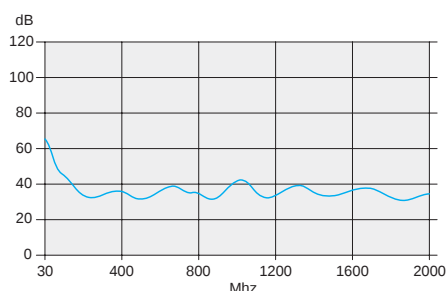
For extreme stresses, guide rails in aluminium profile may be used.

To avoid a wrong sub-assembly being inserted into the wrong place, we offer a mechanical coding to IEEE 1101.10/11, IEC 60297-3-103.

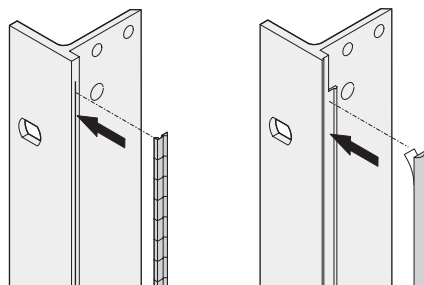
The continuous numbering on the horizontal rail (from 28 HP) and the marking on the guide rails facilitate quick fitting in the correct position.

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Electromagnetic shielding and ESD



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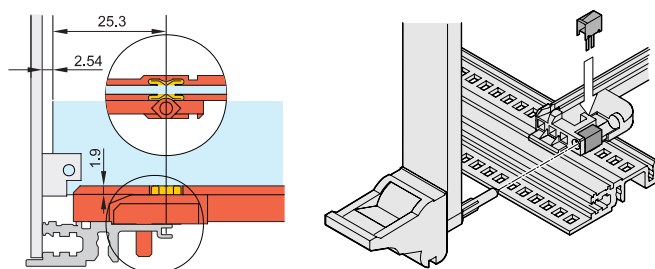


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The product platform europacPRO offers a variety of off-the-shelf solutions to achieve electromagnetic compatibility (EMC) and to avoid electrostatic discharges (ESD).

It can't be more secure! The shielding to the front of the subrack is achieved by EMC stainless steel or textile gaskets.

An all-round contact guarantees complete shielding.



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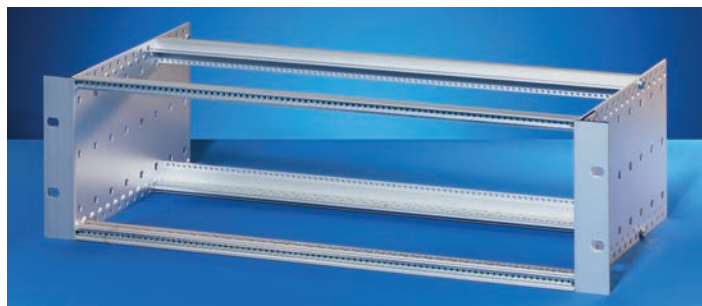
To avoid electrostatic discharges when inserting PCBs, ESD contacts are clipped into the guide rails. These establish a conductive connection between PCB and subrack-earth.

According to IEC 60297-3-101 two ESD areas are defined on the euroboard. The ESD clips on the guide rails of the europacPRO subrack allow the assembly of following variants:

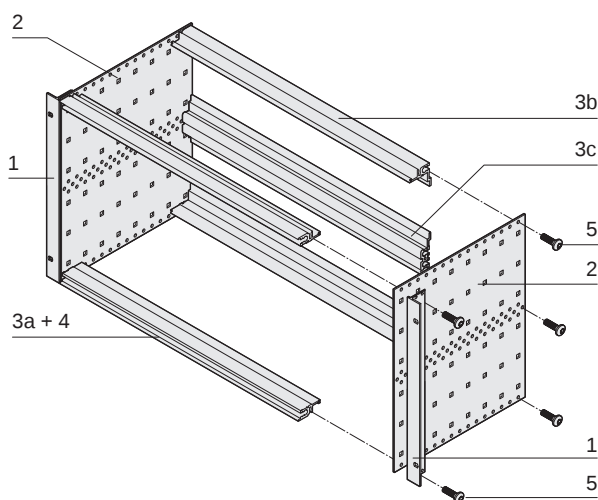
- ESD area (to bottom and top) via the complete board height
- ESD area (to bottom/top) starts at the the front from 70 mm up to the board's end)

Subracks - *europac* **PRO** Kits

Kit, unshielded, "light", for fitting of male connector

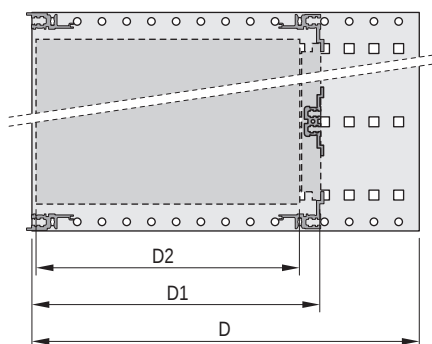


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6 U



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D=total depth, D1=insertion depth, D2=board depth



04400003

Horizontal rail to rear for connector mounting

- Subrack in lightweight version ("light")
- Rear horizontal rails for connector mounting (IEC 60603-2/DIN 41612)

Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	19" support bracket for stainless steel EMC gasket
2	2	2	Side panel type F
3a	2	2	Front horizontal rail (L-KD)
3b	2	2	Rear horizontal rail (L-MZ) for connector mounting
3c	-	1	Centre horizontal rail (MZ)
4	2	2	Threaded insert to front (pre-fitted)
5	1	1	Assembly kit
6	1	1	User manual

Order Information

Height	Width	Depth	Depth D1	Depth D2	Part no.
U	HP	mm	mm	mm	
3	84	175	175	160	24563-191
3	84	235	175/235	160/220	24563-192
3	84	295	175/235/295	160/220/280	24563-193
3	84	355	175/235/295/355	160/220/280/340	24563-194
6	84	175	175	160	24563-491
6	84	235	175/235	160/220	24563-492
6	84	295	175/235/295	160/220/280	24563-493
6	84	355	175/235/295/340	160/220/280/340	24563-494

Assembly kit, PU 8 x screw, washer, nut
for assembly of subracks in a 19" case or a cabinet **21100-435**

Guide rails (standard), ESD clips

Depth D2	Qty/PU	Part no.
mm		
160	10	24560-351
220	10	24560-353
280	10	24560-379
340	10	24560-380
ESD clip for guide rails PU 50 pieces		24560-255

Note

- Cover plates and assembly kit from page 6.9
- Further accessories from page 6.57
- ServicePLUS configuration from page 6.16



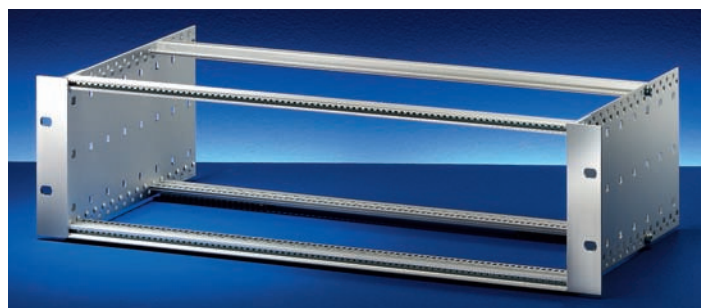
For further information www.schroff.biz/oneclick
oneClick search code = Part no.



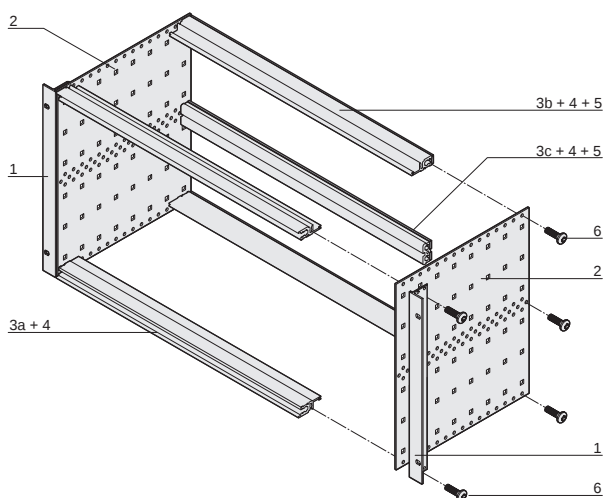
ServicePLUS see page 6.16

Subracks - *europac* **PRO** Kits

Kit, unshielded, "light", for backplane mounting

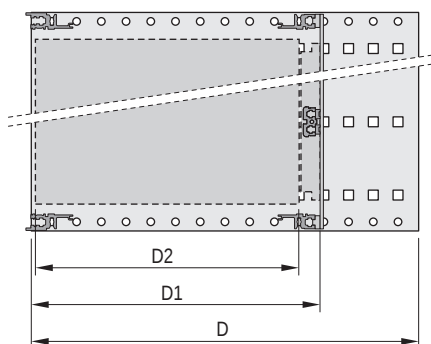


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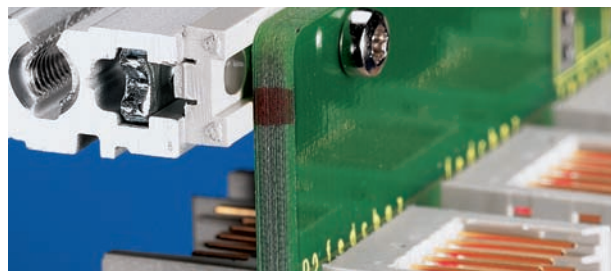


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6 U



D=total depth, D1=insertion depth, D2=board depth



04400001

Rear horizontal rail with insulation strip for backplane mounting



ServicePLUS see page 6.16

- Subrack in lightweight version ("light")
- Rear horizontal rail with insulation strip for backplane mounting

Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	19" support bracket for stainless steel EMC gasket
2	2	2	Side panel type F
3a	2	2	Front horizontal rail (L-KD)
3b	2	2	Rear horizontal rail (L-ST) for backplane mounting with insulation strip
3c	-	1	Centre horizontal rail (ST)
4	4	6	Threaded inserts, to front and rear, pre-fitted
5	2	4	Insulation strip (pre-fitted)
6	1	1	Assembly kit
7	1	1	User manual

Order Information

Height	Width	Depth	Depth D1	Depth D2	Part no.
U	HP	mm	mm	mm	
3	84	175	175	160	24563-131
3	84	235	175/235	160/220	24563-132
3	84	295	175/235/295	160/220/280	24563-133
3	84	355	175/235/295/355	160/220/280/340	24563-134
3	84	415	175/235/295/355	160/220/280/340	24563-135
3	84	475	175/235/295/355	160/220/280/340	24563-136
6	84	175	175	160	24563-431
6	84	235	175/235	160/220	24563-432
6	84	295	175/235/295	160/220/280	24563-433
6	84	355	175/235/295/355	160/220/280/340	24563-434
6	84	415	175/235/295/355	160/220/280/340	24563-435
6	84	475	175/235/295/355	160/220/280/340	24563-436
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet					21100-435

Guide rails (standard), ESD clips

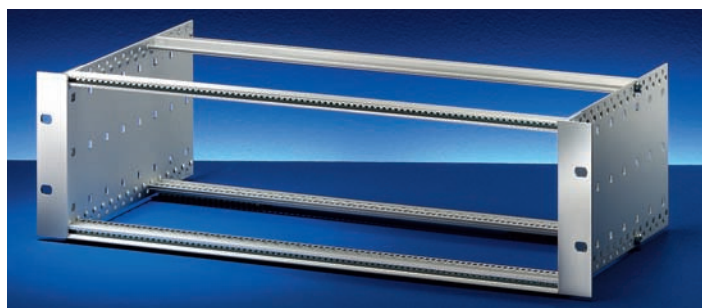
Tiefe D2	Qty/PU	Part no.
mm		
160	10	24560-351
220	10	24560-353
280	10	24560-379
340	10	24560-380
ESD clip for guide rails PU 50 pieces		24560-255

Note

- Perforated rail, cover plates and assembly kit from page 6.10
- Further accessories from page 6.57
- ServicePLUS configuration from page 6.16

Subracks - *europac* **PRO** Kits

Kit, unshielded, 'heavy', for backplane mounting



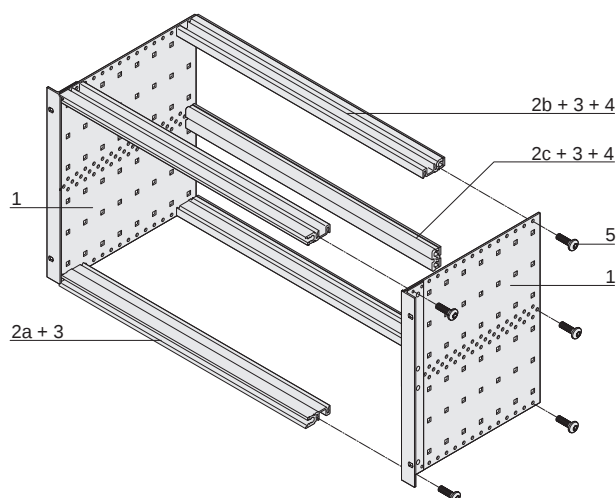
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- Subrack in robust version ("heavy"), 19" bracket is firmly joined to side panel (Tox-cold welded)
- Rear horizontal rail with insulation strip for backplane mounting
- Tested in accordance with German railway standard BN 411002, BN 411003

NEW

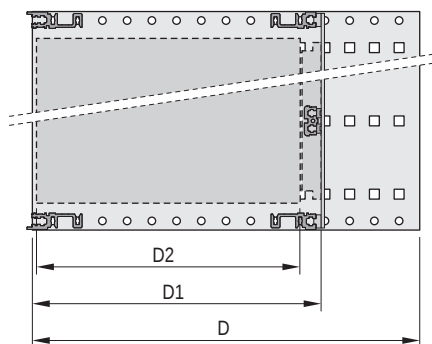
Delivery comprises (Kit)

Item	Qty	3 U	6 U	Description
1	2	2		Type H (heavy) side panel with 19" support bracket for textile EMC gasket
2a	2	2		Front horizontal rail (H-KD)
2b	2	2		Rear horizontal rail (H-ST) with insulation strip for backplane mounting
2c	-	1		Centre horizontal rail (ST)
3	4	6		Threaded insert (pre-fitted)
4	2	4		Insulation strip (pre-fitted)
5	1	1		Assembly kit
6	1	1		User manual

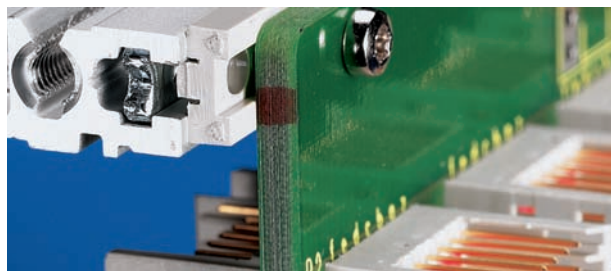


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6 U



D=total depth, D1=insertion depth, D2=board depth



Rear horizontal rail with insulation strip for backplane mounting



ServicePLUS see page 6.16

Order Information

Height	Width	Depth	Depth D1	Depth D2	Part no.
U	HP	mm	mm	mm	
3	84	175	175	160	24563-161
3	84	235	175/235	160/220	24563-162
3	84	295	175/235/295	160/220/280	24563-163
3	84	355	175/235/295/355	160/220/280/340	24563-164
6	84	175	175	160	24563-461
6	84	235	175/235	160/220	24563-462
6	84	295	175/235/295	160/220/280	24563-463
6	84	355	175/235/295/355	160/220/280/340	24563-464
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet					21100-435

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Guide rails (standard), ESD clips

Depth D2	Qty/PU	Part no.
mm		
160	10	24560-351
220	10	24560-353
280	10	24560-379
340	10	24560-380
ESD clip for guide rails PU 50 pieces		24560-255
Torx panhead screw for extra bolting of the guide rails, 2.5 x 9.3, zinc-plated, PU 100 pieces		24560-141

04400001

Note

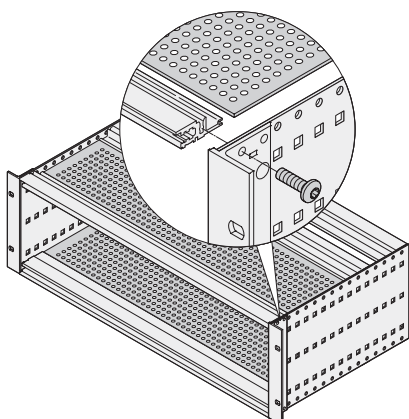
- Textile EMC gaskets see page 6.21
- Further accessories from page 6.57
- ServicePLUS configuration from page 6.16



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Subracks - *europac* **PRO** Kits

Cover plates for 'light' subrack



- Mechanical cover to push into the groove of the horizontal rails type "light"
- Perforation degree 60 %

Delivery comprises

Item	Qty	Description
1	2	Cover plate, perforated aluminium plate, 1.2 mm, hole diameter 3.8 mm, untreated

Order Information

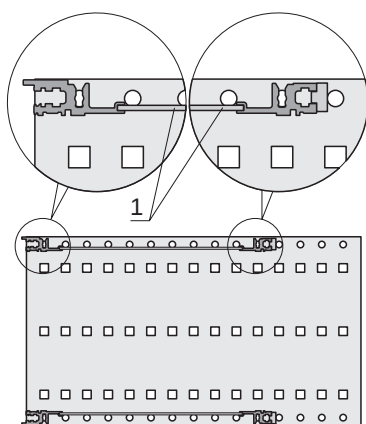
Depth D2 mm	Width HP	Qty/PU	Part no.
160	84	2	24561-051
220	84	2	24561-052

Note

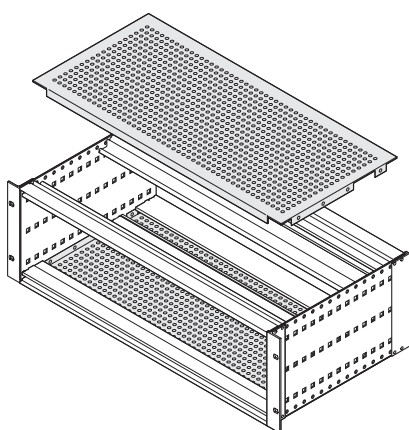
- Other dimensions available on request



For further information www.schroff.biz/oneclick
oneClick search code = Part no.



Cover plates for subrack



- Mechanical cover to bolt onto the side panel
- For fitting of 160, 220 or 280 mm deep PCBs
- Suitable for all horizontal rails
- Perforation degree 58 %

Delivery comprises

Item	Qty	Description
1	2	Cover plate, Al, 1.0 mm, hole diameter 4.0 mm, iridescent green chromated
2	16/20/32	Torx screws, 4 x 6, pentaform, self-tapping, St, zinc-plated

Order Information

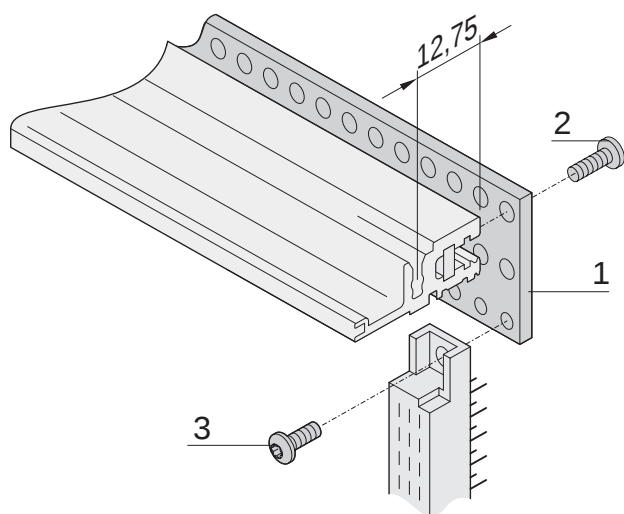
Depth D2 mm	Width HP	Qty/PU	Part no.
160	84	2	24560-078
220	84	2	24560-079
280	84	2	24560-080
340	84	2	24560-081



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Subracks - *europac* **PRO** Kits

Perforated rail for connector EN 60603-2/DIN 41612



- Insulated mounting of connectors (EN 60603-2/DIN 41612) on subracks (e.g. connector for a power supply unit)
- Perforated rails are bolted to the subrack for connector mounting (rear horizontal rail type ST, threaded insert fitted, insulation strip)

Delivery comprises

Item	Qty	Description
1	4	Perforated rail, 2 mm, Al clear passivated, mounting holes 2.8 mm, fixing for connectors M2.5

Order Information

Usable length HP	Length mm	Qty/PU	Part no.
28	142.24	4	20822-049
42	213.36	4	20822-050
60	304.8	4	20822-047
84	426.7	4	20822-048
Item 2 Torx panhead screw for fixing perforated rails to the horizontal rail, M2.5 × 10, PU 100 pieces			24560-148
Item 3 Torx panhead screw to fix connector to perforated rail, M2.5 × 7, PU 100 pieces			24560-147

- Connectors see page 11.4

Z-rail for connector mounting

- in accordance with EN 60603-2 (DIN 41612)

Delivery comprises

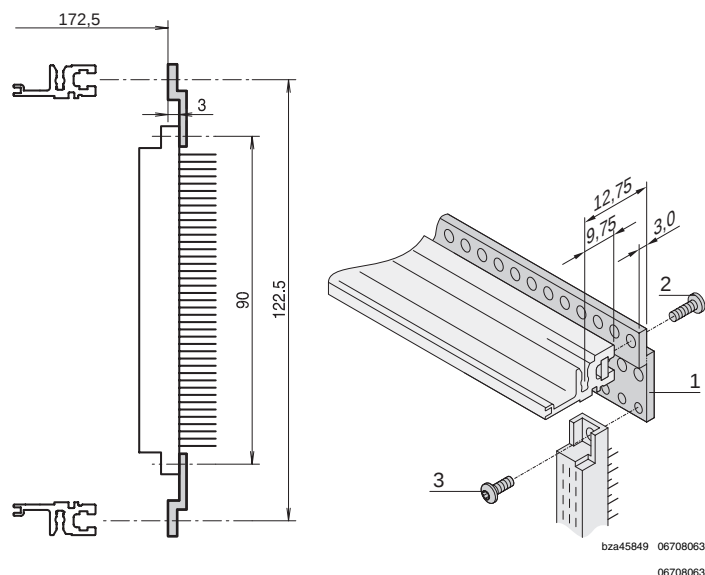
Item	Qty	Description
1	1	Z-rail, Al extrusion, anodised

Order Information

Usable length HP	Length mm	Part no.
28	142.24	30822-033
40	203.2	30822-045
42	213.36	30822-047
60	304.8	30822-065
84	426.7	30822-089
Item 2 Torx panhead screw, M2.5 × 10, PU 100 pieces		24560-147
Item 3 Torx panhead screw, M2.5 × 7, PU 100 pieces		24560-148

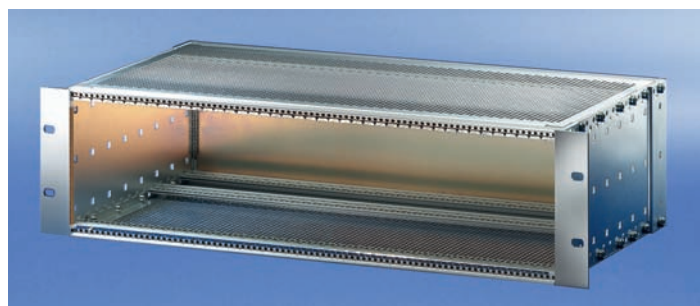
Note

- To fix Z-rail onto horizontal rail a threaded insert is needed, see page 6.32



Subracks - *europac* **PRO** Kits

Kit, shielded, "light", for backplane mounting

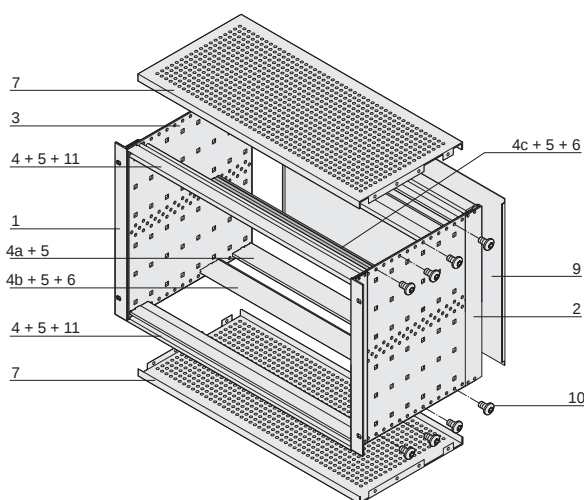


06102008

- Subrack in lightweight version ("light")
- Rear horizontal rail with insulation strip for backplane mounting
- Typical shielding 40 dB at 1 GHz, 30 dB at 2 GHz (in accordance with VG 95373, part 15), on condition that the front is sealed with shielded front panels

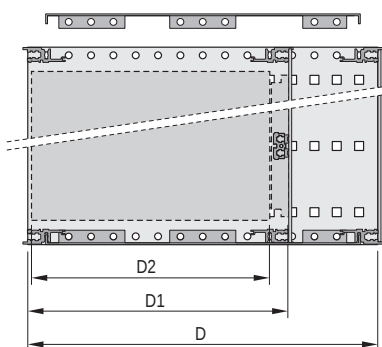
Delivery comprises (Kit)

Item	Qty	3 U	6 U	Description
1	2	2		19" support bracket for EMC textile gasket
2	2	2		Corner profile to rear for EMC textile gasket
3	2	2		Side panel type F
4	2	2		Front horizontal rail (L-KD)
4 a	2	2		Rear horizontal rail (L-KD)
4 b	2	2		Rear horizontal rail (L-ST) for backplane mounting with insulation strip
4 c	-	1		Centre horizontal rail (ST)
5	6	8		Threaded insert (pre-fitted)
6	2	4		Insulation strip, fixed
7	2	2		EMC cover plate
8	1	1		EMC gasketing material (pre-fitted)
9	1	1		Rear panel
10	1	1		Assembly kit
11	2	2		Perforated strip (pre-fitted)
12	1	1		User manual



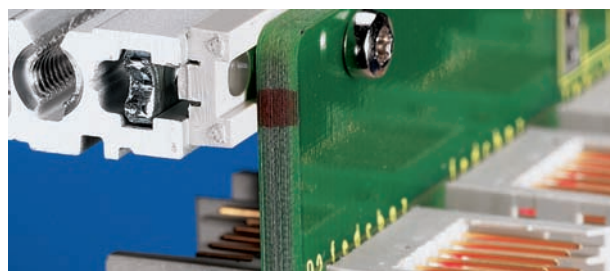
06102075

6 U



D=total depth, D1=insertion depth, D2=board depth

06108053



Rear horizontal rail with insulation strip for backplane mounting

04400001



ServicePLUS see page 6.16

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Depth D2 mm	Part no.
3	84	235	175/235	160/220	24563-142
3	84	295	175/235/295	160/220/280	24563-143
3	84	355	175/235/295	160/220/280	24563-144
3	84	415	175/235/295	160/220/280	24563-145
3	84	475	175/235/295	160/220/280	24563-146
6	84	235	175/235	160/220	24563-442
6	84	295	175/235/295	160/220/280	24563-443
6	84	355	175/235/295	160/220/280	24563-444
6	84	415	175/235/295	160/220/280	24563-445
6	84	475	175/235/295	160/220/280	24563-446
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet					21100-435

Guide rails (standard), ESD clips

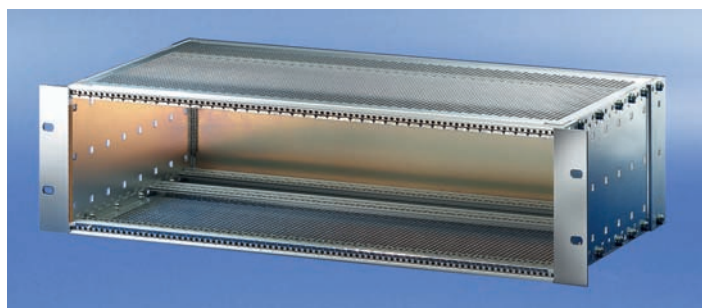
Depth D2 mm	Qty/PU	Part no.
160	10	24560-351
220	10	24560-353
280	10	24560-379
ESD clip for guide rails PU 50 pieces		24560-255

Note

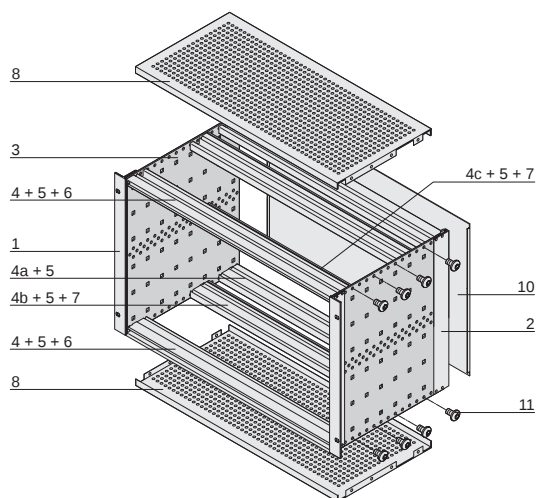
- Perforated rail for connectors see page 6.33
- Further accessories from page 6.57
- ServicePLUS configuration from page 6.16

Subracks - *europac* **PRO** Kits

Kit, shielded, "heavy", for backplane mounting

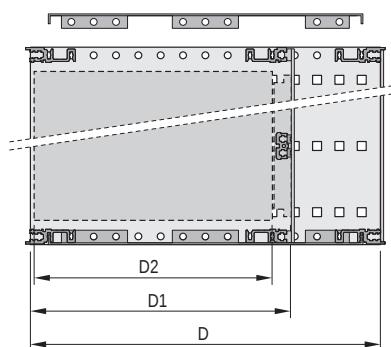


06102008

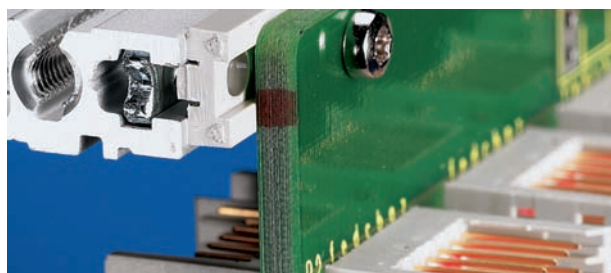


06107055

6 U



D=total depth, D1=insertion depth, D2=board depth



Rear horizontal rail with insulation strip for backplane mounting



ServicePLUS see page 6.16

- Subrack in robust version ("heavy"), 19" bracket is firmly joined to side panel (Tox-cold welded)
- Rear horizontal rail with insulation strip for backplane mounting
- Typical shielding 40 dB at 1 GHz, 30 dB at 2 GHz (as to VG 95373, part 15), on condition that the front is sealed with shielded front panels
- Tested to German railway standard BN 411002, BN 411003

NEW

Delivery comprises (Kit)

Item	Qty	3 U	6 U	Description
1	2	2		19" support bracket for EMC textile gasket
2	2	2		Corner profile to rear for EMC textile gasket
3	2	2		Side panel type H
4	2	2		Front horizontal rail (H-KD)
4 a	2	2		Rear horizontal rail (H-KD)
4 b	2	2		Rear horizontal rail (H-ST) with insulation strip for backplane mounting
4 c	-	1		Centre horizontal rail (ST)
5	6	8		Threaded insert (pre-fitted)
6	2	2		Perforated strip (pre-fitted)
7	2	4		Insulation strip (pre-fitted)
8	2	2		EMC cover plate
9	1	1		EMC gasketing material (pre-fitted)
10	1	1		Rear panel
11	1	1		Assembly kit
12	1	1		User manual

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Depth D2 mm	Part no.
3	84	235	175/235	160/220	24563-172
3	84	295	175/235/295	160/220/280	24563-173
3	84	355	175/235/295	160/220/280	24563-174
6	84	235	175/235	160/220	24563-472
6	84	295	175/235/295	160/220/280	24563-473
6	84	355	175/235/295	160/220/280	24563-474
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet					21100-435

Guide rails (standard), ESD clip

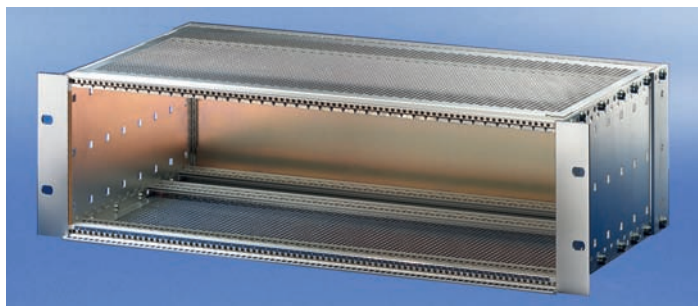
Depth D2 mm	Qty/PU	Part no.
160	10	24560-351
220	10	24560-353
280	10	24560-379
ESD clip for guide rails PU 50 pieces		24560-255
Torx panhead screw, for extra bolting of the guide rails, 2.5 x 9.3, zinc-plated, PU 100 pieces		24560-141

04400001

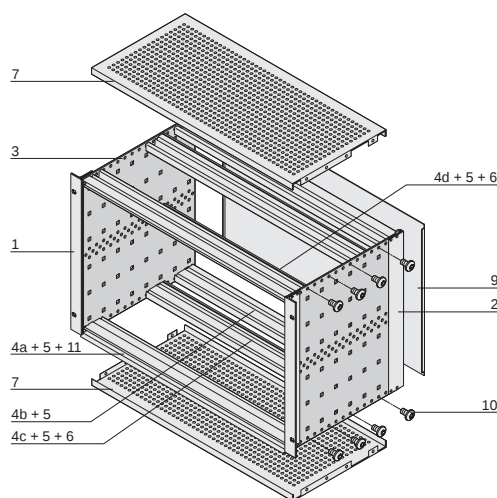
- Perforated rail for connectors see page 6.33
- Further accessories from page 6.57
- ServicePLUS configuration from page 6.16

Subracks - *europac* **PRO** Kits

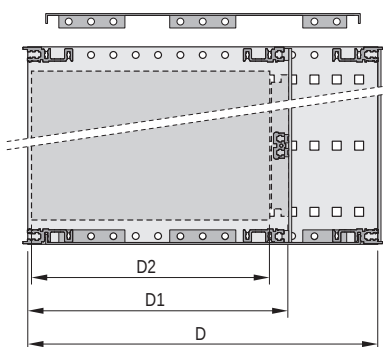
Kit, shielded, for CompactPCI, for backplane mounting, without rear I/O



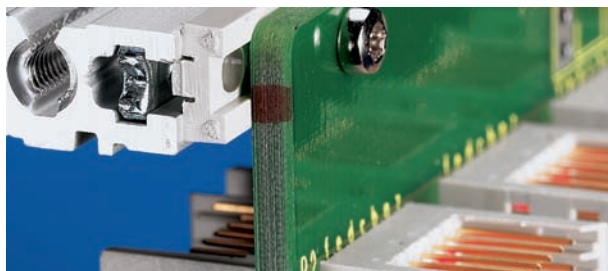
06102009



06102078



D=total depth, D1=insertion depth, D2=board depth



Rear horizontal rail with insulation strip for backplane mounting



ServicePLUS see page 6.16

- Subrack in robust version ("heavy") for CompactPCI plug-in units with high insertion and withdrawal forces in accordance with IEEE 1101.10 and IEC 60297-3-103
- Rear horizontal rail with insulation strip for backplane mounting
- Typical shielding 40 dB at 1 GHz, 30 dB at 2 GHz (in accordance with VG 95373, part 15), on condition that the front is sealed with shielded front panels

Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	19" support bracket for EMC textile gasket
2	2	2	Corner profile to rear for EMC textile gasket
3	2	2	Side panel type F
4	1	-	Front horizontal rail (H-KD)
4 a	1	2	Front horizontal rail IEEE (H-LD)
4 b	2	2	Rear horizontal rail (L-KD)
4 c	2	2	Rear horizontal rail (H-ST) with insulation strip for backplane mounting
4 d	-	1	Centre horizontal rail (ST)
5	6	8	Threaded insert (pre-fitted)
6	2	4	Insulation strip (pre-fitted)
7	2	2	EMC cover plate
8	1	1	EMC gasketing material (pre-fitted)
9	1	1	rear panel
10	1	1	Assembly kit
11	2	2	Perforated strip (pre-fitted in items 4+4a)
12	1	1	User manual

Order Information

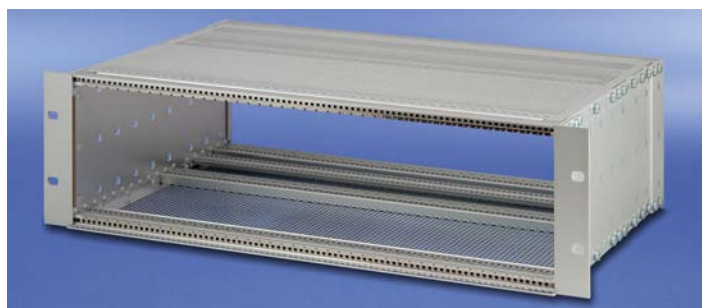
Height	Width	Depth D	Depth D1	Depth D2	Part no.
U	HP	mm	mm	mm	
3	84	235	175	160	24563-152
6	84	235	175	160	24563-452
Guide rails with coding, red 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces					24560-356
Guide rails with coding, grey 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces					24560-358
Guide rails with coding, green, offset 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces					24560-359
ESD clip for guide rails PU 50 pieces					24560-255
ESD clip for alignment pin of CPC/VM64x handle PU 50 pieces					24560-256
Tory panhead screw 2.5 × 9.3, zinc-plated, PU 100 pieces					24560-141
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces					20817-501
Assembly set, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet					21100-435

Note

- If backplanes and connectors have to be assembled, please order perforated rail for connector separately, see page 6.33
- Further accessories from page 6.57
- ServicePLUS configuration from page 6.16

Subracks - *europac* **PRO** Kits

Kit, shielded, for CompactPCI, for backplane mounting, rear I/O

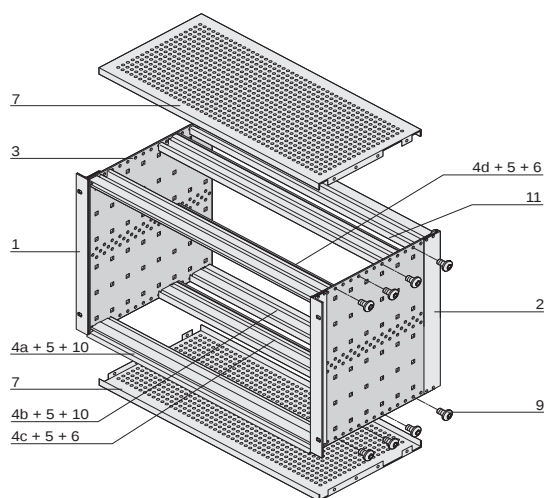


06108007

- Subrack in robust version ("heavy") for CompactPCI plug-in units with high insertion and withdrawal forces in accordance with IEEE 1101.10 and IEC 60297-3-103
- For rear I/O boards (depth 80 mm)
- Rear horizontal rail with insulation strip for backplane mounting
- Typical shielding 40 dB at 1 GHz, 30 dB at 2 GHz (in accordance with VG 95373, part 15), on condition that the front is sealed with shielded front panels

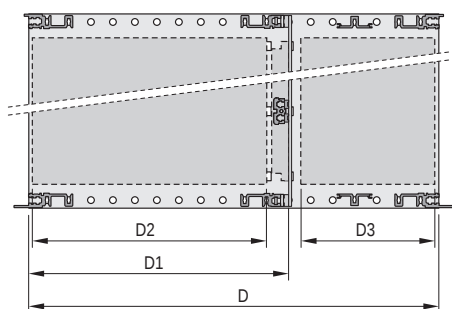
Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	19" support bracket for EMC textile gasket
2	2	2	Corner profile to rear for EMC textile gasket
3	2	2	Side panel type F
4	1	-	Front horizontal rail (H-KD)
4 a	1	2	Front horizontal rail IEEE (H-LD)
4 b	2	2	Rear horizontal rail (L-KD)
4 c	2	2	Rear horizontal rail (H-ST) with insulation strip for backplane mounting
4 d	-	1	Centre horizontal rail (ST)
5	6	8	Threaded insert (pre-fitted)
6	2	4	Insulation strip, fixed
7	2	2	EMC cover plate
8	1	1	EMC gasketing material (pre-fitted)
9	1	1	Assembly kit
10	2	2	Perforated strip (pre-fitted)
11	2	2	Horizontal rail type AB
12	1	1	User manual

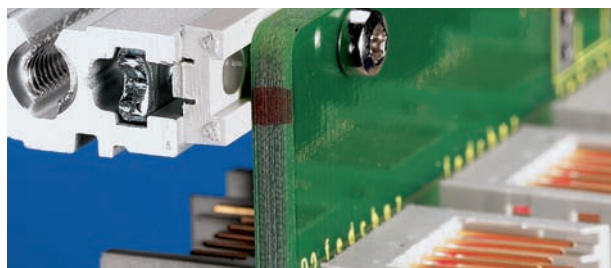


06105076

6 U



D=Overall depth, D1=insertion depth, D2=board depth
D3=board depth rear I/O



Rear horizontal rail with insulation strip for backplane mounting

06108075

04400001

Order Information

Height	Width	Depth D	Tiefe D1	Tiefe D2	Tiefe D3	Part no.
U	HP	mm	mm	mm	mm	
3	84	275	175	160	80	24563-157
6	84	275	175	160	80	24563-457
Torx panhead screw M2.5 x 9.3, zinc-plated, PU 100 pieces						24560-141
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces						20817-501
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet						21100-435

Note

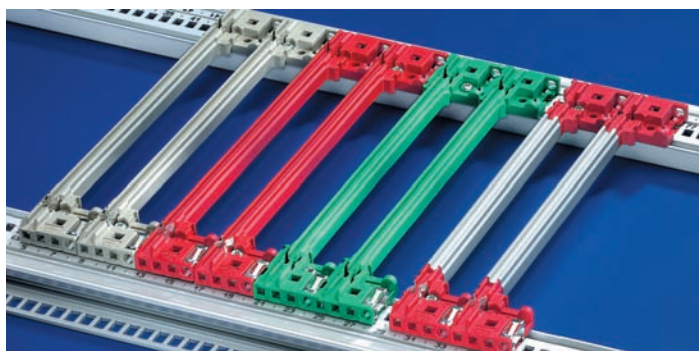
- Please order guide rails and ESD clips separately, see page 6.15
- If backplanes and connectors have to be assembled, please order perforated rail for connector separately, see page 6.33
- Further accessories from page 6.57
- ServicePLUS configuration from page 6.16



ServicePLUS see page 6.16

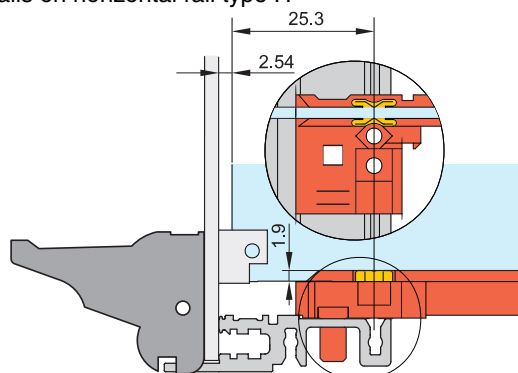
Subracks - *europac* **PRO** Kits

Guide rails with coding for CompactPCI and VME64x



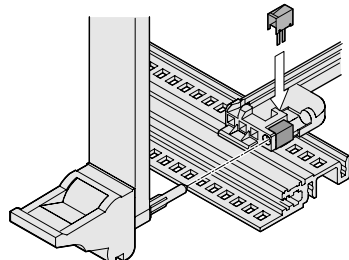
06102003

Guide rails on horizontal rail type H



04505050

ESD clip for alignment pin



06103052

- The guide rails conform to IEC 60297-3-100 and IEEE 1101.10/11, are 4 HP wide and can be equipped with coding pegs
- Material PBT UL 94 V-0, groove width 2 mm, for board thickness 1.6 mm
- Colour:
 - red (CPU board)
 - grey (periphery board)
 - green (CompactPCI power supply, 0.1" offset)

Order Information

Description	Depth mm	Qty/PU	Part no.
Guide rails with coding, red	70	10	24560-355
Guide rails with coding, grey	70	10	24560-360
Guide rails with coding, red	160	10	24560-356
Guide rails with coding, grey	160	10	24560-358
Guide rails with coding, green, offset	160	10	24560-359
ESD clip for guide rails PU 50 pieces			24560-255
ESD clip for alignment pin of CPCI/VME64x handle PU 50 pieces			24560-256
Torx panhead screw 2.5 × 9.3, zinc-plated, PU 100 pieces			24560-141
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces			20817-501

Note

- Guide rails with a depth of 70 mm are needed for 80 mm deep rear I/O boards
- More guide rails see page 6.34
- IEL/IET handle for CompactPCI/VME64x handles see chapter Sub-assemblies/plug-in units, page 7.18



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Subracks - *europac***PRO** ServicePLUS



configuration

Components can be varied and combined freely

Simple. Fast. To the ideal product.

- Configuration tables from page 6.17
- Online configuration: www.schroff.co.uk/configuration



assembly

Fitting of all mechanical, electrical and electronic components by our specialists

Assembled by professionals. Double benefit!

- Professionally and reliable from quantity 1
- Ready for despatch within 5 working days
- Further information: www.schroff.co.uk/assembly



modification

Custom drilling, cut-outs and special colours for off-the-shelf products

Small changes. Large impact.

- Customized modifications from 1 piece
- Ready for despatch within 10 working days
- Further information: www.schroff.co.uk/modification



solution

Integration and custom developments

Simple. Fast. From one source.

- Special sizes (depth and width)
- Individual thermal concepts
- Ready for despatch within 10 working days
- Further information: www.schroff.co.uk/solution



express

Delivery time to customer's request

When fast has to be faster.

- Express logistics
- Further information: www.schroff.co.uk/express



academy

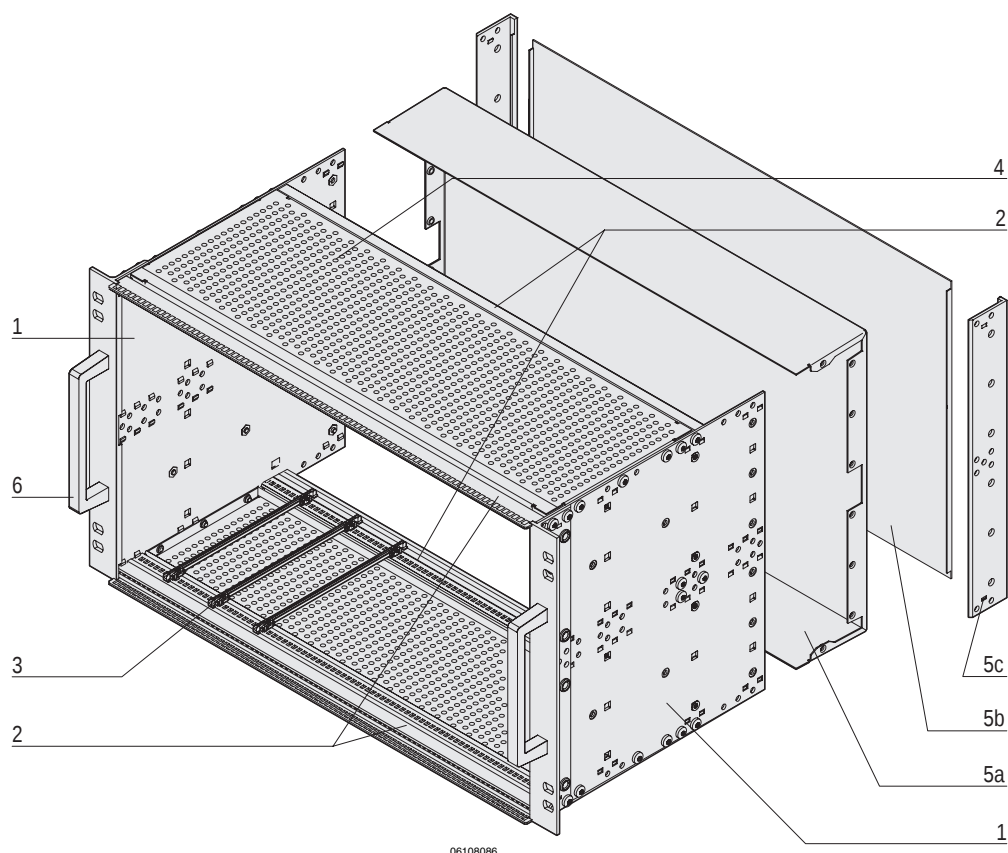
Knowledge transfer and partnership

Knowledge. Sharing. Partnerships.

- Seminars, CAD drawings, test reports, user reports
- Further information: www.schroff.co.uk/academy

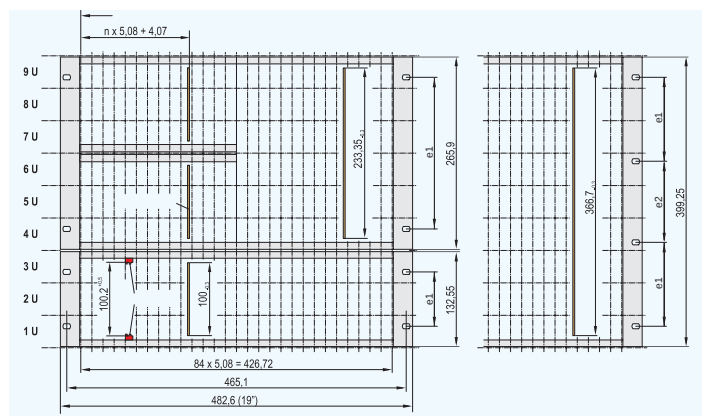
Subracks - *europac* **PRO** ServicePLUS

Overview of individual components for shielded or unshielded subracks



Item	Description	Description	Page
Item 1	Side panel	Establishes the height and depth of the subrack; Al, 2 mm, with universal hole positions for assembly of accessories. In three versions: The "flexible" one with separate 19" brackets as well as two others with integrated 19" brackets for "light" and "heavy" applications.	6.19
Item 2	Horizontal rail	Establishes the width of the subrack; Al extrusion, with defined hole positions for guide rails, grooves for threaded inserts, M4 thread at front, functional rail shapes, basically differing with regard to their mechanical loading capacity: "light" (load up to 7.5 kg) and "heavy" (load > 7.5 kg).	6.26
Item 3	Guide rails	Guide rails serve as interface between subracks and boards, for different PCB formats, are from plastic or metal, optionally codable and can, also optionally, be assembled with ESD clips to deflect electrostatic discharge.	6.34
Item 4	Cover plates	Provide mechanical protection and/or EMC shielding and are perforated.	6.42
Item 5	Rear/front	Rear hood (5a) or front panel (5b) with corner profiles (5c) as carriers for EMC seals in combination with use of shielded front panels. Note: Rear hood and corner profile cannot be fitted simultaneously.	6.46
Item 6	Handles	Handles can be mounted on the 19" brackets.	6.25
–	EMC shielding (without illustration)	Extensive component range for specific shielding of subrack according to your application.	6.51
–	Internal mounting (without illustration)	Universal assemblies, e.g. for horizontal and vertical mounting and for mounting plates.	6.57

Subrack dimensions



20304051

■ Dimensions conform to international standards EC 60297-3-100, IEEE 1101.1/.10/.11; please see the Schroff Standards Summary for details

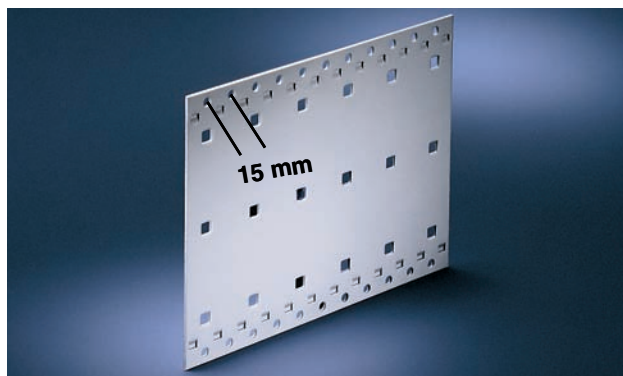
■ Side panels

- Aluminium, 2 mm
- Round holes for mounting horizontal rails (depth grid 15 mm)
- Impressions on the inner side of the side panel act as an anti-rotation guard and aid positioning of the horizontal rails
- Square holes (6 x 6 mm) provide universal fixing for components such as backplane shielding; version without square holes available on request

Description

Depth grid

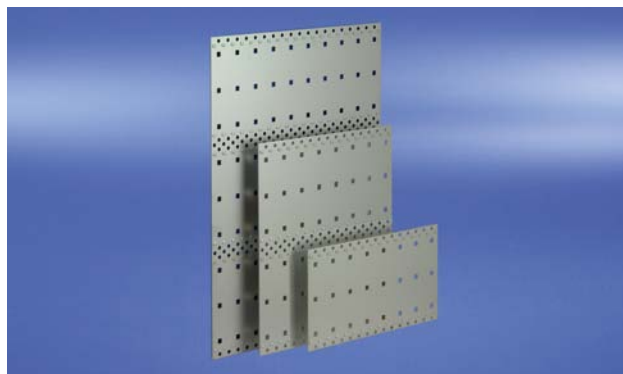
The depth grid is 15 mm, the mounting holes in the side panel are decisive for the configurability of individual components; thus any combinations of various individual parts are possible



06103001

Side panel 3 U, 6 U and 9 U

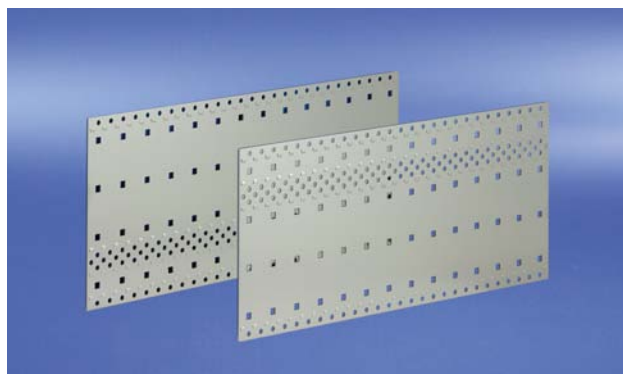
3 and 6 U side panels have the same hole positions (the 6 U is a doubling vertically of the 3 U); thus subdivisions can be made in the vertical dimension (6 U: 2 x 3 U; 9 U: 3 x 3 U)



06108008

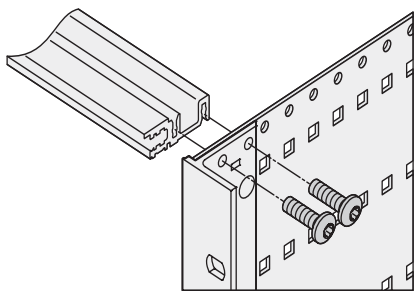
Side panel 4 U

4 U side panels have the same hole positions as 3 U and additionally 1 U (above or beneath the 3 U installation); this height allows the construction of a 3 U unit with 1 U clearance for cabling or airflow



06108011

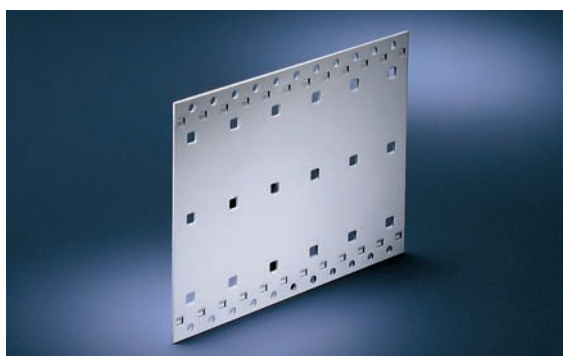
Side panels



Side panel - horizontal rail assembly

06108062

- Aluminium, 2 mm
- Holes for assembly of horizontal rails (depth grid 15 mm)
- The stampings on the internal surface of the side panels serve as anti-rotation guard and to position the horizontal rails
- Square holes (6 x 6 mm) serve for universal fixture of components like backplane shielding; version without square holes available on request
- Only one type of screw driver is needed for the assembly (Torx panhead screw, M4 x 14; torque side panel - horizontal rail 2.4 Nm; torque side panel - cover plate 1.3 Nm)
- 3 versions of the side panel:
 - **Type F = flexible**
 - **Type H = heavy**
 - **Type L = light**



06197003

Type F (flexible)

- Universal version: 19"-bracket (please order separately) can be fitted variably to front, rear or recessed
- Heights: 3, 4, 6 and 9 U
depths: 175, 235, 275, 277.75, 295, 355, 415 and 475 mm
other dimensions available on request
- 2 EMC shielding concepts for front/rear side:
EMC gasketing (stainless steel or textile gaskets)



06197004

Type H (heavy)

- 19" bracket Tox-cold welded to side panel; specifically intended for demanding mechanical conditions (vibration resistance; shock and vibration requirements, e.g. IEC 61587-2)
- Heights: 3 and 6 U
depths: 175, 235, 295 and 355 mm
other dimensions available on request
- 2 EMC shielding concepts for front/rear side:
EMC gasketing (stainless steel or textile gaskets)



06197002

Type L (light)

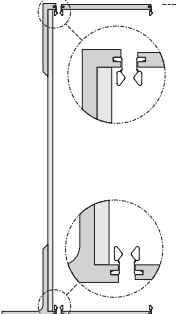
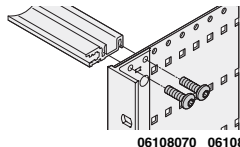
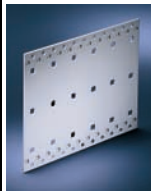
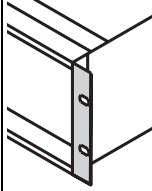
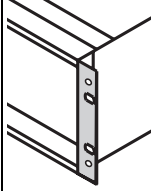
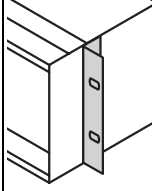
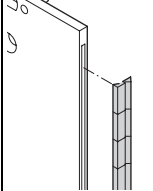
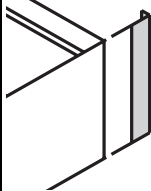
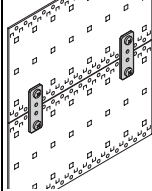
- Side panel with formed 19" brackets, for standard applications, unshielded
- Particularly cost-effective versions (not suited for EMC applications)
- Heights: 3 and 6 U
depths: 175, 235 and 295 mm
other dimensions available on request

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Type F

Side panel type F for stainless steel EMC gasket

Order Information

  Height Depth U mm		 without 19" bracket, Al, 2 mm, passivated, please order 19" bracket and corner profile separately 06197003	 with lateral grooves for EMC stainless steel gasket, Al extrusion, rear side etched, front anodised bza45819	 with lateral grooves for stainless steel EMC gasket, Al extrusion, rear side etched, front anodised, please order front handles separately, see page 6.25 06106050	 Al extrusion, passivated 06102501	 inserted laterally into the slots of the front panel, stainless steel BGA45760	 Al extrusion, surface clear passivated; with lateral grooves for EMC stainless steel gasket; rear hood cannot be mounted simultaneously BZA46573	 Zn die-cast, incl. assembly kit, for linking two by two side panels (above one another) BPA45867
		1 piece	PU 1 pair	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces
3	175	34560-185	24560-197	24560-198	24560-199	21101-705	24561-198	21101-954
3	235	34560-187						
3	275 1)	34579-300						
3	277.75 2)	34579-002						
3	295	34560-189						
3	355	34560-191						
3	415	34560-193						
3	475	34560-195						
4	175 3)	34560-285	24560-297	24560-298	24560-299	21101-713	24561-298	21101-954
4	235 3)	34560-287						
4	295 3)	34560-289						
4	355 3)	34560-291						
4	415 3)	34560-293						
4	475 3)	34560-295						
6	175	34560-485	24560-497	24560-498	24560-499	21101-707	24561-498	21101-954
6	235	34560-487						
6	275 1)	34579-038						
6	277.75 2)	34579-012						
6	295	34560-489						
6	355	34560-491						
6	415	34560-493						
6	475	34560-495						
6	970	34560-496						
9	175	34560-785	24560-797	24560-798	24560-799	21101-709	24561-798	21101-954
9	235	34560-787						
9	295	34560-789						
9	355	34560-791						
9	415	34560-793						
Screw, M4 x 14, PU 100 pieces for assembly of horizontal rails on side panels		24560-130	24560-130	24560-130	24560-130	—	24560-130	—

1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U

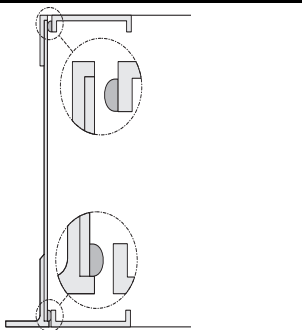
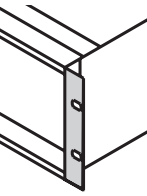
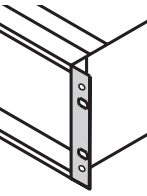
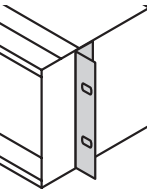
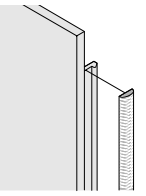
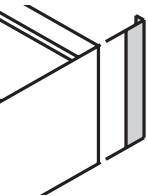
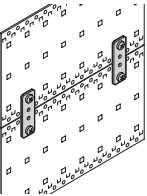
■ View of side panels 3, 4, 6, 9 U see page 6.18

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Type F

Side panels type F for textile EMC gasket

Order Information

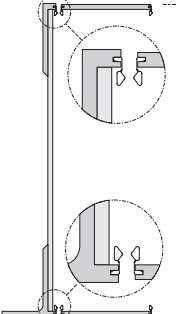
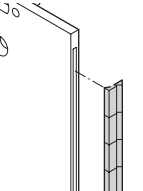
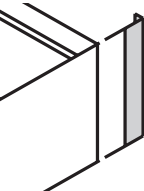
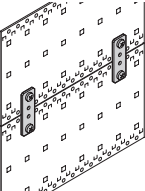
 Illustration shows standard assembly, not VME or CompactPCI bus with rear I/O		 06197003 without 19" bracket, Al, 2 mm, passivated, please order 19" bracket and corner profile separately	 bza45819 Al extrusion for EMC textile gasket, rear side etched, front anodised	 06106050 Al extrusion for EMC textile gasket, rear side etched, front anodised, please order front handles separately, see page 6.25	 06102501 Al extrusion, passivated	 01802056 textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C	 BZA46573 Al extrusion, etched; for EMC textile gasket	 BPA45867 Zn die-cast, incl. assembly kit, for linking two by two side panels (above one another)
Height U	Depth mm	1 piece	PU 1 pair	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces
3	175	34560-185						
3	235	34560-187						
3	275	1) 34579-300						
3	277.75	2) 34579-002						
3	295	34560-189	24564-197	24564-198	24560-199	21101-853	24564-199	21101-954
3	355	34560-191						
3	415	34560-193						
3	475	34560-195						
4	175	3) 34560-285						
4	235	3) 34560-287	24564-297	24564-298	24560-299	21101-858	24564-299	21101-954
4	295	3) 34560-289						
4	355	3) 34560-291						
4	415	3) 34560-293						
4	475	3) 34560-295						
6	175	34560-485	24564-497	24564-498	24560-499	21101-855	24564-499	21101-954
6	235	34560-487						
6	275	1) 34579-038						
6	277.75	2) 34579-012						
6	295	34560-489						
6	355	34560-491						
6	415	34560-493						
6	475	34560-495						
6	970	34560-496						
9	175	34560-785	24564-797	24564-798	24560-799	21101-859	24564-799	21101-954
9	235	34560-787						
9	295	34560-789						
9	355	34560-791						
9	415	34560-793						
Screw, M4 x 14, PU 100 pieces for assembly of horizontal rails on side panels		24560-130	24560-130	24560-130	24560-130	—	24560-130	—

1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U

Type H

Side panels type H for stainless steel EMC gasket

Order Information

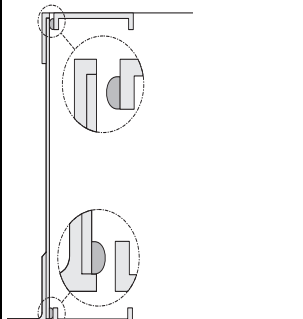
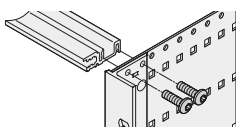
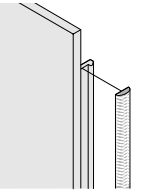
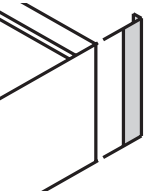
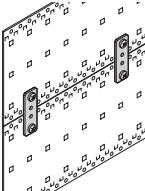
		Side panel type H for EMC gasket		EMC gasket (stainless steel)	Rear angle	Side panel connection
		without handle holes	with handle holes			
						
		06107001	06107001	BGA45760	BZA46573	BPA45867
		for high mechanical demands, 19" bracket Tox-cold welded, Al, 2 mm, clear passivated, front anodised	for high mechanical demands, 19" bracket Tox-cold welded, Al, 2 mm, passivated, front anodised, please order front handles separately see page 6.25	inserted laterally into the slots of the front panel	Al extrusion, surface clear passivated; with lateral grooves for EMC stainless steel gasket; rear hood cannot be mounted simultaneously	Zn die-cast, incl. assembly kit, for linking two by two side panels (above one another)
Height	Depth	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces
U	mm					
3	175	24566-125	24567-125	21101-705	24561-198	21101-954
3	235	24566-127	24567-127			
3	275 1)	—	—			
3	277.75 2)	—	—			
3	295	24566-129	24567-129			
3	355	24566-131	24567-131			
3	415	—	—			
3	475	—	—			
4	175 3)	—	—	—	—	—
4	235 3)					
4	295 3)					
4	355 3)					
4	415 3)					
4	475 3)					
6	175	24566-425	24567-425	21101-707	24561-498	21101-954
6	235	24566-427	24567-427			
6	275 1)	—	—			
6	277.75 2)	—	—			
6	295	24566-429	24567-429			
6	355	24566-431	24567-431			
6	415	—	—			
6	475	—	—			
6	970	—	—			
9	175	—	—	—	—	—
9	235					
9	295					
9	355					
9	415					
Screw, M4 x 14, PU 100 pieces for assembly of horizontal rails on side panels		24560-130	24560-130	—	24560-130	—

1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U

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Type H Side panels type H for textile EMC gasket

Order Information

 Illustration shows standard assembly, not VME or CompactPCI bus with rear I/O  06108054 0610862		Side panel type H		EMC gasket (textile)	Rear angle	Side panel connection			
Height	Depth	without handle holes  06107001 for high mechanical demands, 19" bracket Tox-cold welded, Al, 2 mm, clear passivated, front anodised	with handle holes  06107001 for high mechanical demands, 19" bracket Tox-cold welded, Al, 2 mm, passivated, front anodised, please order front handles separately see page 6.25	 01802056 textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C	 BZA46573 Al extrusion, etched; for EMC textile gasket	 BPA45867 Zn die-cast, incl. assembly kit, for linking two by two side panels (above one another)			
U	mm	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces			
3	175	24564-145	24566-145	21101-853	24564-199	21101-954			
3	235	24564-147	24566-147						
3	275 1)	—	—						
3	277.75 2)	—	—						
3	295	24564-149	24566-149						
3	355	24564-151	24566-151						
3	415	—	—						
3	475	—	—	21101-855	24564-499	21101-954			
4	175 3)	—	—						
4	235 3)								
4	295 3)								
4	355 3)								
4	415 3)								
4	475 3)								
6	175	24564-445	24566-445				21101-855	24564-499	21101-954
6	235	24564-447	24566-447						
6	275 1)	—	—						
6	277.75 2)	—	—						
6	295	24564-449	24566-449						
6	355	24564-451	24566-451						
6	415	—	—						
6	475	—	—						
6	970	—	—						
9	175	—	—	—	—	—			
9	235								
9	295								
9	355								
9	415								
Screw, M4 x 14, PU 100 pieces for assembly of horizontal rails on side panels		24560-130	24560-130	—	24560-130	—			

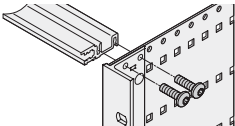
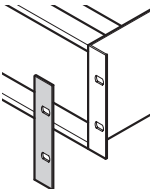
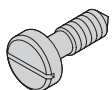
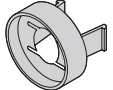
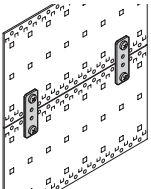
1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U

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Type L

Side panels type L

Order Information

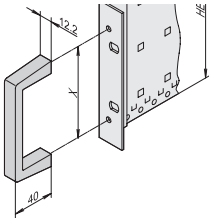
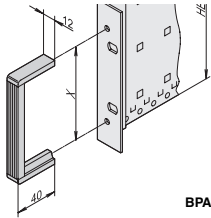
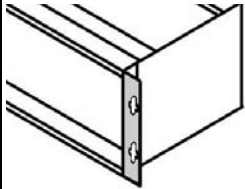
 Height U		Side panel type L  06197002 Al, 2 mm, passivated	Front cover  BZA45810 for decorative finish of 19" bracket, Al, 2 mm, anodised	Collar screw with slot for assembly of front cover  06708055 M6 x 16, St, nickel-plated	Sleeves for assembly of front cover  00508056 PPE, black	Side panel connection  BPA45867 Zn die-cast, incl. assembly kit, for linking two by two side panels (above one another)
Depth mm		1 piece	1 piece	PU 100 pieces	PU 100 pieces	PU 4 pieces
3	175	34561-185	34561-197	21100-565	21100-566	21101-954
3	235	34561-187				
3	275 1)	—				
3	277.75 2)	—				
3	295	34561-189				
3	355	—				
3	415	—				
3	475	—				
4	175 3)	—	—	—	—	—
4	235 3)					
4	295 3)					
4	355 3)					
4	415 3)					
4	475 3)					
6	175	34561-485	34561-497	21100-565	21100-566	21101-954
6	235	34561-487				
6	275 1)	—				
6	277.75 2)	—				
6	295	34561-489				
6	355	—				
6	415	—				
6	475	—				
6	970	—				
9	175	—	—	—	—	—
9	235					
9	295					
9	355					
9	415					
Screw, M4 x 14, PU 100 pieces for assembly of horizontal rails on side panels		24560-130	—	—	—	—

1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U

Subracks - *europac* **PRO** Service**PLUS**

Front handles, wall-mounting bracket

Order Information

			Front handle clear anodised black anodised		Universal front handle	Wall-mounting bracket
			 BZA42327		 BPA45855	 06104063
					3 parts: Al extrusion, anodised, 2 end pieces, plastic, PA, black width 12 mm, depth 40 mm	Screw fixed on the subrack instead of the 19" bracket, Al, 2.5 mm, passivated
Height U	Depth mm	X mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	PU 1 pair
3	175	88.0	10501-005	10501-026	10502-057	24562-197
3	235	88.0				
3	275	88.0				
3	277.75	88.0				
3	295	88.0				
3	355	88.0				
3	415	88.0				
3	475	88.0				
4	175	133.4	10501-018	—	10502-059	24562-297
4	235	133.4				
4	295	133.4				
4	355	133.4				
4	415	133.4				
4	475	133.4				
6	175	235.0	10501-008	10501-029	10502-065	24562-497
6	235	235.0				
6	275	235.0				
6	277.75	235.0				
6	295	235.0				
6	355	235.0				
6	415	235.0				
6	475	235.0				
6	970	235.0				
9	175	235.0	10501-008	10501-029	10502-065	24562-797
9	235	235.0				
9	295	235.0				
9	355	235.0				
9	415	235.0				
Screw M5 x 12, PU 100 pieces			24560-183	24560-183	24560-183	—
Screw M5 x 12, PU 4 pieces			24560-182	24560-182	24560-182	—
Screw, M4 x 14, PU 100 pieces			—	—	—	24560-130

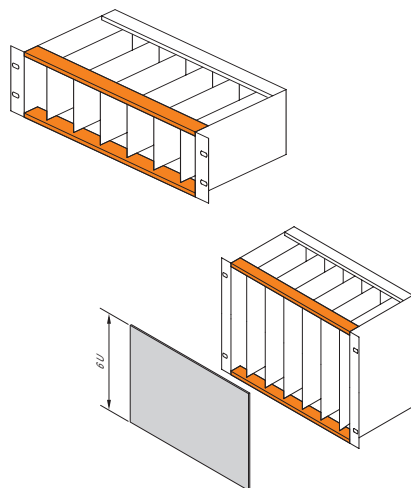
1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

Subracks - *europac* **PRO** Service**PLUS**

Front horizontal rail ("light", "heavy")

Assembly 3 U, 2 x 3 U, 6 U

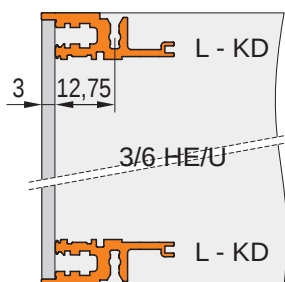
3 U/6 U



bza44980 bza44974

"light" (L)

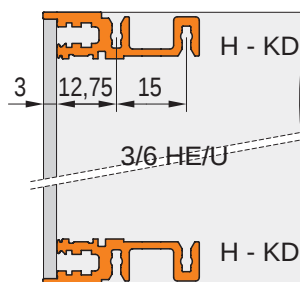
Short lip



06105060

"heavy" (H)

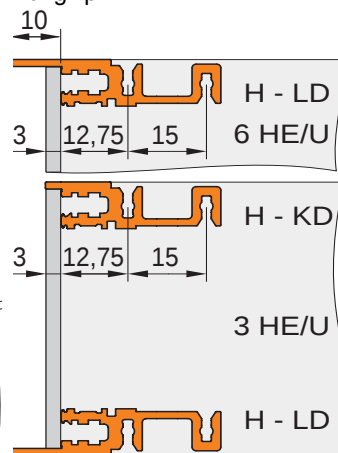
Short lip



06105061

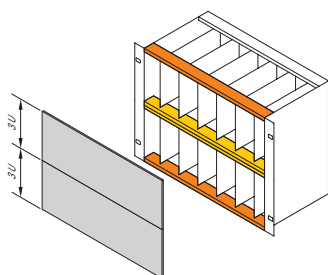
"heavy" (H)

Long lip

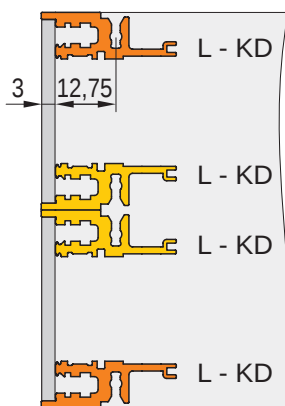


06108063

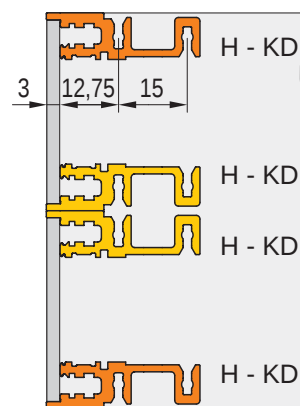
2 x 3 U



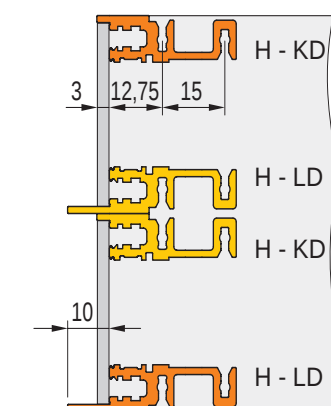
bza44972



06105062

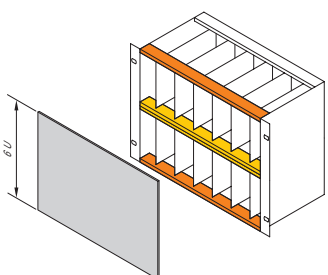


06105063

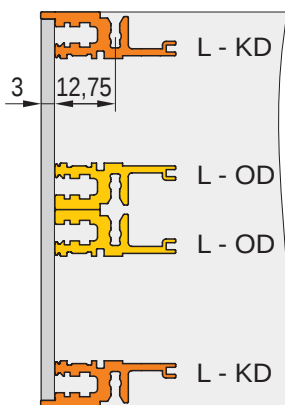


06108064

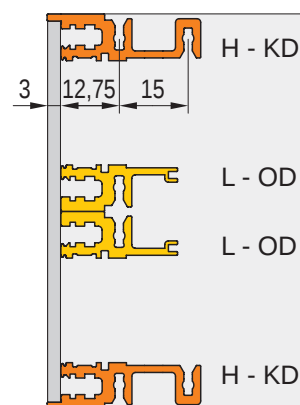
2 x 3 U, 6 U



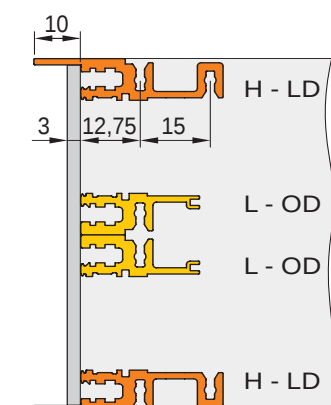
06105059



06105064



06105065



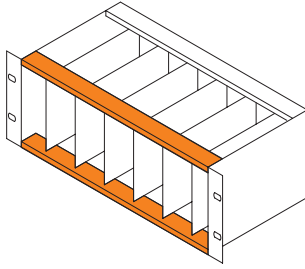
06108065

L-OD = Light - without lip, L-KD = Light - short lip, H-KD = Heavy - short lip, H-LD = Heavy - long lip

Subracks - *europac* **PRO** Service**PLUS**

Front horizontal rails

Order Information

 bza44980 with HP markings from 28 HP, Al extrusion, anodised finish, conductive surface		"light" Type L-OD without lip  06197006 Al extrusion, surface anodised, conductive contact surface	"light" Type L-KD short lip  06197007 Al extrusion, surface anodised, conductive contact surface	"heavy" Type H-KD short lip  06197008 Al extrusion, surface anodised, conductive contact surface	With long lip to prise out/ in CompactPCI, VME64x boards "heavy" Type H-LD long lip  06197009 Al extrusion, surface anodised, conductive contact surface
Usable length HP	Length mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾
20	106.68	34560-020	34560-120	34560-220	34560-320
28	147.32	34560-028	34560-128	34560-228	34560-328
40	208.28	34560-040	34560-140	34560-240	34560-340
42	218.44	34560-042	34560-142	34560-242	34560-342
63	325.12	34560-063	34560-163	34560-263	34560-363
84	431.80	34560-084	34560-184	34560-284	34560-384
—	1000	34560-001	34560-101	34560-201	34560-301
Screw, M4 x 14, PU 100 pieces		24560-130	24560-130	24560-130	24560-130
Bolt, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		—	—	24560-155	24560-155
Threaded inserts see page		6.32	6.32	6.32	6.32

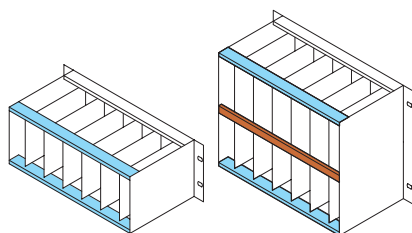
1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

"light": loading capacity up to approx. 7.5 kg; "heavy": loading capacity L 7.5 kg

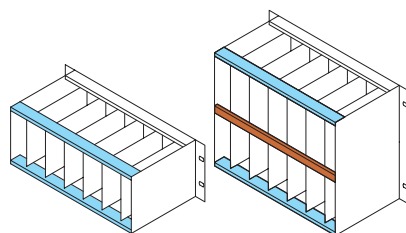
Note

- 1000 mm version without M4 thread to front, without print and notch for 19" bracket

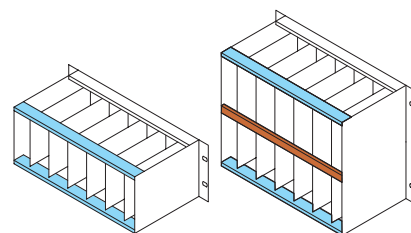
Rear horizontal rail ("light", "heavy")



Indirect backplane mounting
(with insulation strips)



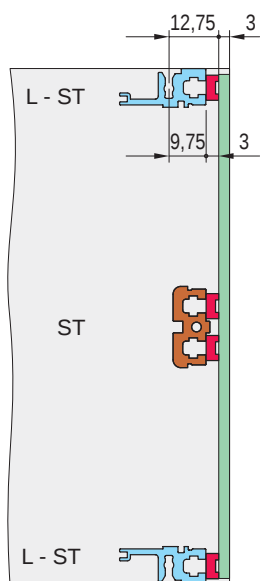
Direct backplane mounting



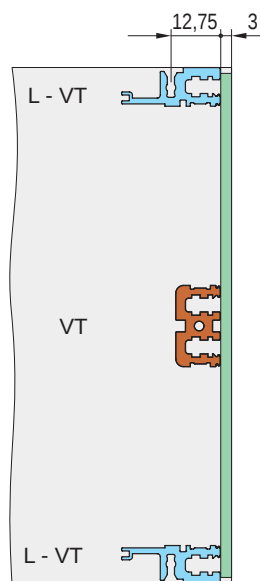
Connector fitting with Z

06105074 bza44981

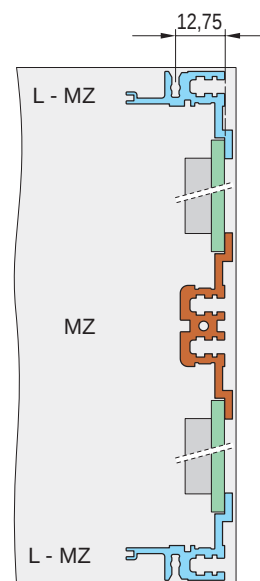
"light"



06105072

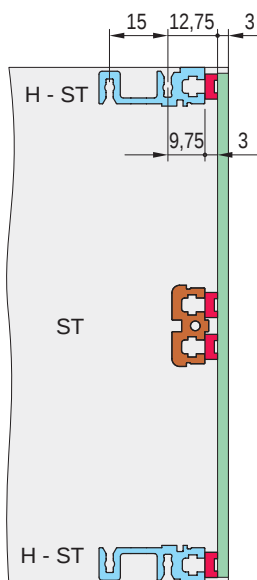


06105073

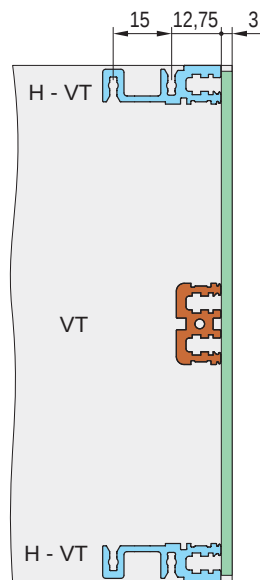


06105071

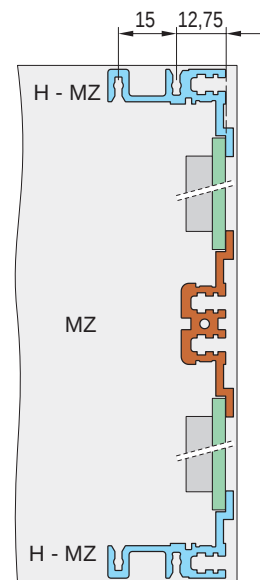
"heavy"



06108066



06108067

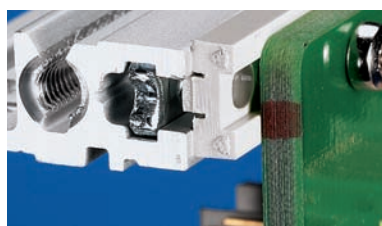


06108068

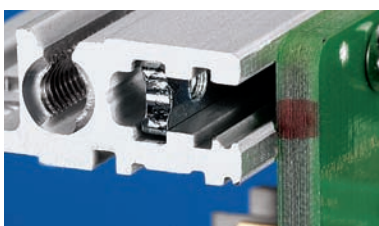
ST = standard, L = "light", H = "heavy"

VT = recessed, L = light, H = "heavy"

WZ = with z-rail, L = light, H = "heavy"



04400001



04400002

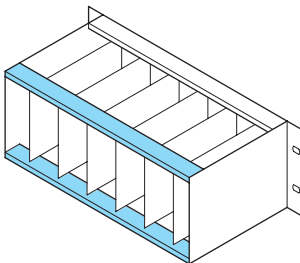


04400003

Subracks - *europac* **PRO** Service**PLUS**

Rear horizontal rails

Order Information

 06105074	For indirect backplane mounting, with insulation strip		For indirect backplane mounting		For direct mounting of connectors to EN 60603-2 (DIN 41612)		
	 06197011	 06197011	 06197011	 06197011	 06197011	 06197011	
	"light" Type L-ST standard	"heavy" Type H-ST standard	"light" Type L-VT + 3 mm	"heavy" Type H-VT + 3 mm	"light" Type L-MZ with Z-rail	"heavy" Type H-MZ with Z-rail	
	 06197010	 06197011	 BZA45782	 06197009	 06197014	 06197015	
With HP markings from 28 HP, Al extrusion, anodised finish, conductive surface		Al extrusion, surface anodised, conductive contact surface	Al extrusion, surface anodised, conductive contact surface	Al extrusion, surface anodised, conductive contact surface	Al extrusion, surface anodised, conductive contact surface	Al extrusion, surface anodised, conductive contact surface	
Usable length HP	Length mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾
20	106.68	34560-420	34560-520	34560-620	34560-720	34560-820	34560-920
28	147.32	34560-428	34560-528	34560-628	34560-728	34560-828	34560-928
40	208.28	34560-440	34560-540	34560-640	34560-740	34560-840	34560-940
42	218.44	34560-442	34560-542	34560-642	34560-742	34560-842	34560-942
63	325.12	34560-463	34560-563	34560-663	34560-763	34560-863	34560-963
84	431.80	34560-484	34560-584	34560-684	34560-784	34560-884	34560-984
—	1000	34560-401	34560-501	34560-601	34560-701	34560-801	—
Screw, M4 x 14, PU 100 pieces, for assembly of horizontal rails on side panels		24560-130	24560-130	24560-130	24560-130	24560-130	24560-130
Bolt, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		—	24560-155	—	24560-155	—	24560-155
Perforated rail for connector mounting with insulation strip see page		6.33	6.33	—	—	—	—
Z-rail for connector mounting without insulation strip see page		6.33	6.33	—	—	—	—
Insulation strips see page		—	—	6.32	6.32	—	—
Threaded inserts see page		6.32	6.32	6.32	6.32	6.32	6.32

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

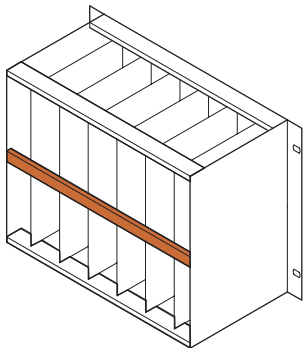
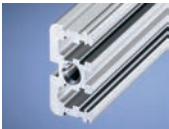
"light": loading capacity up to approx. 7.5 kg; "heavy": loading capacity L 7.5 kg

Note

- 1000 mm version without M4 thread in end without print

Horizontal rails rear, middle

Order Information

 06108090		For indirect backplane mounting, with insulation strip  06197016 Type ST  06197016 Al extrusion, finish anodised, conductive contact surface; without marking 1 piece (SPQ 10)¹⁾	For direct backplane mounting  06197017 Type VT  06197017 Al extrusion, finish anodised, conductive contact surface; without marking 1 piece (SPQ 10)¹⁾	For direct mounting of connectors in accordance with EN 60603-2 (DIN 41612)  06197018 Type MZ  06197018 Al extrusion, finish anodised, conductive contact surface; without marking 1 piece (SPQ 10)¹⁾
Usable length HP	Length mm			
20	106.68	34561-020	34561-120	34561-220
28	147.32	34561-028	34561-128	34561-228
40	208.28	34561-040	34561-140	34561-240
42	218.44	34561-042	34561-142	34561-242
63	325.12	34561-063	34561-163	34561-263
84	431.80	34561-084	34561-184	34561-284
–	1000	34561-001	34561-101	34561-201
Screw, M4 x 14, PU 100 pieces, for assembly of horizontal rails on side panels		24560-130	24560-130	24560-130
Insulation strips see page		6.32	–	–
Threaded inserts see page		6.32	6.32	6.32

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

"light": loading capacity up to approx. 7.5 kg; "heavy": loading capacity L 7.5 kg

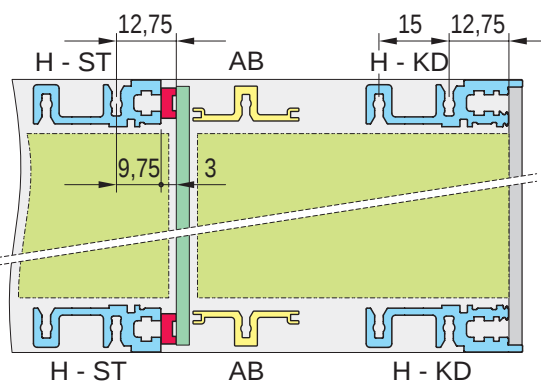
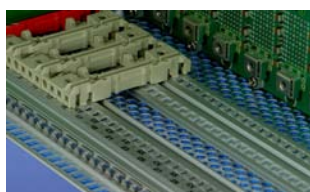
Note

- All horizontal rails without print
- 1000 mm version without M4 thread in end

Subracks - *europac* **PRO** ServicePLUS

Horizontal rails (type AB) for rear I/O guide rails

Order Information

 06108069		For CompactPCI in rear I/O area  06108009 Type AB  06197009 Al extrusion, finish anodised, conductive contact surface; horizontal rail type AB (AB = bracing) is required to fix the guide rails for the 80 mm rear I/O boards without marking
Usable length HP	Length mm	1 piece (SPQ 10) ¹⁾
20	106.68	34561-520
28	147.32	34561-528
40	208.28	34561-540
42	218.44	34561-542
63	325.12	34561-563
84	431.80	34561-584
—	1000	34561-501
Screw, M4 x 14, PU 100 pieces, for assembly of horizontal rails on side panels		24560-130

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

"light": loading capacity up to approx. 7.5 kg; "heavy": loading capacity L 7.5 kg

Note

- All horizontal rails without print
- 1000 mm version without M4 thread in end

Threaded inserts, perforated strips, insulation strips

Order Information

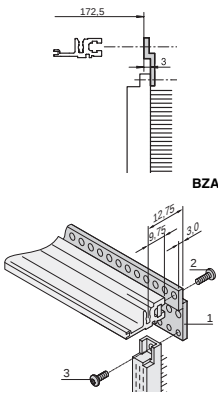
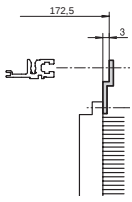
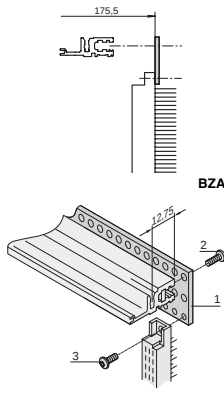
Usable length HP	Threaded insert			Perforated strip		Insulation strip	
	Length mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	Length mm	1 piece (SPQ 10) ¹⁾	Length mm	PU 10 pieces
20	106.68	34561-320	—	106.48	30845-189	101.50	24560-820
28	147.32	34561-328	—	147.12	30845-197	144.20	24560-828
40	208.28	34561-340	—	208.08	30845-209	205.12	24560-840
42	218.44	34561-342	—	218.24	30845-211	210.40	24560-842
63	325.12	34561-363	—	324.92	30845-232	316.88	24560-863
84	431.80	34561-384	34561-484	431.60	30845-253	428.64	24560-884
196	1000.00	34565-196	—	1000.00	34565-396		—
Grub screw M2.5 x 8, PU 100 pieces		21100-276	—		—		—
Grub screw M2.5 x 9, PU 100 pieces		—	—		21101-359		—
Grub screw M3 x 8, PU 100 pieces		—	21100-646		—		—

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

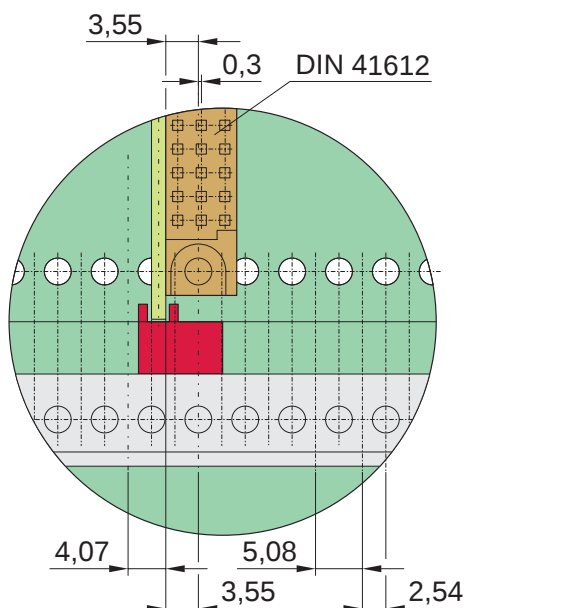
2) Order no. includes one packing unit (PU); delivery is exclusively made in PU

Z-rails, perforated rails

Order Information

		Z-rail for connectors		Perforated rail
		IEC 60603-2 DIN EN 41612 item 1	31-pin, DIN 41617	EN 60603-2, DIN 41612 item 1
		 for connector mounting with ST horizontal rails, please order threaded insert and screw separately	 for connector mounting with ST horizontal rails, please order threaded insert and screw separately	 for connector mounting with VT horizontal rails, please order threaded insert and screw separately
Usable length HP	Length mm	1 piece	1 piece	PU 4 pieces
20	106.68	30822-025	—	20822-051
28	142.24	30822-033	—	20822-049
40	203.20	30822-045	30819-763	20822-046
42	213.36	30822-047	—	20822-050
60	304.80	30822-065	30819-783	20822-047
84	426.70	30822-089	30819-808	20822-048
Item 3, Torx panhead screw to fix connector to perforated rail, M2.5 × 7, PU 100 pieces		24560-147	24560-147	24560-147
Item 2, Torx countersunk screw with, rto fix perforated rails to horizontal rail, M2.5 × 10, PU 100 pieces		24560-148	24560-148	24560-148

Guide rails



Front view: position of guide rails to connector (EN 60603-2/
DIN 41612)

Guide rails form the interface between the subrack mechanics and the sub-assemblies (PCBs, plug-in units, frame-type plug-in units, ...).

Guide rails for standard applications are 2 HP wide. Guide rails with coding (e.g. for CompactPCI or VME64bus applications) are 4 HP wide. Groove widths are 2 mm and 2.5 mm.

The guide rails are clipped into the rectangular cut-outs of the horizontal rails. They can be additionally bolted to the horizontal rail (type H only) for higher shock and vibration requirements.

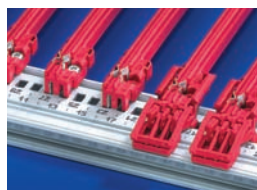
The HP marking on the horizontal rail (28 HP and above) allows the rails to be simply fitted in the correct position (position of sub-assembly = "number in viewing window" or in front of the arrow marking on the guide rails).

Applications for guide rails

Application



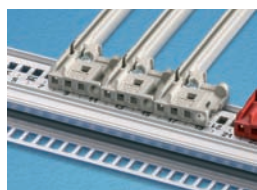
06102001



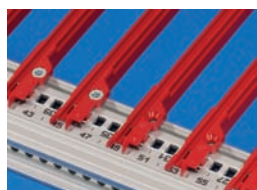
06102002



06102005



06106004



06104009

For plug-in units and frame type plug-in units (with front panels)
(type: standard)

For boards without own front panel
(type: accessories or robust version)

For CompactPCI or VME64x plug-in units
(type: IEEE with coding; frame-type plug-in units may not be installed)

For drive unit plug-in units or boards of 4.4" (111.7 mm) height (type 4.4")

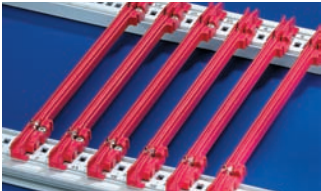
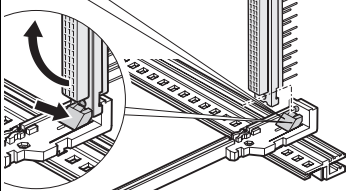
Accessories:

- ESD clips
- Keying/coding pegs
- PCB retainers

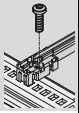
Subracks - *europac* **PRO** Service**PLUS**

**Guide rails for plug-in units and modules, one-piece,
groove width 2 mm and 2.5 mm**

Order Information

Assembly			For plug-in units and frame type plug-in units		
- can be clipped into Al extruded horizontal rails - into 1.5 mm thick plates Storage temperature from -40 °C ... 130 °C			Standard  up to 220 mm length, PBT, UL 94 V-0; L 280 mm length, multi-part, end piece PBT, UL 94 V-0, middle part Al extrusion		DIN connector mounting as standard  PBT, UL 94 V-0, connector is clipped directly onto the guide rails, only suitable for euroboards 100 x 160 mm or 100 x 220 mm
Board lengths mm	Groove width mm	Colour mm	PU 10 pieces ²⁾	1 piece (SPQ 50) ¹⁾	PU 10 pairs
70	2	red	—	34579-230	—
70	2	grey	—	34579-231	—
160	2	red	24560-351	64560-001	64560-074
220	2	red	24560-353	64560-002	64560-075
280	2	red	24560-379	—	—
340	2	red	24560-380	—	—
160	2.5	red	—	64560-096	—
220	2.5	red	—	64560-098	—

Accessories

Retention screw, PU 100 pieces		24560-141
ESD clip, PU 50 pieces		24560-255

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

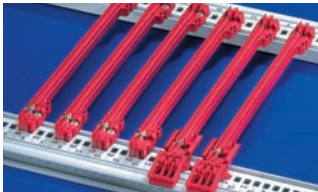
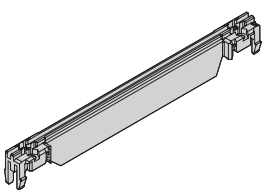
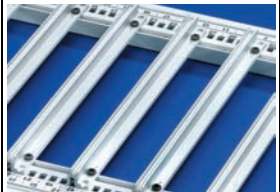
2) Order no. includes one packing unit (PU); delivery is exclusively made in PU

Description of accessories see from page 6.41

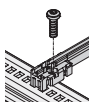
Subracks - *europac* **PRO** ServicePLUS

Guide rails type "accessories", one-piece, groove width 2 mm and 2.5 mm

Order Information

Assembly			Guide rails type			
- can be clipped into Al extruded horizontal rails - into 1.5 mm thick plates Storage temperature from -40 °C ... 130 °C			"Accessories"  up to 220 mm length, PBT, UL 94 V-0; L 280 mm length, multi-part, end piece PBT, UL 94V-0, middle part Al extrusion	"Accessories" strengthened  PBT, UL 94 V-0; with additional centre materials to strength guide rails	For heavy modules, Al extrusion, silver, robust version  Al extrusion; is screwed to horizontal rail "heavy" with retention screws	
Board lengths mm	Groove width mm	Colour mm	PU 10 pieces ²⁾	1 piece (SPQ 50) ¹⁾	1 piece (SPQ 50) ¹⁾	1 piece (SPQ 10) ¹⁾
100	2	red	—	64560-082	—	—
160	2	red	24560-373	64560-005	64560-076	—
160	2	grey	—	64560-055	—	34562-881
220	2	red	24560-374	64560-006	64560-078	—
220	2	grey	—	64560-166	—	34562-882
280	2	red/silver	24560-375	—	64560-080	34562-883
340	2	red/silver	24560-376	—	—	34562-884
400	2	red/silver	—	—	—	34562-885
160	2.5	silver	—	—	—	34564-881
220	2.5	silver	—	—	—	34564-882
280	2.5	silver	—	—	—	34564-883
340	2.5	silver	—	—	—	34564-884
400	2.5	silver	—	—	—	34564-885

Accessories

Retention screw, PU 100 pieces 	24560-141	24560-141	24560-141	24560-157
ESD clip, PU 50 pieces	24560-255	24560-255	24560-255	—
Board locking, red, PU 10 pieces	24560-377	24560-377	24560-377	—
Board handle, red, PU 10 pieces	24560-378	24560-378	24560-378	—
Identification strips for board handle, red, PU 1 sheet = 438 pieces	60817-228	60817-228	60817-228	—
Keying/coding	see page 6.40			—

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

2) Order no. includes one packing unit (PU); delivery is exclusively made in PU

For description of accessories see from page 6.40

Subracks - *europac* **PRO** Service**PLUS**

Guide rails for CompactPCI, VME64x with coding, 4.4" PCB, groove width 2 mm and 2.5 mm

Order Information

Assembly - can be clipped into Al extruded horizontal rails - into 1.5 mm thick plates Storage temperature from -40 °C ... 130 °C			For CompactPCI, VME64x with coding In accordance with IEEE 1101.10 and IEC 60297-3-103		Offset 0.1" for power supplies in accordance with IEEE 1101.10 and IEC 60297-3-103		For 4.4" PCBs	
			 06106001		 06106002		 06104009	
			multi-piece, end piece PBT, UL 94 V-0, middle part Al extrusion		PBT, UL 94 V-0		one-piece, PBT, UL 94 V-0; for 4.4" PCBs or drive units	
Board lengths mm	Groove width mm	Colour mm	PU 10 pieces ²⁾	1 piece (SPQ 50) ¹⁾		1 piece (SPQ 50) ¹⁾	PU 10 pieces	1 piece (SPQ 50) ¹⁾
70	2	red	24560-355	64560-085	—	—	—	—
70	2	grey	24560-360	64560-086	—	—	—	—
160	2	red	24560-356	64560-089	—	—	24560-361	64560-143
160	2	grey	24560-358	64560-090	—	—	—	—
160	2	green	—	—	24560-359	64560-071	—	—
220	2	red	—	64560-091	—	—	24560-362	64560-144
220	2	grey	—	64560-092	—	—	—	—
220	2	green	—	—	—	64560-072	—	—
160	2.5	red	—	—	—	—	—	64560-145
220	2.5	red	24561-330	—	—	—	—	64560-146
220	2.5	grey	24561-340	—	—	—	—	—
280	2.5	red	24561-331	—	—	—	—	—
280	2.5	grey	24561-341	—	—	—	—	—
340	2.5	red	24561-332	—	—	—	—	—
340	2.5	grey	24561-342	—	—	—	—	—

Accessories

ESD clip, PU 50 pieces	24560-255	24560-255	—	—	—	—
ESD clip, for alignment pin, PU 50 pieces	24560-256	24560-256	24560-256	24560-256	—	—
Retention screw, PU 100 pieces	24560-141	24560-141	24560-141	24560-141	24560-158	24560-158
Coding peg, PU 100 pieces	20817-501	20817-501	20817-501	20817-501	—	—

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

2) Order no. includes one packing unit (PU); delivery is exclusively made in PU

For description of accessories see from page 6.40

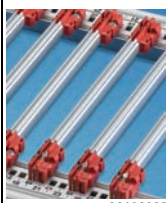
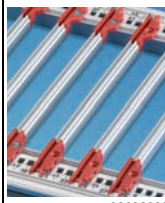
Note

- Reinforcement for plastic profiles (PVC) > 280 mm depth available on request

Subracks - *europac* **PRO** ServicePLUS

Guide rails, multi-piece, groove width 2 mm

Order Information

PCB: fixed length at 160, 220, 280, 340 mm; length 1000 mm for special dimensions Assembly: engageable in horizontal rail Storage temperature: end piece -40 °C ... +130 °C PVC extrusion 0 °C ... +60 °C			For plug-in units and frame type plug-in units "Standard"		"Accessories"		For 4.4" PCBs	
Description			 06106004 end piece PBT, UL 94 V-0, middle section Al extrusion		 06106005 end piece PBT, UL 94 V-0, middle section plastic extrusion (PVC, RAL 7035)		 06106006 end piece PBT, UL 94 V-0; middle section plastic extrusion (PVC, RAL 7035)	
Length mm			Groove width mm		1 piece (SPQ 10) ¹⁾		1 piece (SPQ 10) ¹⁾	
End piece, red, 1 pair			2		64560-004		64560-004	
Profile, for 160 mm board length			95		34560-891		34564-891	
Profile, for 220 mm board length			155		34560-892		34564-892	
Profile, for 280 mm board length			215		34560-893		34564-893	
Profile, for 340 mm board length			275		34560-894		—	
Profile, for any board length			1000		34560-900		—	
Profile, for any board length			1000		—		34564-900	

Accessories

ESD clip, PU 50 pieces	24560-255	24560-255	—
Retention screw, PU 100 pieces	24560-141	24560-141	24560-158
Board locking, red, PU 10 pieces	—	24560-377	—
Board handle, red, PU 10 pieces	—	24560-378	—
Identification strips for board handle, red, PU 1 sheet = 438 pieces	—	60817-228	—
Keying/coding	—	see page 6.41	—

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

2) Order no. includes one packing unit (PU); delivery is exclusively made in PU

For description of accessories see from page 6.40

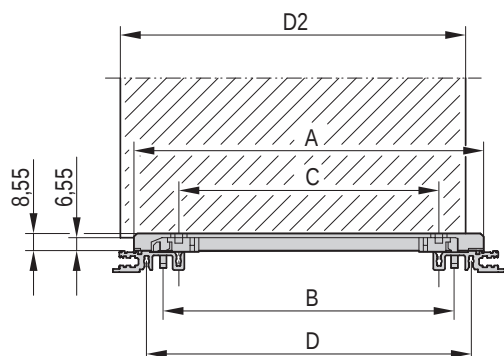
Note

- Strengthening for middle part (plastic extrusion) available on request

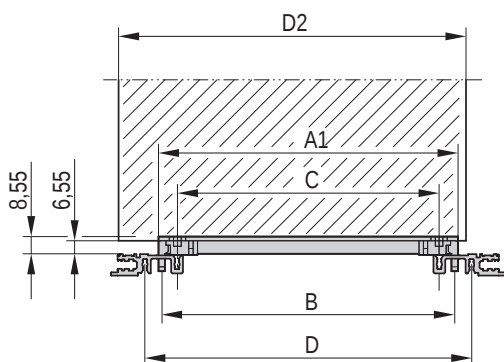
Subracks - *europac* **PRO** ServicePLUS

Dimension drawings of guide rails

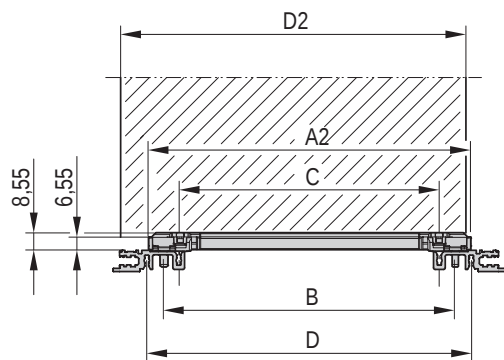
Standard



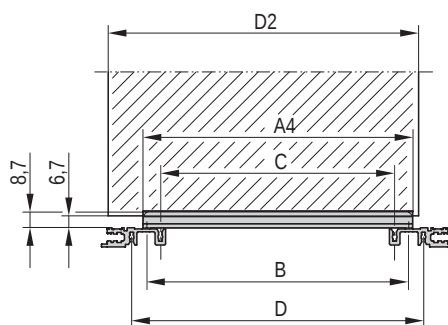
For accessories



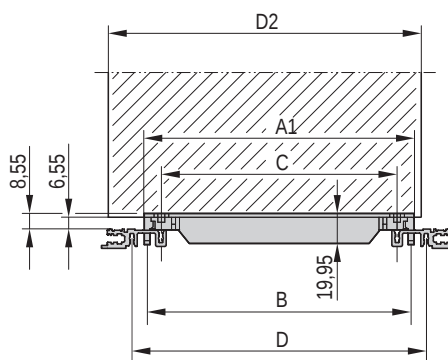
CompactPCI, VME64x



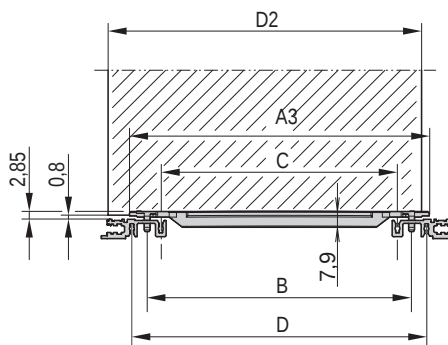
Robust version



For accessories, strengthened



4.4" (111.7 mm)



Dimensions table

Board height

L mm	Dimensions							
	A mm	A1 mm	A2 mm	A3 mm	A4 mm	B mm	C mm	D mm
70	71.5	47.9	59.39	63	49	45	30	60
100	101.5	77.9	89.39	93	79	75	60	90
160	161.5	137.9	149.39	153	139	135	120	150
220	221.5	197.9	209.39	213	199	195	180	210
280	281.5	257.9	269.39	273	259	255	240	270
340	341.5	317.9	322.39	333	319	315	300	330
400	401.5	377.9	389.39	393	379	375	360	390

A, A1, A2, A3, A4: length of rail

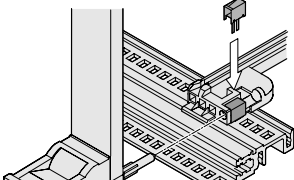
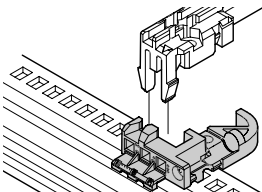
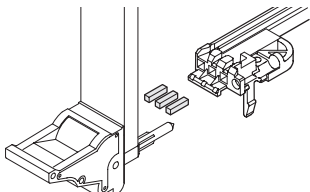
B: Pitch of snap-in fixing

C: Pitch of guide rail retention screws

D: Pitch of horizontal rail retention screws

Guide rail accessories

Order Information

		ESD clips, CompactPCI/VME 64 alignment pin for guide rails	Coding for subracks	
		 06103052 Spring steel, tin-plated, ESD clip, for alignment pin in accordance with IEEE; can be plugged into the guide rails with coding and into the keying/coding block; it ensures conductive contact between the alignment pin of the insertion/extraction handle (IEL or IET handle) and the horizontal rail	Keying/coding block for guide rails "accessories"  06103051 PBT, UL 94 V-0, keying/coding block is clipped into the horizontal rail next to the guide rails; please order keying/coding pegs separately	Keying/coding for CompactPCI, VME64x handles to IEEE 1011.10 and IEC 60297-3-103  bga46316 PC, UL 94 V0, RAL 7035; the keying/coding pegs (3 each) are inserted into the coding block or the handle
Assembly	Colour	PU 50 pieces	1 piece (SPQ 50) ¹⁾	PU 100 pieces
At the top	red	—	34579-232	—
	grey	—	34579-233	20817-501
	silver	24560-256	—	—
At the bottom	red	—	34579-234	—
	grey	—	34579-235	20817-501
	silver	24560-256	—	—

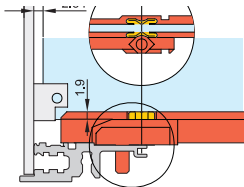
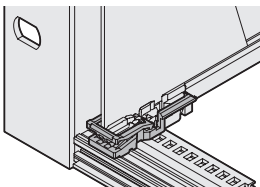
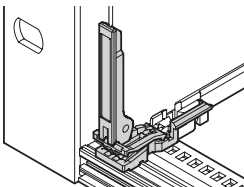
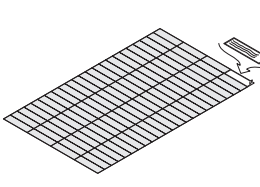
1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

2) Order no. includes one packing unit (PU); delivery is exclusively made in PU

Subracks - *europac* **PRO** ServicePLUS

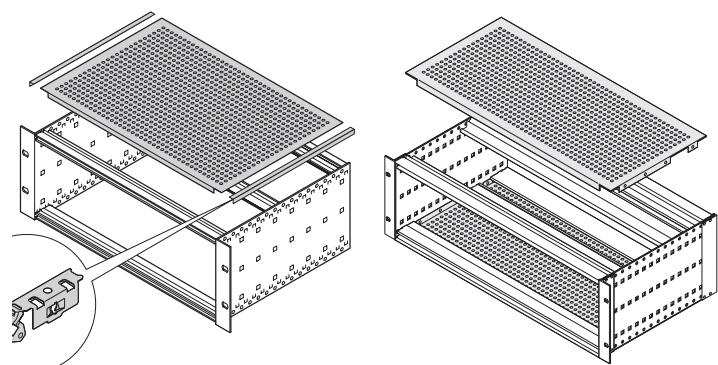
Guide rail accessories

Order Information

		ESD clip for guide rails	Board retention for PCBs without front panel	Board handle for board locking	Identification strips for board handle
		 04503050 Spring steel, tin-plated, ensures conductive contact between circuit board and horizontal rail, on both the solder side and the component side PBT, UL 94 V-0	 04805050 PBT, UL 94 V-0, red, to fix the PCB in the subrack (also slot 1), can also be used without board handle, minimum distance 3 HP PBT, UL 94 V-0	 04805051 PBT, UL 94 V-0, red, insertion/extraction function with connection to board locking (also slot 1), mounting directly behind front panel (upper and lower), minimum distance 3 HP PBT, UL 94 V-0	 06108076 Polyester film, 31 x 4 mm, self-adhesive, white/matt (1 A4 sheet contains 438 pieces) PBT, UL 94 V-0
Assembly mm	Colour mm	PU 50 pieces	PU 10 pieces	PU 10 pieces	1 piece
above/below	red	—	24560-377	24560-378	—
	silver	24560-255	—	—	—
	white/matt	—	—	—	60817-228

Shielding top, bottom, front, rear, lateral

Cover plates can be used for electromagnetic shielding (with EMC contact springs) or as mechanical protection (without EMC springs)



Universal EMC cover plate

UB11U2/UB2

EMC cover plate

06102084

Description

Universal EMC cover plate for top and bottom

Page

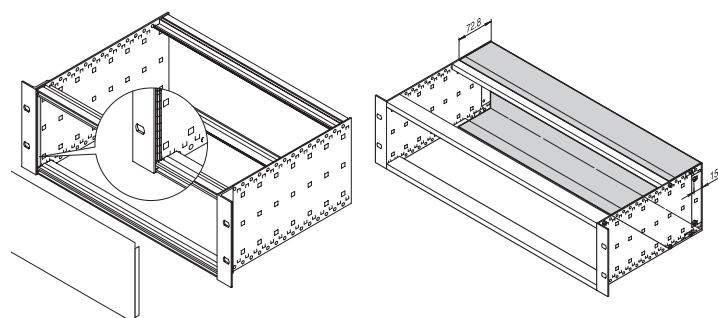
6.45

Inserted in the groove of the front and rear horizontal rails
Shielding with contact springs, lateral contacting by bolting to the side panel with special contact springs

EMC cover plate top and bottom

6.44

Inserted in the groove of the front and rear horizontal rails
Shielding with contact springs, lateral contacting by bolting the bracket to the side panel



Front/rear panel

06105077

Rear hood

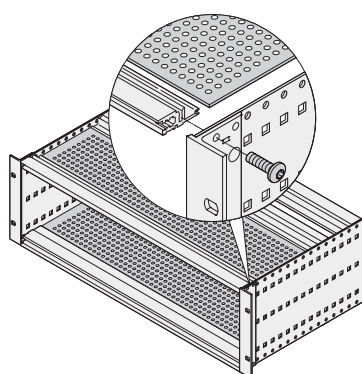
bza45814

EMC shielding for front and rear, rear hood

6.47

The front and rear of a subrack can be shielded with a front panel and 19" brackets to the front.
The rear can be shielded with a front panel and a corner profile.

If a rear hood is used, no corner profile may be mounted.



06108077

Cover plate for insertion in horizontal rail (type L)

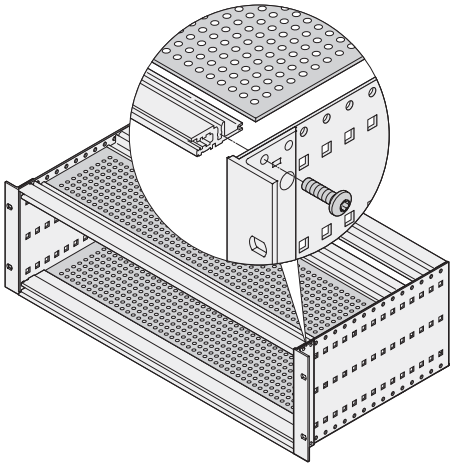
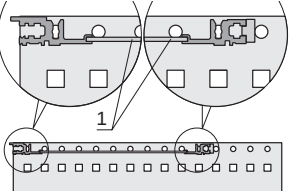
6.43

Mechanical protection, inserted between the grooves of the front and rear horizontal rails type L ("light")

Subracks - *europac* **PRO** Service**PLUS**

Cover plates for insertion into horizontal rail (type L), for PCBs 160, 220 mm

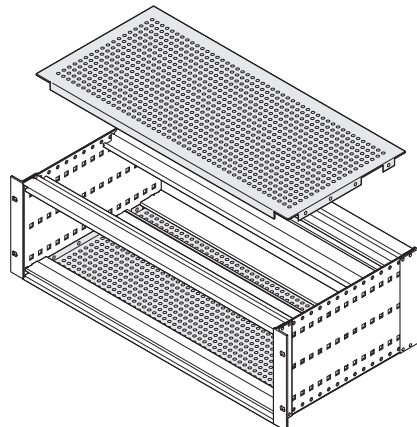
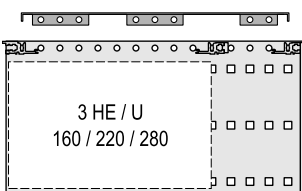
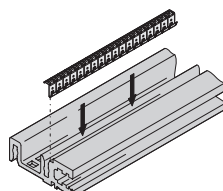
Order Information

			Cover plate for insertion in horizontal rails (type L)  06197003 Al perforated plate 1.2 mm, hole diameter 3.8 mm, Al, untreated, perforation degree 60 %; for insertion into the groove of light horizontal rails (type L)
Width	Depth	Application	
HP	mm		PU 1 pair
42	175	160 mm board depth	24561-031
42	235	160, 220 mm board depth	—
42	295	160, 220 mm board depth	—
63	175	160 mm board depth	24561-041
63	235	160, 220 mm board depth	—
63	295	160, 220 mm board depth	—
84	175	160 mm board depth	24561-051
84	235	160, 220 mm board depth	24561-052
84	295	160, 220 mm board depth	—
84	355	160, 220, 280 mm board depth	—
84	415	160, 220, 280 mm board depth	—
84	475	160, 220, 280 mm board depth	—

Subracks - *europac* **PRO** Service**PLUS**

**Cover plates for screwing onto the side panel,
for board depths 160, 220, 280 mm**

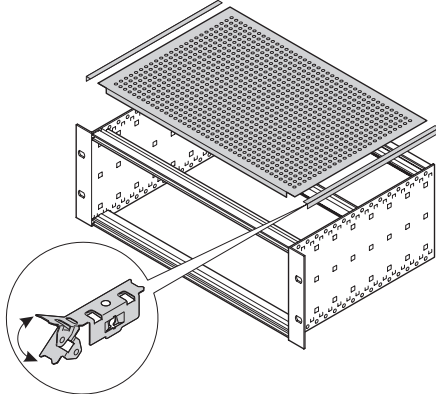
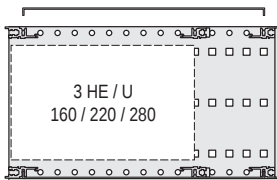
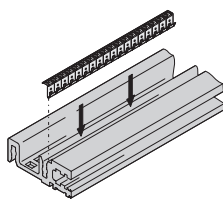
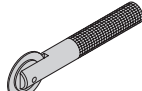
Order Information

 06197010			Cover plate cover plate for bolting to side panel  3 HE / U 160 / 220 / 280 bza45819 Al, 1.0 mm, hole diameter, 4.0 mm, passivated, perforation degree 58%, incl. retention screws; for shielding please order 4 stainless steel EMC gaskets per subrack separately		Stainless steel EMC gasket, between cover plate and horizontal rail  06106052 Stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails	
Width HP	Depth mm	Application	PU 1 pair	PU 10 pieces	PU 100 pieces	
42	175	160 mm board depth	24560-064	24560-241	—	
42	235	160, 220 mm board depth	24560-065			
42	275	160, 220 mm board depth CompactPCI (275 mm)	24560-061			
42	277.75	160, 220 mm board depth VME64x (277.75 mm)	24579-090			
42	295	160, 220 mm board depth	24560-066			
63	175	160 mm board depth	24560-071	24560-243	—	
63	235	160, 220 mm board depth	24560-072			
63	275	160, 220 mm board depth CompactPCI (275 mm)	24560-062			
63	295	160, 220 mm board depth	24560-073			
84	175	160 mm board depth	24560-078	24560-245	24560-246	
84	235	160, 220 mm board depth	24560-079			
84	275	160, 220 mm board depth CompactPCI (275 mm)	24560-063			
84	277.75	160, 220 mm board depth VME64x (277.75 mm)	24579-092			
84	295	160, 220 mm board depth	24560-080			
84	355	160, 220, 280 mm board depth	24560-081			
84	415	160, 220, 280 mm board depth	24560-082			
84	475	160, 220, 280 mm board depth	24560-083			
Assembly tool, for stainless steel EMC gasket (horizontal rails), 1 piece			—	24560-271		

Subracks - *europac* **PRO** Service**PLUS**

Universal cover plates, for board depths 160, 220, 280 mm

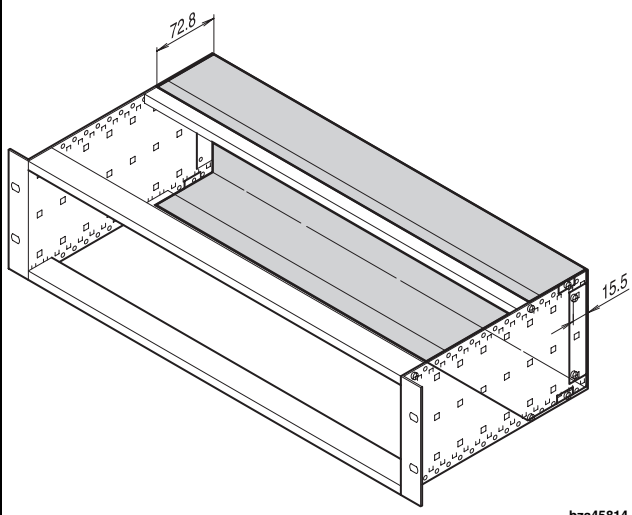
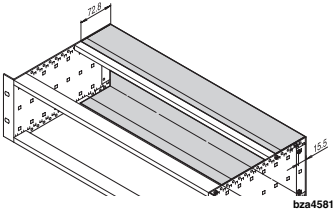
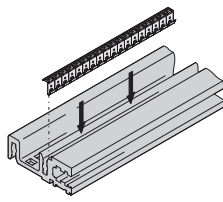
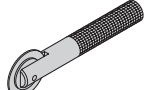
Order Information

 06105082			Universal cover plate  06108079 Al, 1.0 mm, hole diameter 4.0 mm, clear passivated, perforation degree 58 %, incl. lateral EMC sealing, incl. retention screws		Stainless steel EMC gasket, between cover plate and horizontal rail  06106052 Stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails	
Width HP	Depth mm	Application	PU 1 pair	PU 10 pieces	PU 100 pieces	
42	175	160 mm board depth	24560-031	24560-241	—	
42	235	160, 220 mm board depth	24560-032			
42	295	160, 220 mm board depth	24560-033			
63	175	160 mm board depth	24560-041	24560-243	—	
63	235	160, 220 mm board depth	24560-042			
63	295	160, 220 mm board depth	24560-043			
84	175	160 mm board depth	24560-051	24560-245	24560-246	
84	235	160, 220 mm board depth	24560-052			
84	295	160, 220 mm board depth	24560-053			
84	355	160, 220, 280 mm board depth	24560-054			
84	415	160, 220, 280 mm board depth	24560-055			
84	475	160, 220, 280 mm board depth	24560-056			
Assembly tool, for stainless steel EMC gasket (horizontal rails), 1 piece 			—	24560-271		

Subracks - *europac* **PRO** ServicePLUS

Rear hoods for 3 U and 6 U subracks (for stainless steel EMC gasket)

Order Information

 Height U Width HP bza45814		Rear hood  Al, 1 mm, clear passivated; 60 mm additional side panel depth required (board depth + 60 mm); for shielding please order EMC gasket for horizontal rail separately; cannot be used simultaneously with rear corner profile		Stainless steel EMC gasket, between cover plate and horizontal rail  Stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails	
Torx panhead screw, M4 × 6, St, zinc-plated, PU 100 pieces		1 piece 34561-750 34561-752 34561-763 34561-764		PU 10 pieces 24560-241 24560-245 24560-243 24560-245	PU 100 pieces — — — 24560-246
Assembly tool, for stainless steel EMC gasket (horizontal rails), 1 piece 		24560-135		—	
				24560-271	

Note

- Other dimensions of rear hood available on request

Subracks - *europac* **PRO** ServicePLUS

Front/rear panels, unshielded

FRONT PANEL EXPRESS

Order Information

 04292001			Front panel					
			pre-anodised, cut edges, plain		anodised		front anodised, rear iridescent green chromated	
			Al, 2.5 mm		Al, 2.5 mm		Al, 2.5 mm	
			1 piece	1 piece (SPQ 5) ¹⁾	1 piece	1 piece (SPQ 5) ¹⁾	1 piece	1 piece (SPQ 5) ¹⁾
Height U	Height mm	Width HP						
1	44.45	28	—	—	—	—	20850-423	—
1	44.45	42	—	—	—	—	20850-424	—
1	44.45	63	—	—	—	—	20850-425	—
1	44.45	84	—	—	—	—	20850-426	—
2	84.0	84	30818-271	—	30807-416	—	30847-461	—
3	128.4	2	—	30810-433	—	30810-432	—	30847-470
3	128.4	3	—	30818-272	—	30807-508	—	30847-471
3	128.4	4	—	30818-273	—	30807-481	—	30838-043
3	128.4	5	—	30818-274	—	30807-510	—	30838-044
3	128.4	6	—	30818-275	—	30807-482	—	30838-045
3	128.4	7	—	30818-276	—	30807-509	—	30838-046
3	128.4	8	—	30818-277	—	30807-484	—	30838-047
3	128.4	10	—	30818-279	—	30807-483	—	30838-049
3	128.4	12	—	30818-281	—	30807-485	—	30838-051
3	128.4	14	—	30818-282	—	30807-501	—	30838-053
3	128.4	21	—	30818-289	—	30807-487	—	30838-060
3	128.4	28	—	30818-296	—	30807-496	—	30838-067
3	128.4	42	30818-310	—	30807-494	—	30838-081	—
3	128.4	63	30818-331	—	30808-067	—	30838-102	—
3	128.4	84	30818-352	—	30807-506	—	30838-123	—
4	172.9	42	—	—	—	—	30847-463	—
4	172.9	63	—	—	—	—	30847-464	—
4	172.9	84	30818-434	—	30807-596	—	30847-465	—
6	261.8	2	—	30818-747	—	30818-741	—	30847-472
6	261.8	4	—	30818-518	—	—	—	30838-124
6	261.8	5	—	—	—	—	—	30838-125
6	261.8	6	—	—	—	—	—	30838-126
6	261.8	7	—	—	—	—	—	30838-127
6	261.8	8	—	30818-522	—	—	—	30838-128
6	261.8	10	—	30818-524	—	30807-753	—	30838-130
6	261.8	12	—	30818-526	—	—	—	30838-132
6	261.8	14	—	30818-528	—	30807-758	—	30838-134
6	261.8	16	—	30818-530	—	—	—	30838-136
6	261.8	21	—	30818-535	—	30807-757	—	30838-141
6	261.8	28	—	30818-542	—	30807-766	—	30838-148
6	261.8	42	30818-556	—	30807-764	—	30838-162	—
6	261.8	63	30818-577	—	30807-771	—	30838-183	—
6	261.8	84	30818-598	—	30807-776	—	30838-204	—
9	395.1	4	—	—	—	—	—	30847-476
9	395.1	8	—	—	—	—	—	30847-480
9	395.1	10	—	—	—	—	—	30847-482
9	395.1	12	—	—	—	—	—	30847-484
9	395.1	84	—	—	—	—	30847-556	—

■ Front panel assembly kits, sleeves, collar screws, quick-release fasteners see page 6.67

¹⁾ SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

Subracks - *europac***PRO** Service**PLUS**

Front/rear panels shieldable with stainless steel EMC gasket

FRONT PANEL EXPRESS

Order Information

 04292001			Front panel			
			front panel pre-anodised, cut edges, plain Al, 2.5 mm		EMC sealing (St, stainless) inserted laterally into the slots of the front panel	
Height U	Height mm	Width HP	1 piece	1 piece (SPQ 5) ¹⁾	PU 10 pieces	PU 100 pieces
2	84	84	30846-588	–	21101-775	21101-776
3	128.4	2	–	30846-864	21101-705	21101-706
3	128.4	3	–	20846-425		
3	128.4	4	–	20846-426		
3	128.4	5	–	20846-427		
3	128.4	6	–	20846-428		
3	128.4	7	–	20846-429		
3	128.4	8	–	20846-430		
3	128.4	10	–	20846-431		
3	128.4	12	–	20846-432		
3	128.4	14	–	20846-433		
3	128.4	21	–	20846-434		
3	128.4	28	–	20846-436		
3	128.4	42	20846-437	–		
3	128.4	63	20846-438	–		
3	128.4	84	30846-676	–		
4	172.9	42	30846-681	–	21101-713	21101-714
4	172.9	63	30846-682	–		
4	172.9	84	30846-683	–		
6	261.8	2	–	30846-865	21101-707	21101-708
6	261.8	4	–	20846-443		
6	261.8	5	–	20846-444		
6	261.8	6	–	20846-445		
6	261.8	7	–	20846-446		
6	261.8	8	–	20846-447		
6	261.8	10	–	20846-448		
6	261.8	12	–	20846-449		
6	261.8	14	–	20846-450		
6	261.8	16	–	20846-456		
6	261.8	21	–	20846-451		
6	261.8	28	–	20846-452		
6	261.8	42	20846-453	–		
6	261.8	63	20846-454	–		
6	261.8	84	30846-771	–		
9	395.1	84	30846-859	–	21101-709	21101-710
Assembly tools, for mounting the EMC sealing (stainless steel)					24560-270	
■Front panel assembly kits, sleeves, collar screws, quick-release fasteners see page 6.67						

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

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Front/rear panels shieldable with textile EMC gasket

FRONT PANEL
EXPRESS

Order Information

 04292001			Front panel			
			Front panel shielded with textile EMC gasket		EMC sealing (textile)	
			Al extrusion, 2.5 mm, front anodised, rear conductive; 3, 6 U with alignment pin (not 84 HP)		Textile gasket, core: foam, sleeve: textile cladding with CuNi coating, temperature range -40 ... 70°C; is glued onto the surface of the 19" bracket or the corner profile and forms the conductive connection to the U front panels	
Height U	Height mm	Width HP	1 piece	1 piece (SPQ 5) ¹⁾	PU 10 pieces	PU 100 pieces
2	84	84	20848-262	-	-	21101-856
3	128.4	2	-	30849-001	21101-853	21101-854
3	128.4	3	-	30849-004		
3	128.4	4	-	30848-354		
3	128.4	5	-	30848-378		
3	128.4	6	-	30848-380		
3	128.4	7	-	30848-382		
3	128.4	8	-	30848-356		
3	128.4	10	-	30848-386		
3	128.4	12	-	30848-358		
3	128.4	14	-	20848-013		
3	128.4	21	-	20848-020		
3	128.4	28	-	20848-027		
3	128.4	42	20848-047	-		
3	128.4	63	20848-068	-		
3	128.4	84	20848-097	-		
4	172.9	28	-	20848-268	21101-858	-
4	172.9	42	20848-269	-		
4	172.9	63	20848-270	-		
4	172.9	84	20848-271	-		
6	261.8	2	-	30849-002	21101-855	21101-856
6	261.8	4	-	30848-355		
6	261.8	5	-	30848-379		
6	261.8	6	-	30848-381		
6	261.8	7	-	30848-383		
6	261.8	8	-	30848-357		
6	261.8	10	-	30848-387		
6	261.8	12	-	30848-359		
6	261.8	14	-	20848-106		
6	261.8	16	-	20848-108		
6	261.8	21	-	20848-113		
6	261.8	28	-	20848-120		
6	261.8	42	20848-139	-		
6	261.8	63	20848-160	-		
6	261.8	84	20848-189	-		
9	395.1	84	20848-280	-	21101-859	21101-904
■Front panel assembly kits, sleeves, collar screws, quick-release fasteners see page 6.67						

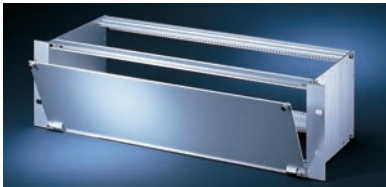
■ Front panel assembly kits, sleeves, collar screws, quick-release fasteners see page 6.67

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

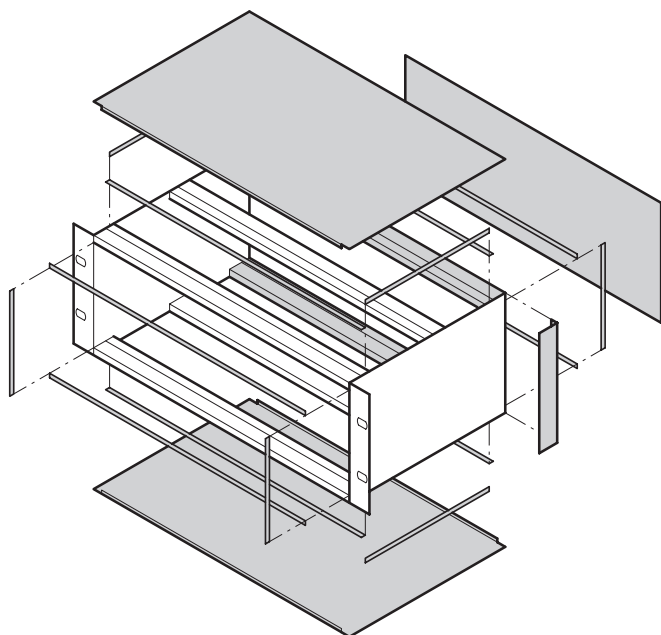
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Front panels hinged and foldable

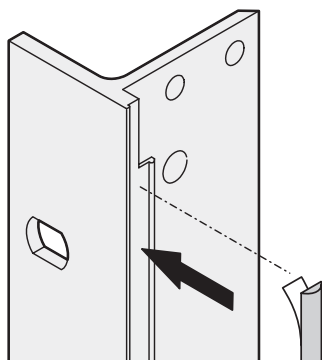
Order Information

		Front panel, bottom-hinged		Front panel, hinged shielded with textile EMC gasket
		shielded	unshielded	
				
		Al, 2.5 mm, front anodised, rear iridescent green chromated; hinge, Zn die-cast, nickel-plated; sleeve, PA; knurled screw M2.5 x 12.3, St, nickel-plated; EMC sealing (textile)	Al, 2.5 mm, anodised, cut edges plain; hinge, Zn die-cast, nickel-plated; sleeve, PA; knurled screw M2.5 x 12.3, St, nickel-plated	Al, 2.5 mm, front anodised, rear iridescent green chromated; Hinge, die-cast zinc, chrome-plated; EMC sealing (textile)
Height U	Width HP	1 piece	1 piece	1 piece
3	28	20848-608	20838-280	-
3	42	20848-599	20838-271	-
3	63	20848-600	20838-272	-
3	84	20848-601	20838-273	20848-611
4	42	20848-605	20838-277	-
4	63	20848-606	20838-278	-
4	84	20848-607	20838-279	-
6	28	20848-696	-	-
6	42	20848-602	20838-274	-
6	63	20848-603	20838-275	-
6	84	20848-604	20838-276	20848-617

EMC shielding concepts



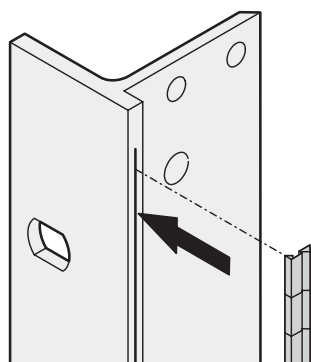
- Shielding concepts in accordance with IEEE and IEC
- Shielding effectiveness were established by various measurements in accordance with IEC 61587-3 and can be found on the Internet next to the corresponding off-the-shelf product
- Shielding concepts with EMC gaskets:
 - stainless steel gasket (suited for temperatures above 70°C)
 - textile gasket (-40 ... +70°C)
- The combined use of stainless steel and textile EMC gaskets is functionally possible without any problems



EMC gasketing concept with textile EMC gaskets

The gasket is glued onto the left side (seen from front) of the subrack or the front panel profile; EMC gasket with CuNi-coating guarantees high shielding for a long time, typically 40dB at 2 GHz; is glued on with temperature-resistant adhesive coating (protected by peel-off film); gasketing to the rear by means of front panels or with a rear hood
Note: rear hood and corner profile cannot be used simultaneously

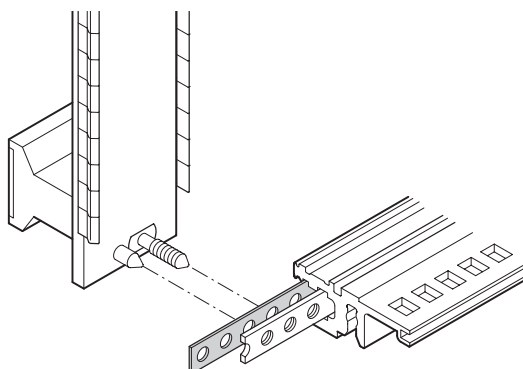
06108073



EMC gasketing concept with stainless steel EMC gaskets

Symmetrical positioning of the EMC gaskets on the left and right side of subrack and front panel; typical shielding 40 dB at 2 GHz
Note: rear hood and corner profile cannot be used simultaneously

06108074



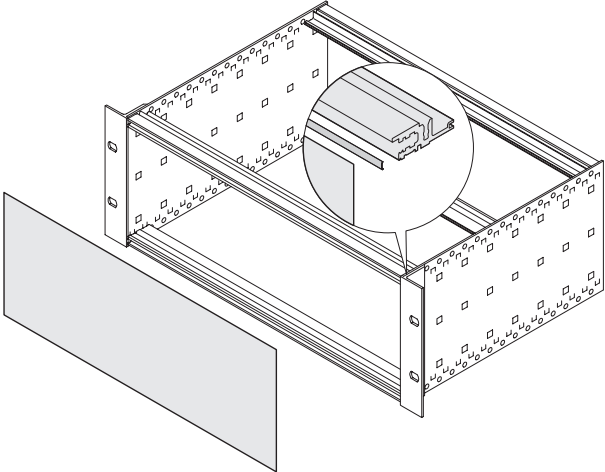
Front panel shielding concept

Front panels are available for EMC gaskets (textile and stainless steel); alignment pins are pressed-in into the front panel to secure the position of the gaskets and to compress them evenly

bza45853

EMC gaskets between front/rear panel and horizontal rail

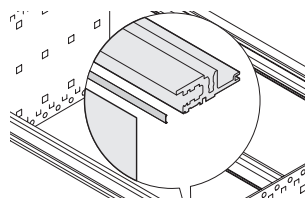
Order Information



06102053

Width HP	Depth mm
28	131.8
42	202.9
63	304.5
84	416.6

Stainless steel EMC gasket between front panel/rear panel and horizontal rail



bza45819

stainless steel; for front and rear horizontal rails (type VT)

PU 10 pieces

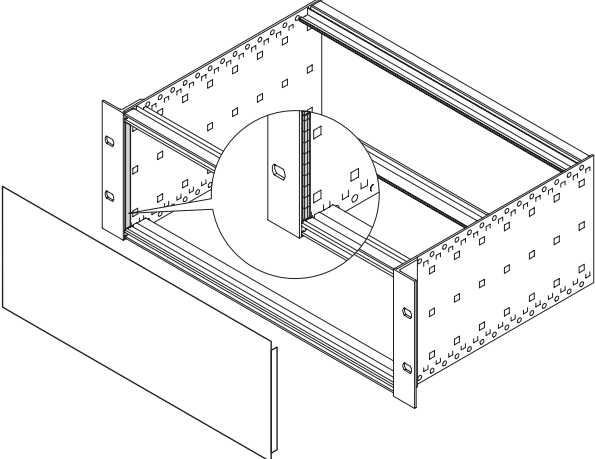
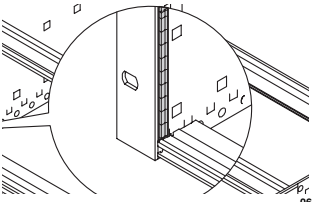
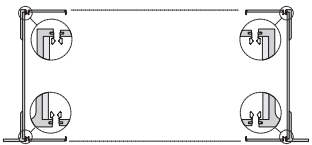
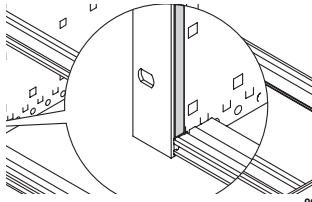
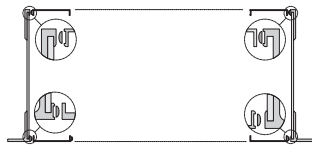
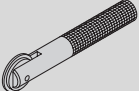
PU 100 pieces

		24560-229	—
		24560-231	—
		24560-233	—
		24560-235	24560-236

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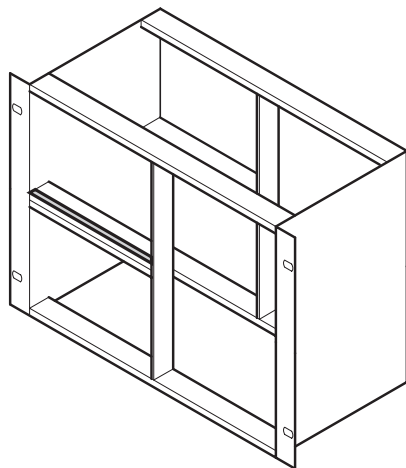
EMC gaskets between front panel and 19" bracket/corner profile

Order Information

 06105077		Stainless steel EMC between front panel/rear panel and 19" bracket/corner profile  06105077  06108070 stainless steel, inserted laterally into the slots of the front panels, 19" brackets or corner profiles, temperature range over 70°C		EMC sealing (textile) between front panel/rear panel and 19" bracket/corner profile  06102056  06102056 textile gasket, core: foam, sleeve: textile cladding with CuNi coating; temperature range -40...70°C, is glued onto the contact surface of the 19" bracket or the corner profile and forms the conductive connection to the U front panels	
Height U	Depth mm	PU 10 pieces	PU 100 pieces	PU 10 pieces	PU 100 pieces
3	97.5	21101-705	21101-706	21101-853	21101-854
4	142.5	21101-713	21101-714	21101-858	—
6	232.5	21101-707	21101-708	21101-855	21101-856
9	365.0	21101-709	21101-710	21101-859	21101-904
Assembly tools, for mounting the EMC sealing (steel, stainless) 		24560-270		—	

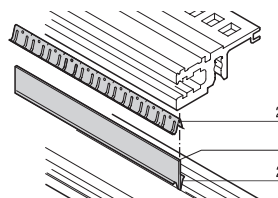
EMC gaskets between horizontal rail and horizontal rail

Order Information



bpa46548

Stainless steel EMC gasket between horizontal rail and horizontal rail



bza45877

Item 1: metal strip, Al, 1 mm, item 2: stainless steel EMC gasket;
for shielding of 2 horizontal rails positioned
directly one above the other if assembly area is divided vertically

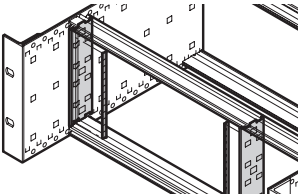
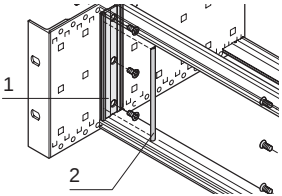
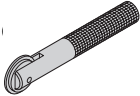
Width HP	Depth mm	PU 1 kit
20	107.0	24562-520
28	147.0	24562-528
40	208.0	24562-540
42	218.0	24562-542
63	325.0	24562-563
84	431.0	24562-584

1) SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ);
please order at least the SPQ quantity or a multiple

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EMC gaskets between front panel and side panel (recessed installation)

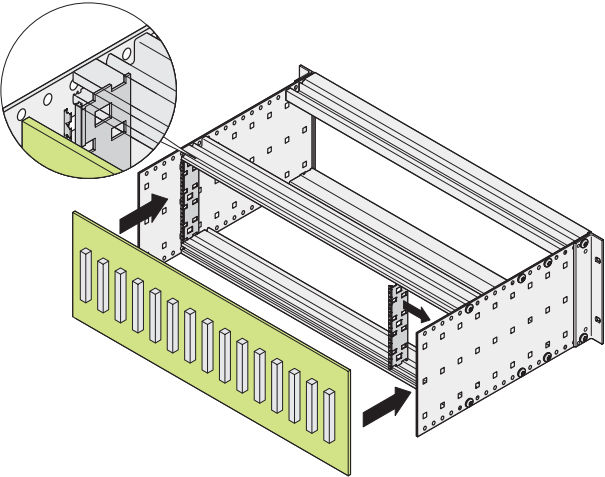
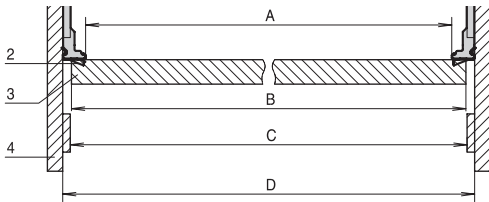
Order Information

		Stainless steel EMC gasket between front panel and side panel (recessed installation)  bpa45884 2 x support profiles, Al extrusion (1); 2 x EMC gaskets, stainless steel (2); assembly kit; for vertical EMC shielding between depth-offset shielded front panels and side panel	Textile EMC gasket between front panel and side panel (recessed installation)  06102058 Item 1: 2 x support profiles, Al extrusion; item 2, 1 x textile EMC gasket, assembly kit for vertical EMC shielding between depth-offset shielded front panels and side panel
Height U	Depth mm	PU 1 kit	PU 10 pieces
3	97.5	24562-199	24560-180
4	142.5	24562-299	24560-280
6	187.5	24562-499	24560-480
Assembly tools, for mounting the EM sealing (steel, stainless) 		24560-270	—

Subracks - *europacPRO* ServicePLUS

EMC gaskets between backplane and side panel

Order Information

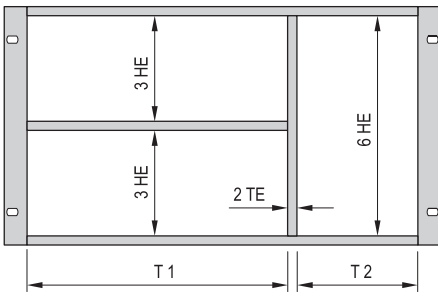
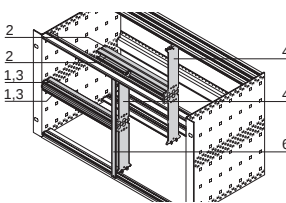
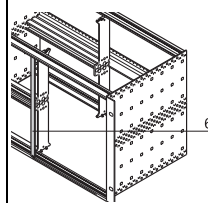
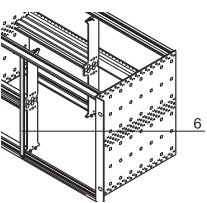
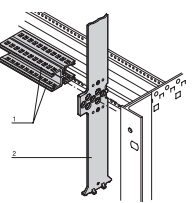
		Stainless steel EMC gasket between backplane and side panel (recessed installation)  2 x support profile, Al extrusion, 2 x stainless steel EMC gasket; for vertical EMC gasketing between depth-offset shielded backplane and side panel: dimensions for 84 TE A = 425.8 mm, B < 429.9 mm, C = 429.8 mm, D = 431.8 mm bpa45916	
Height U	Depth mm	PU 1 kit	
3	97.5	24561-199	
6	187.5	24561-499	
Torx Countersunk screw M4 x 5, St, zinc-plated, PU 100 pieces		24560-139	
Square nuts M4, St, zinc-plated, PU 100 piece		24560-140	

- With an appropriate design the backplane can be used as shielding rear panel; for that purpose a rear horizontal rail (type L-VT or H-VT) for deepened installation must be used, to ensure the horizontal contact
- For vertical contact the support profile is fixed to the europacPRO side panel (depth grid 30 mm)

Subracks - *europac* **PRO** Service**PLUS**

Combined mountings (6 U and 2 x 3 U one above the other)

Order Information

	Combined mounting	Alternative front panels for combined mounting		Splitting extrusion
	Horizontal and vertical subdivision (incl. front panel for stainless steel EMC gasket)	Unshielded front panel, 6 U, 2 HP item 6	Front panel for textile EMC gasket, 6 U, 2 HP item 6	For combined mounting item. 2
	 Item 1: 2 front horizontal rails (H-KD), Al extrusion, anodised; item 2: 2 rear horizontal rails (AB), Al extrusion, anodised; item 3: threaded insert, St, zinc-plated; item 4: Zn die-cast support member; item 6: front panel 2 HP, 6 U, shielded; with stainless steel EMC gasket (84:0 without item 4, 6)	 Al, 2.5 mm, front anodised, rear iridescent green chromated	 Al, 2.5 mm, U-profile with notch, 6 U/2 HP	 6 U, die-cast zinc; splitting extrusion is inserted in the grid holes of the horizontal rail; the splitting extrusion can be bolted
Width pitch T1:T2				
HP	PU 1 kit	1 piece (SPQ 5) ¹⁾	1 piece (SPQ 5) ¹⁾	1 piece
20:62	24562-420			
40:42	24562-440			
42:40	24562-442	30847-472	30849-140	64560-010
63:19	24562-463			
84:0	24562-484			
Torx screw M4 x 14, zinc-plated, PU 100 pieces Assembly horizontal rail/strut	—	—	—	24560-145
Panhead screw M2.5 x 10, St, zinc-plated, PU 100 pieces Assembly horizontal rail/strut	—	—	—	24560-179
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated, PU 100 pieces	—	21101-101	21101-101	—
Collar screw with pozidrive M2.5, black, zinc-plated, PU 100 pieces	—	21101-102	21101-102	—
Plastic washer 2.7 x 5 x 1, PA 6, PU 100 pieces	—	21101-121	21101-121	—
Textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0 PU 10 pieces	—		21101-855	

■ Subdivision of the 6 U assembly area into:

- 2 x 3 U
- 1 x 6 U

■ Designed to accept euroboards (100 mm high) and double euroboards (233.35 mm high)

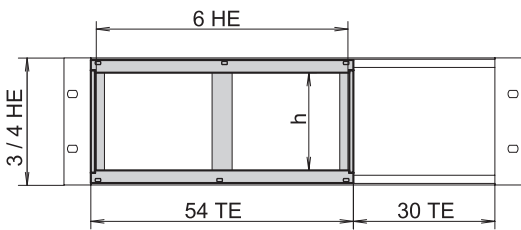
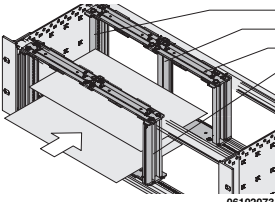
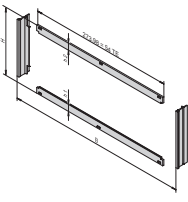
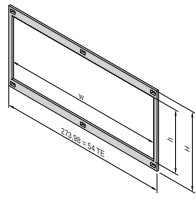
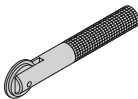
Note

- Please order EMC gasketing kit for horizontal rails separately, see page 6.54
- Please order perforated strips for horizontal rails separately, see page 6.32
- Please order rear centre horizontal rail separately, see page 6.30

Subracks - *europac* **PRO** ServicePLUS

Horizontal boards mounting in 3 or 4 U subrack

Order Information

			Horizontal board mounting in 3 or 4 U subrack		
			Complete kit  Struts, die-cast zinc; horizontal rails to front and rear; threaded insert; assembly kit; for horizontal assembly of double-height euroboards in 3 or 4 U high subracks/cases; 54 HP space required	Front frame for EMC gasketing  2 horizontal covers, Al 2.5 mm, front anodised, rear iridescent green chromated; 2 vertical trims, Al extrusion, clear passivated; stainless steel EMC gasket; front frame forms the contact between subrack and the sub-assemblies	Front frame, unshielded  Al, 2.5 mm, clear anodised; front frame with cut-out, inside clearance width w=266.35 mm
Height U	Useable height h HP	Other dimensions and options Horizontal rail, front Horizontal rail, rear (H-VT)*	PU 1 kit	PU 1 kit	1 piece
3	20		24564-117	24564-109	34564-108
3	20		24564-118	24564-109	34564-109
4	28		24564-217	24564-209	34564-208
Assembly tools, for mounting the EMC sealing (steel, stainless) 			—	24560-270	—

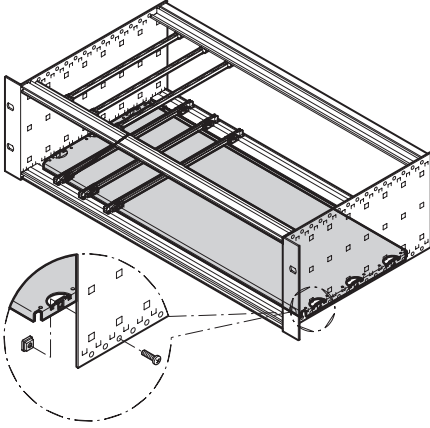
* For direct backplane mounting

Note

■ Please order front frame for EMC shielding separately

Mounting plates

Order Information

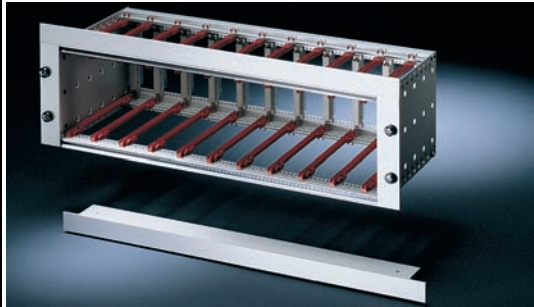
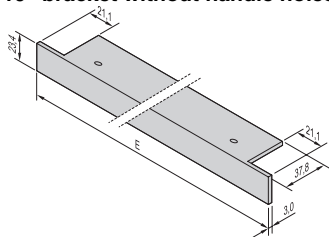
			Mounting plate can be used in combination with cover plates	Mounting plate for use without cover plate	Mounting plate Assembly strips for partial widths
Width HP	W mm	Board lengths mm	Al, 1.5 mm; mounting is only possible over the entire width between the side panels	Al, 1.5 mm; mounting is over the entire width; for mounting over partial width, please order fixing strips separately	St, 2 mm, zinc-plated; is bolted from front to back onto the with horizontal rails; serves to fix mounting plates
			1 piece	1 piece	1 piece
28	146.88	160	34563-001	34562-745	30840-021
28	146.88	220	34563-009	34562-749	30840-033
28	146.88	160	—	34562-753	30840-045
28	146.88	220	—	34562-757	30840-057
42	217.99	160	34563-002	34562-746	30840-021
42	217.99	220	34563-014	34562-750	30840-033
42	217.99	160	—	34562-754	30840-045
42	217.99	220	—	34562-758	30840-057
63	324.67	160	34563-003	34562-747	30840-021
63	324.67	220	34563-019	34562-751	30840-033
63	324.67	160	—	34562-755	30840-045
63	324.67	220	—	34562-759	30840-057
84	431.35	160	34563-004	34562-748	30840-021
84	431.35	220	34563-024	34562-752	30840-033
84	431.35	160	—	34562-756	30840-045
84	431.35	220	—	34562-760	30840-057
Assembly kit for mounting plate, PU 1 kit (Torx Countersunk screw M4 x 5, St, zinc-plated, 12 pieces; screw M4 x 6, St, zinc-plated 10 pieces; M4 square nut, St, zinc-plated, 10 pieces)			24560-184	24560-184	—
Assembly kit for assembly strips of mounting plate Torx screw M2.5 x 5, St, zinc-plated, PU 100 pieces			—	—	24560-146

Note

- For installation and assembly of heavy components
- In addition to the mounting plate also (EMC) cover plates can be fitted to the subrack
- The mounting plate is as wide as the subrack or the system case and is fixed to the side panels
- A guide rail can be fitted in the first and last slot position
- Guide rails 4.4" and "strengthened" cannot be used

Panel mounting

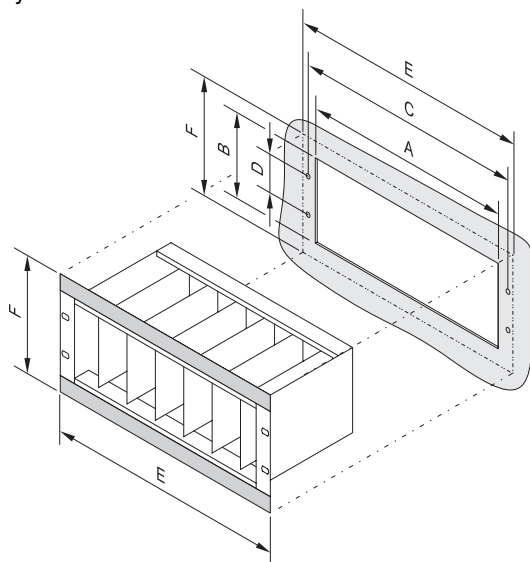
Order Information

		Trim 19" bracket without handle holes 	
		Al extrusion, anodised; for optical closure of the subrack to the front, above and below, when fitting into panels; is bolted to horizontal rail to front; per subrack 2 trims and 4 screws are needed	
Usable width HP		Length mm	
42		269.2	
84		482.6	
Torx Panhead screw 2.5 x 9.3, zinc-plated, PU 100 pieces		1 piece 34561-777 34561-779 24560-141	

Note

- Further widths available on request

Assembly cut-out

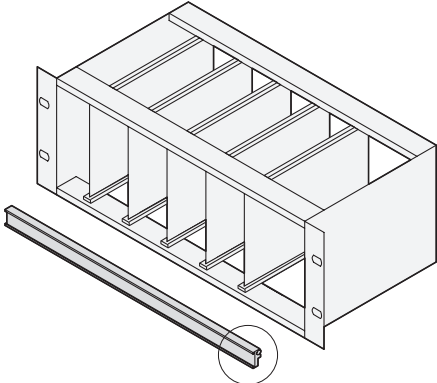
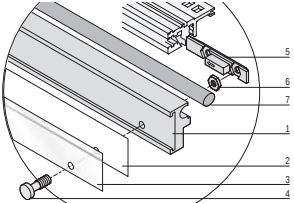


Dimensions table

U	HP	A mm	B mm	C mm	D mm	E mm	F mm
3	42	237.0	145.0	252.0	57.15	269.2	179.4
3	63	343.0	145.0	358.5	57.15	375.9	179.4
3	84	450.0	145.0	465.0	57.15	482.6	179.4
6	42	237.0	278.5	252.0	190.5	269.2	312.7
6	63	343.0	278.5	358.5	190.5	375.9	312.7
6	84	450.0	278.5	465.0	190.5	482.6	312.7

Central locking

Order Information

		Central locking for PCBs without front panels  item 1: central rail, Al, anodised; item 2: ID label, white; item 3: transparent cover strip, plastic; item 4: 2 x knurled screw; item 5: 2 x slide nut; item 6: 2 x hexagon nut M2.5; item 7: rubber gasket; retaining rail allows joint locking of PCBs and serves as identification plate; can be fitted to front and rear horizontal rail bza45819
Width	Length	
HP	mm	
84	482.6	1 piece 24560-167

Note

- The retaining rail provides common locking of PCBs and acts as the identification plate
- For 84 HP europacPRO subracks only
- Can be fitted to front and rear horizontal rails

Subracks - *europac* **PRO** ServicePLUS

Telescopic slides for assembly of subracks into cabinets

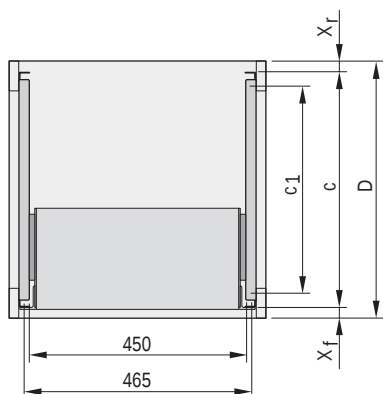


06101006

- For mounting 84 HP wide subracks in the 19" plane
- Loading capacity: 25 kg per pair
- The guiding profile is matched to the fixing dimension in the cabinet (it is bolted to the 19" profile of the cabinet); the adaptor rail is matched to the depth and fixing dimension on the subrack (it is inserted into the guiding profile like a telescopic slide)
- Safety notice:
no protection against extraction, no stop at full extension

Order Information

Telescopic slides with guiding profile for fitting in cabinets



06108082

Description (1)	Depth D mm	x_f mm	x_r mm	c mm	c1 mm	Part no.
VARISTAR	600	50	50	500	369	24562-464
VARISTAR	800	50	50	700	569	24562-466
VARISTAR	900	50	50	800	669	24562-467
VARISTAR	1000	50	50	900	769	24562-468
VARISTAR	1100	50	50	1000	869	24562-472
VARISTAR	1200	50	50	1100	969	24562-473
eurorack	600	60	60	480	397	24562-449
eurorack	800	60	60	680	597	24562-451
eurorack	900	60	60	780	697	24562-452
Minirack	500	33	60	407	350	24562-460
Minirack	600	33	60	507	450	24562-461
Minirack	780	33	60	687	630	24562-462
Lab rack	250	0	0	250	162	24562-446

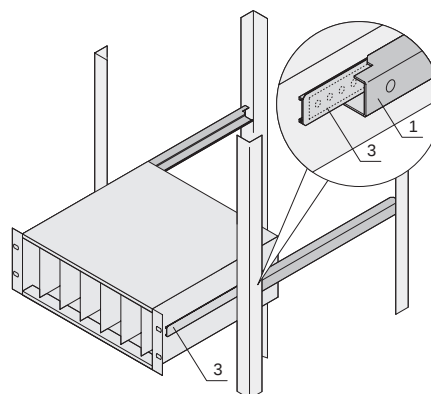
x_f , x_r : distance of 19" plane to cabinet edge (front, rear)

c: distance of 19" planes to one another,

c1: assembly dimensions of guiding profile on the 19" panel/slide mounts

Order Information

Telescopic slides with adaptor rail for subracks



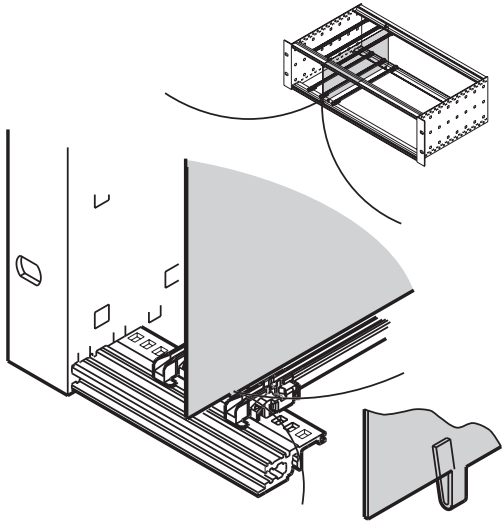
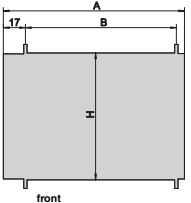
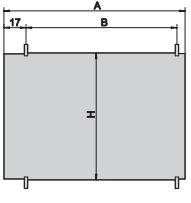
06108072

For subrack depth (3) mm	Part no.
175	24562-453
235	24562-454
295	24562-455
355	24562-456
415	24562-457
475	24562-458

Subracks - *europac* **PRO** ServicePLUS

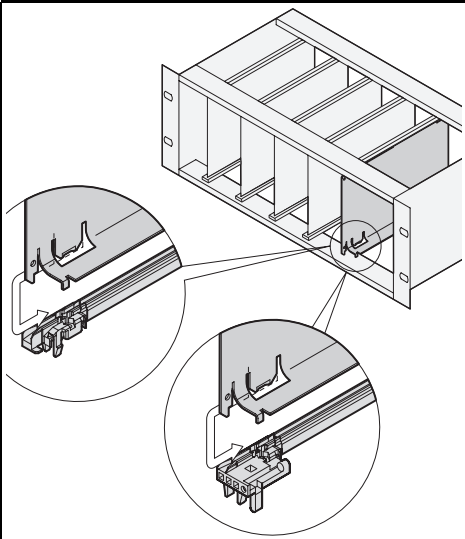
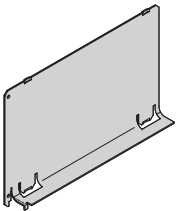
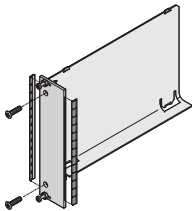
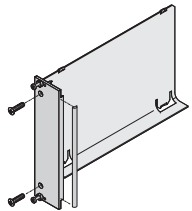
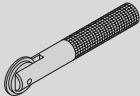
Divider plates

Order Information

					Divider plate	
					Mounting position for stainless steel EMC gasket	Mounting position for textile EMC gasket
					 bpa45911	 06105078
					Stainless steel, 1 mm, is mounted by clipping into horizontal rail, space requirement on component side 2 mm; assembly position differs in accordance with sealing concept (EMC stainless steel gasket or textiel); a subsequent installation of the divider plate in an already assembled subrack required to remove the horizontal rails first	
Height U	Depth mm	A mm	B mm	H mm	1 piece	
3	160	158.3	135.0	113.6	34562-761	
3	220	218.3	195.0	113.6	34562-762	
6	160	158.3	135.0	246.9	34562-763	
6	220	218.3	195.0	246.9	34562-764	

Air baffle for slots

Order Information

			Air baffle		Air baffle with front panel	
			without front panel		front panel with lateral groove; groove for stainless steel EMC gasket	U front panel for textile EMC gasket
			 Al, 1 mm, incl. assembly kit; prevents an air short circuit in unoccupied slot positions; is pushed into the groove of the guide rails 06108085		 Air baffle, Al, 1 mm; front panel, Al, 2.5 mm, front anodised, rear conductive; stainless steel EMC gasket; assembly kit; prevents an air short circuit in unoccupied slot positions; is pushed into the groove of the guide rails 06108087	 Air baffle, Al, 1 mm, front panel, Al extrusion, 2.5 mm, front anodised, rear conductive; textile EMC gasket, assembly kit; prevents an air short circuit in unoccupied slot positions; is pushed into the groove of the guide rails 06108088
Depth mm	Width HP	Height U	1 piece		1 piece	1 piece
160	4	3	34562-823		20848-712	20848-728
160	4	6	34562-826		20848-720	20848-736
160	8	3	34562-833		20848-714	20848-730
160	8	6	34562-836		20848-722	20848-738
160	12	3	34562-843		20848-716	20848-732
160	12	6	34562-846		20848-724	20848-740
220	4	3	34562-824		20848-713	20848-729
220	4	6	34562-827		20848-721	20848-736
220	8	3	34562-834		20848-715	20848-731
220	8	6	34562-837		20848-723	20848-739
220	12	3	34562-844		20848-717	20848-733
220	12	6	34562-847		20848-725	20848-741
Assembly tool for EMC sealing (steel, stainless), 1 piece 			—		24560-270	—

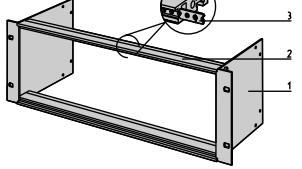
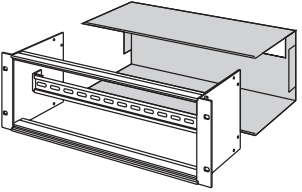
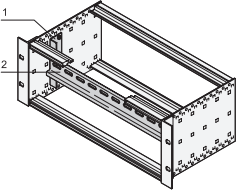
Note

- Air baffle for 280 mm deep and for 80 mm rear I/O boards available on request

Subracks - *europac* **PRO** Service**PLUS**

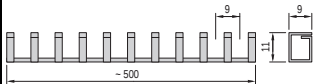
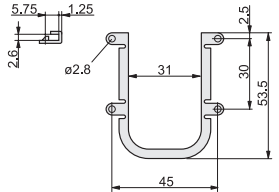
19" module support, slide rail DIN 43880

Order Information

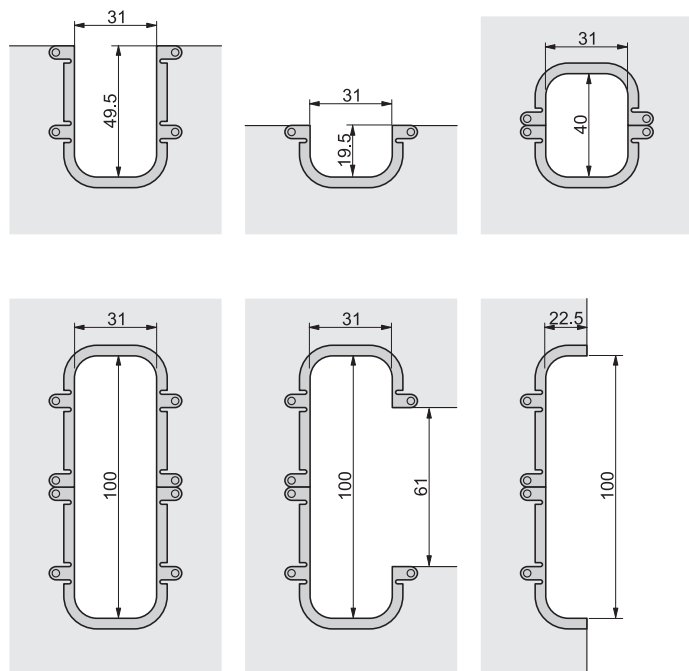
			Module support		Slide rail DIN 43880
			to accommodate distribution modules  bza45819 2 side panels, Al, 1.8mm; 2 horizontal rails with: short top, threaded insert, GND/earthing kit, assembly kit; please order slide rails separately	Hood  06102501 Al, 1mm, with brush stripe, is screwed on rear side of the module support	 06102501 2 adaptor brackets, Al, 2 mm; equipment slide rail, height 35 mm, width 84 HP, depth 7.5 mm; mounted laterally in module support or subrack; power distribution modules see page 3.35
			06197010 Height U Width HP Depth mm	1 piece 20119-193	1 piece 20119-374
3	84	115.5			1 piece 24560-171

Cable duct, edge protection

Order Information

		Cable channel	Edge protection
		 06108089 PP, UL 94 V-2, white; length 500 mm, cable opening 11 mm x 15 mm; assembly in front of horizontal rail (is screw-fixed on threaded insert or slide nut)	 06102501 ABS, UL 94 V-0, RAL 7035, edge protection curved; for wall thicknesses from 2.0 to 2.5 mm; fixing by means of snap tabs in holes; serves to cover cut-outs e.g. in subrack side panels, thus avoiding damage to cables, etc.
Height	Width		
U	HP		
3	84	1 piece	PU 10 pieces
		69000-507	24560-170

Mounting variants of edge protectors



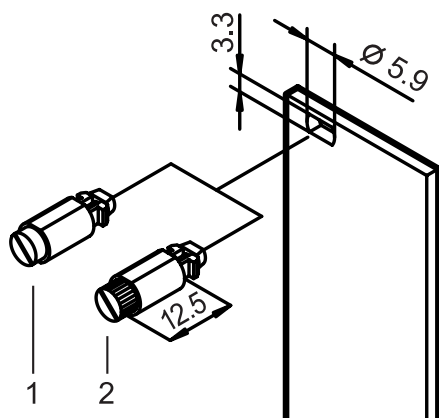
06102071

Subracks - *europac* **PRO** Service**PLUS**

Assembly parts

- Quick-release fastener
- Sleeve
- Screws
- Cage nuts
- Tools

Quick-release fastener



06702062

- Vibration and shock proof
- 1/4 rotary lock with defined stop
- Detection of fastening position through slot position

Delivery comprises

Qty	Description
1	Locking pin, St, locking, Zn die-cast
1	Press-in sleeve, POM

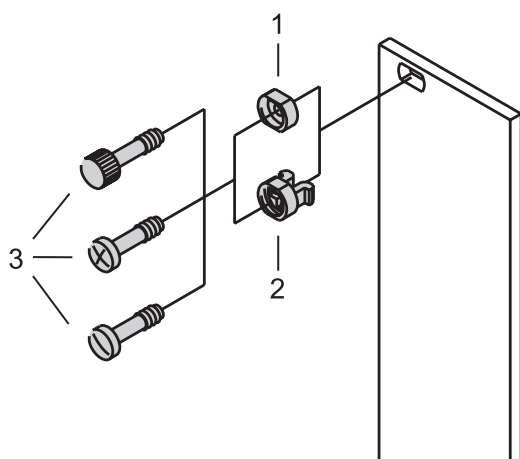
Order Information

Item	Description	Qty/PU	Part no.
1	With slotted head, grey	100	21101-847
1	With slotted head, black	100	21101-848
2	With knurled head, grey	100	21101-849
2	With knurled head, black	100	21101-850

Note

Quick-release fastener: mounting without threaded insert

Sleeve



06702061

Order Information

Item	Description	Qty/PU	Part no.
2	Plastic sleeve, PA, grey	100	21100-464
2	Plastic sleeve, PA, black	100	21100-591
1	Metal sleeve, brass, nickel-plated	10	21100-659
1	Metal sleeve, brass, nickel-plated	100	21100-660
1	Metal sleeve, brass, black	100	21100-886
1	Metal sleeves, steel, stainless	10	21100-661
1	Metal sleeves, steel, stainless	100	21100-662

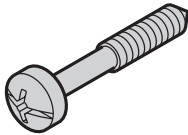
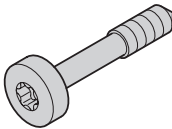
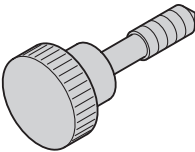
Note

- Metal sleeves must be pressed-in into front panels
- Sleeve not suitable for front panels 2 HP

Subracks - *europacPRO* ServicePLUS

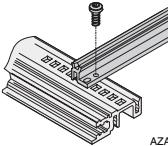
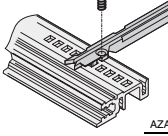
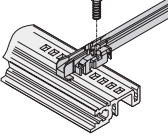
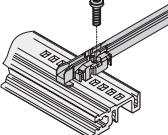
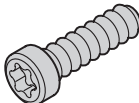
Collar screw

Order Information

Description	Application	Material	Dimension	Qty/PU	Part no.
 Collar screw with Pozidrive/slot AZA46586	For mounting of front panels; when using threaded inserts	St, nickel-plated	M2.5 × 12.3	100	21101-101
		St, zinc-plated, black	M2.5 × 12.3	100	21101-102
 Torx Collar screw AZA45941	For mounting of front panels when using threaded inserts	St, nickel-plated	M2.5 × 12.3	100	21101-782
		St, zinc-plated, black	M2.5 × 12.3	100	21101-783
 Collar screw with knurled head aza45929	For mounting of front panels when using threaded inserts	Ms, nickel-plated	M2.5 × 12.3	100	21101-749
	For mounting of front panels when using threaded inserts for horizontal rails with long lip	Ms, nickel-plated	M2.5 × 12.3	100	21101-909

Torx screw, self-forming

Order Information

Description	Application	Material	Dimension	Qty/PU	Part no.
 Torx Panhead screw AZA45922	For extra-robust Al guide rails	St, zinc-plated, black	2.5 × 7.3	100	24560-157
 Torx Countersunk screw AZA45922	For 4.4" board height, guide rail on horizontal rail, europacPRO, ratiopacPRO	St, zinc-plated	2.5 × 7.7	100	24560-158
 Torx Panhead screw 45922	For plastic guide rail on horizontal rail for panel bracket on horizontal rail	St, zinc-plated	2.5 × 9.3	100	24560-141
 Torx Panhead screw, self-locking 45922	For plastic-guide rails on horizontal rails	St, zinc-plated	2.5 × 9.3	100	21500-039
 Torx Panhead screw AZA45922	For 6 U splitting extrusion, backplane mounting centre horizontal rail	St, zinc-plated	2.5 × 10	100	24560-179

Subracks - *europacPRO* ServicePLUS

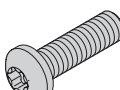
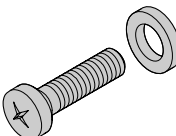
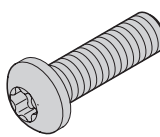
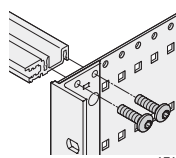
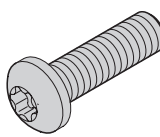
Countersunk screws

Order Information

Description	Application	Material	Dimension	Qty/PU	Part no.
 Torx screw AZA46585	For contact strips europacPRO, ratiopacPRO	St, zinc-plated	M4 × 5	100	24560-139
	For mixed board assembly and assembly of shortened horizontal rail on support member, with GND/earthing function	St, zinc-plated	M4 × 14	100	24560-145

Torx Panhead screws

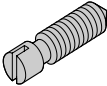
Order Information

Description	Application	Material	Dimension	Qty/PU	Part no.
 Torx Countersunk screw aza45940	For Z-rails and connector assembly	St, nickel-plated	M2.5 × 7	100	24560-147
	For perforated rail	St, nickel-plated	M2.5 × 10	100	24560-148
	For backplane fixing	St, nickel-plated	M2.5 × 12	100	24560-161
		St, nickel-plated	M2.5 × 14	100	24560-162
 Screw + securing washer aza45940	For backplane fixing	St, nickel-plated	M2.5 × 12	100	21100-777
 Torx Panhead screw aza45940	To screw on support bracket, rear hood, rear angle on side panel, extension bracket and adapter bracket	St, zinc-plated	M4 × 6	100	24560-135
	To bolt-on cover plate or mounting plate, with GND/earthing function	St, zinc-plated	M4 × 6	100	24560-151
	To bolt-on cover plate or mounting plate, with GND/earthing function, self-tapping thread	St, zinc-plated	M4 × 6	100	21101-884
 Torx Panhead screw AZA45922	For horizontal rail on side panel if guide rails are bolted to slot 1	St, zinc-plated	M4 × 10	100	24560-155
 aza45940	For horizontal rail on side panel, with GND/earthing function	St, zinc-plated	M4 × 14	10	24560-131
	For horizontal rail on side panel, with GND/earthing function	St, zinc-plated	M4 × 14	100	24560-130

Subracks - *europac* **PRO** Service**PLUS**

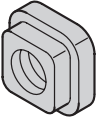
Grub screws

Order Information

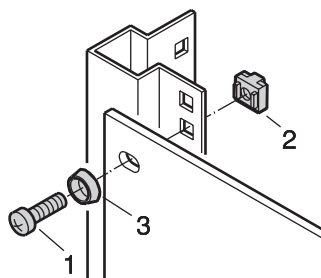
Description	Application	Material	Dimension	Qty/PU	Part no.
 06702053	For threaded inserts M2.5 and perforated strips	Stainless steel	M2.5 × 9	100	21101-359
	For threaded inserts M2.5	St, nickel-plated	M2.5 × 8	100	21100-276
	For threaded inserts M3	St, zinc-plated	M3.0 × 8	100	21100-646

Square nuts

Order Information

Description	Application	Material	Dimension	Qty/PU	Part no.
 AZA45921	To attach: parts to side panels, support profiles, mounting plates	St, zinc-plated	M4	100	24560-140

Assembly kits



SC128XXX

- For assembly of subracks in cabinets or 19" cases
- For assembly of desk-top cases in cabinets by means of 19" brackets

Delivery comprises (kit)

Item	Qty	Description
1	1	Screw M6 × 16, zinc-plated Pozidrive
2	1	Plastic washer, ABS, black
3	1	Cage nut M6, zinc-plated

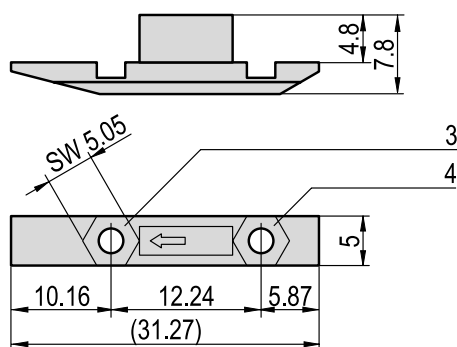
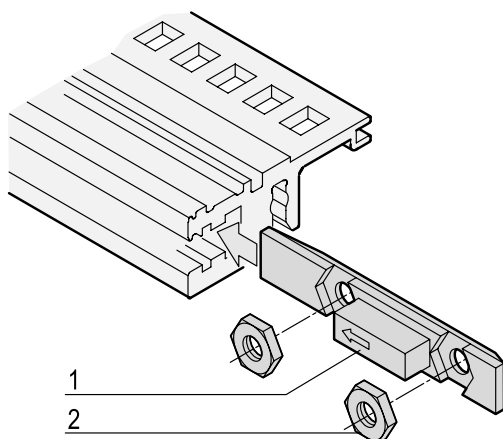
Order Information

Description	Part no.
PU = 8 × screw, washer, nut	21100-435
PU = 50 × screw, washer, nut	21101-809
PU = 100 × screw, washer, nut	21101-810

- For 19" brackets with material thickness of 1.5 mm, see assembly kits in chapter Cabinet accessories

Subracks - *europac* **PRO** ServicePLUS

Slide, movable, to accept 2 nuts



- The slide is pushed into the groove of the horizontal rail to front or rear (type VT)

Delivery comprises (kit)

Item	Qty	Description
1	1	Slide, PBT, red, UL 94 V-0
2	2	Nut, M2.5, St, zinc-plated

Order Information

Description		Part no.
Slide nut kit 1	100 slides/200 nuts	24560-165
Slide nut kit 2	12 slides/24 nuts	24560-166

Note

- Nuts used in item 3, suitable for:
 - hinged front panels, 84 HP
 - front or rear panels, 84 HP
- Nuts used in item 4, suitable for:
 - hinged front panels
- Nuts used in item 3 and 4, suitable for:
 - two front panels



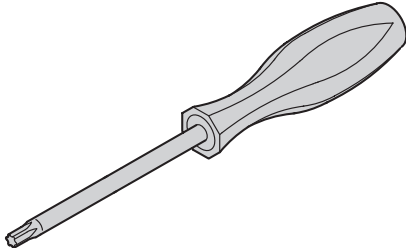
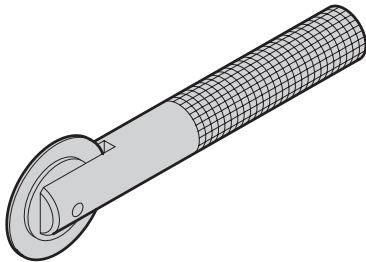
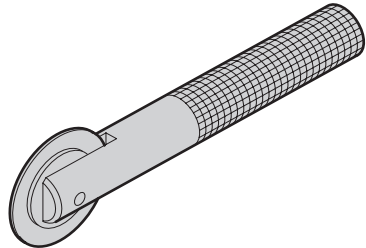
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

06702060

Subracks - *europac* **PRO** ServicePLUS

Assembly tool

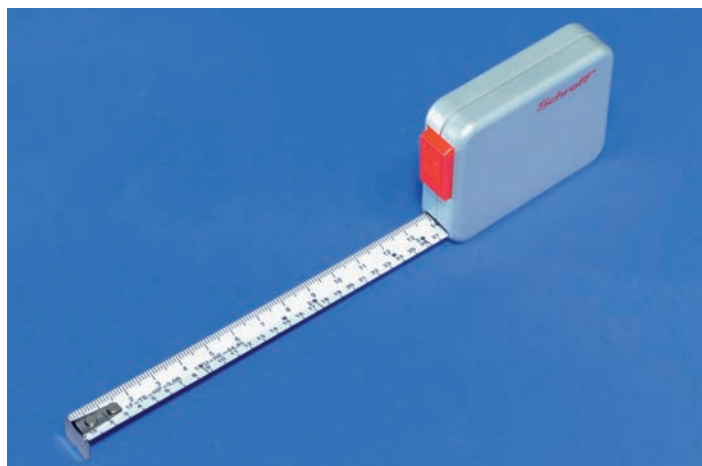
Order Information

	Description	Application	Dimension	Qty/PU	Part no.
 AZA45925	Torx screwdriver	For M2.5 screw	T8 × 60	1	64560-026
		For M4 screw	T20 × 100	1	64560-027
 aza45938	Assembly tools	Exclusively to fix stainless steel EMC gaskets in horizontal rails	—	1	24560-271
 aza45937	Assembly tools	For fitting EMC seals (steel, stainless) in front panels with lateral slot	—	1	24560-270

Note

- Assembly tool for insertion of keying/coding pegs in board guides is available on request

Measuring tape



32506001

- Measuring tape with cm, U-, HP-division (length 2 m)
- Plastic cases, metal measuring tape with automatic collection

Order Information

Description	Qty/PU	Part no.
Measuring tape	1	89009-001

Subracks - *europac* **PRO** ServicePLUS

Application examples

Application: applications in the transportation/defence sectors



06108006

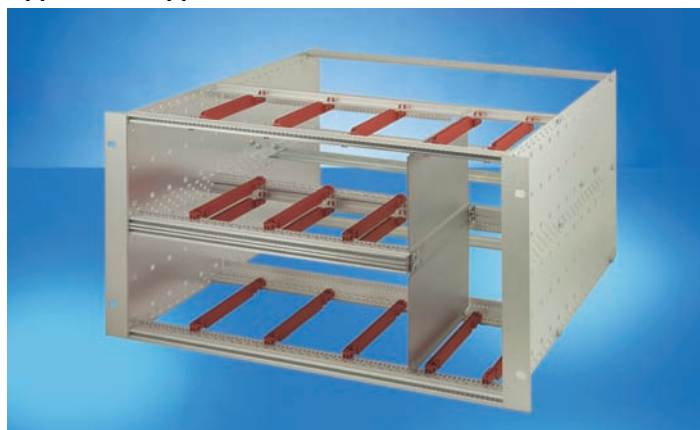
- Mounting frame to accept a 36 HP wide railway subrack, frame in stainless steel



06103001

- Robust mounting with double screw fixing
- Lateral ducting in cabinet
- Combined mounting 6 U + 2 x 3 U

Application: applications in measurement, control and instrumentation sectors



06108002

- Combined mounting with 2 x 3 U in 6 U
- Divider plate to separate different sections
- Construction with reinforced guide rails



06108003

- Subrack with additional pull-out fan unit
- Adaptation in bottom and top of side panel integrated

Application: applications in telecom sectors



06108004

- Recessed front panels for cable ducting
- Folding front panel to cover the cables of the recessed plane



06101005

- Subrack with plastic cable ducting for fibre-optic cable/fibres
- Connector insertion area at top

Overview 0

Cabinets 1

Wall mounted
cases 2

Accessories for
cabinets and wall
mounted cases 3

Climate control 4

Desk-top cases 5

**Subracks/
19" chassis 6**

Front panels,
plug-in units 7

Systems 8

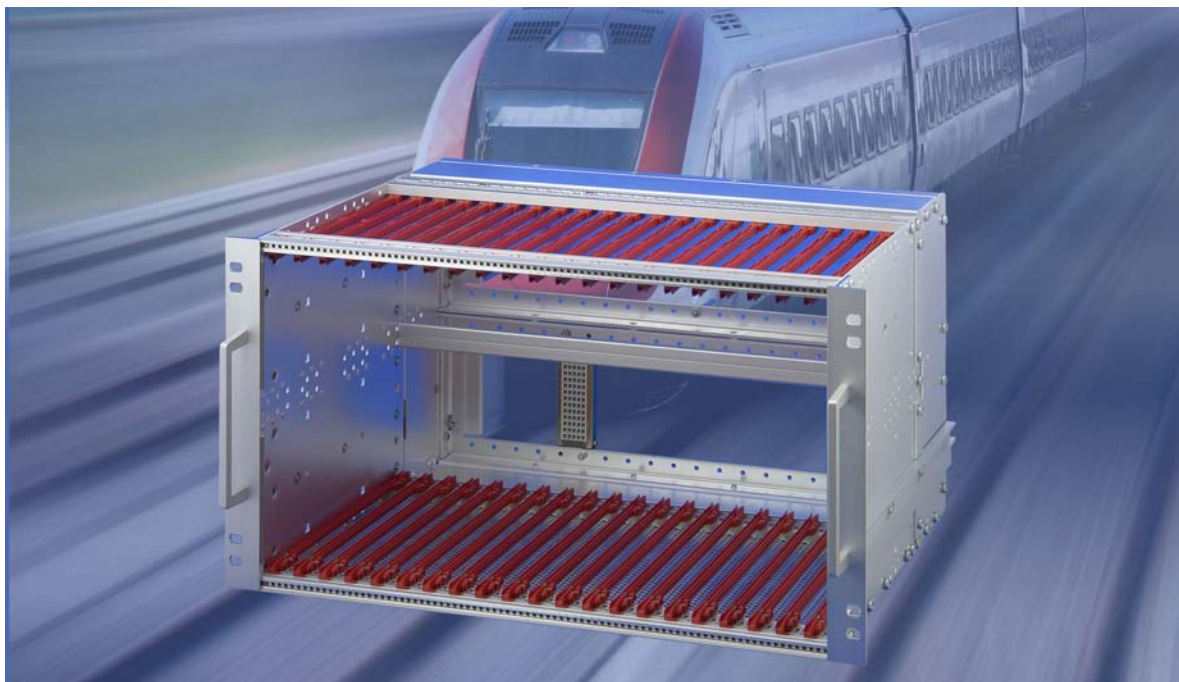
Power supply
units 9

Backplanes 10

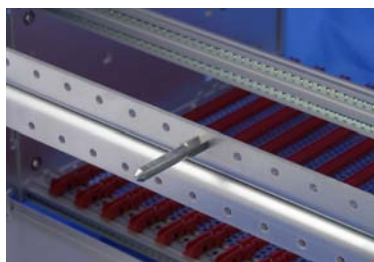
Connectors, front
panel component
system 11

Appendix 12

Subracks – for railway applications

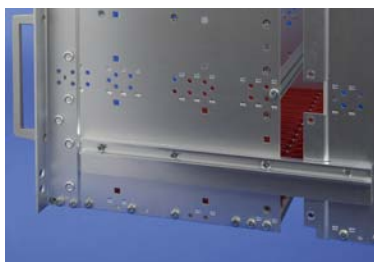


F_2015161_06104008



06108013

An alignment pin (in accordance with the NFF standard) allows the easy installation of the subracks



06108014

Lateral support bars (in accordance with the NFF standard) facilitate to slide in the subrack into the (cabinet) frame



06108015

The 19" bracket is firmly fixed to the side panel (Tox-cold welded) and especially suited for high mechanical stresses (vibration resistance)



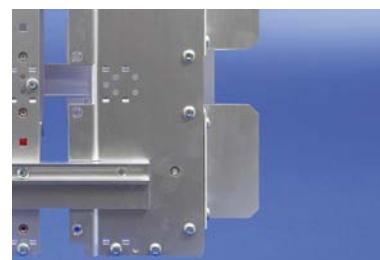
06108016

The double 19" fixing position adds to additional safety (NFF standard)



06108017

The cut-out in the side panel allows to retro-fit the threaded insert, also if the side panels are already assembled



06108015

The rear brackets have two functions:
- push-in aid and
- transport protection for the connectors
The removable rear hood allows a fast cabling between backplane and the connector



Downloads and further important information can be found
on the Internet under www.schroff.biz



Subracks – for railway applications

Overview 6.74

19" subrack for mobile rail applications

- Unshielded and shielded versions
- Shock and vibration resistant to IEC 61587-1, EN 50155, NF F 61-005/NF F 60-002, BN 411002 and BN 411003
- Versions for CompactPCI applications
- Front shielding is provided by EMC sealing (textile)



06102008

BN 411002, 411003 Subracks

- 3 U and 6 U
- 84 HP
- Unshielded and shielded versions
- Tox-cold welded side panels



BN 411002/-003 subracks

unshielded 6.77
shielded 6.78



06104006

EN 50155 subrack

- 3 U and 6 U
- 84 HP
- Unshielded and shielded versions
- Shielded versions for CompactPCI applications

EN 50155 subracks

unshielded 6.79
shielded 6.80
shielded, for CompactPCI 6.81



06104003

SNCF subrack

- 3 U and 6 U
- 9 T (36 HP) and 21 T (84 HP)
- Unshielded and shielded versions
- Shielded versions for CompactPCI applications



SNCF subracks

unshielded 6.82
shielded 6.83
shielded, for CompactPCI 6.84



30407004

ServicePLUS from page 6.88

e.g. modifications (cut-outs)
e.g. downloads (CAD drawings, user manuals, test reports)
e.g. custom solutions (special sizes)
www.schroff.biz/serviceplus/

Accessories . .

Guide rails 6.85
Cover plates 6.86

General accessories in europacPRO

section 6.17

ServicePLUS . 6.88

Application examples 6.89



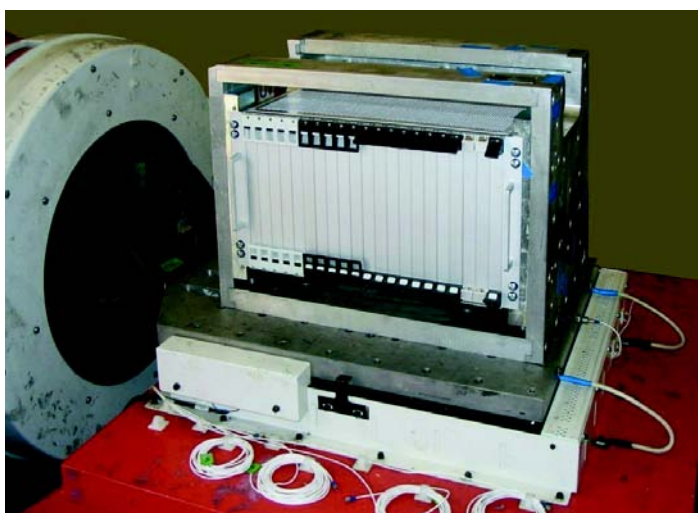
Subracks - *europac PRO* for railway applications

Subrack for mobile rail applications



Solid mechanical construction

Electronic systems for mobile applications require robust mechanical construction that can withstand even extreme environmental conditions. Our enclosure solutions protect the electronics within with their high mechanical stability, thus making an important contribution to the secure and trouble-free functioning of the system overall. Only dependability, down to the last detail, can make complex safety tasks achievable - and also economic.



Shock and vibration resistance

Schroff products assure shock and vibration resistance in mobile situations, e.g. with appropriate material thicknesses and fixing elements. Tested with typical installed loads, they offer the best conditions for a secure and dependable presence in individual applications and projects.

Certification of mechanics

High-quality, robust and durable products are an important component for the certification of a complete application in accordance with the European Railway Standard DIN EN 50155, the German Railway Standards BN 411002 and BN 411003 and the French Railway Standards NF F 61-005 and NF F 60-002.

Note

fer = ferroviaire (French) = railway
1 T = 4 HP = 20.32 mm



Railway Technology brochure

You will find extensive general information on our solutions for rail traffic at www.schroff.co.uk/railway/ and in our Railway Technology brochure.



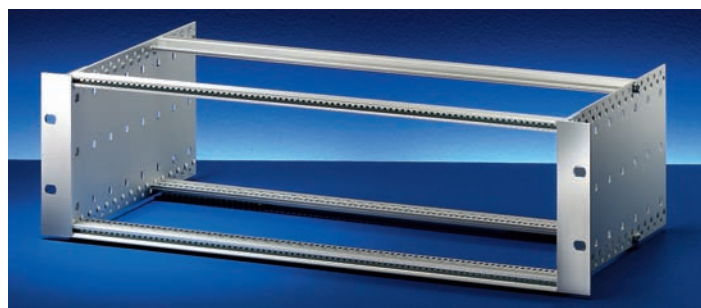
TÜV test report



30608002

Subracks - *europac* **PRO** for railway applications

Kit, unshielded, 'heavy', for backplane mounting



06102007

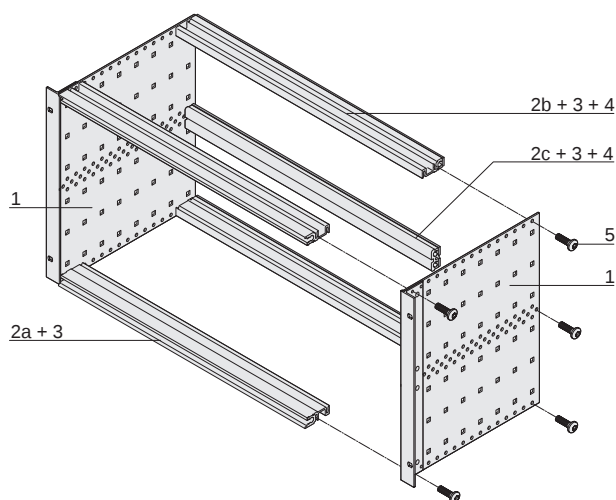
- Subrack in robust version ("heavy"), 19" bracket is firmly joined to side panel (Tox-cold welded)
- Rear horizontal rail with insulation strip for backplane mounting
- Tested to German railway standard BN 411002, BN 411003



NEW

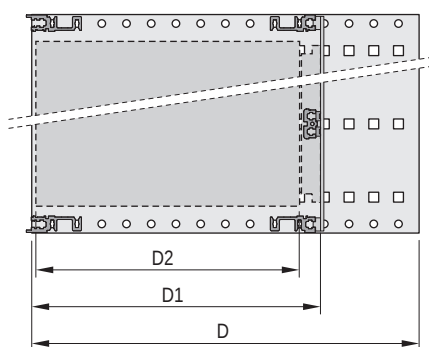
Delivery comprises (Kit)

Item	Qty 3 U	6 U	Description
1	2	2	Type H (heavy) side panel with 19" support bracket for EMC textile gasket
2a	2	2	Front horizontal rail (H-KD)
2b	2	2	Rear horizontal rail (H-ST) with insulation strip for backplane mounting
2c	-	1	Centre horizontal rail (ST)
3	4	6	Threaded insert (pre-fitted)
4	2	4	Insulation strip (pre-fitted)
5	1	1	Assembly kit
6	1	1	User manual



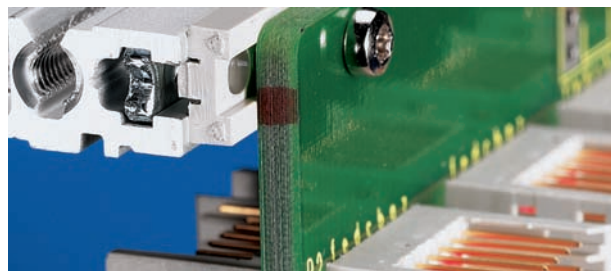
06107053

6 U



06108052

D=total depth, D1=insertion depth, D2=board depth



04400001

Rear horizontal rail with insulation strip for backplane mounting

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Depth D2 mm	Part no.
3	84	175	175	160	24563-161
3	84	235	175/235	160/220	24563-162
3	84	295	175/235/295	160/220/280	24563-163
3	84	355	175/235/295/355	160/220/280/340	24563-164
6	84	175	175	160	24563-461
6	84	235	175/235	160/220	24563-462
6	84	295	175/235/295	160/220/280	24563-463
6	84	355	175/235/295/355	160/220/280/340	24563-464
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet					21100-435

Guide rails (standard), ESD clip

Depth D2 mm	Qty/PU	Part no.
160	10	24560-351
220	10	24560-353
280	10	24560-379
340	10	24560-380
ESD clip for guide rails PU 50 pieces		24560-255
Pan head screw with Torx, for extra bolting of the guide rails, 2.5 x 9.3, zinc-plated, PU 100 pieces		24560-141

Note

- EMC textile gaskets see page 6.23
- Further accessories see from page 6.17
- ServicePLUS configuration from page 6.88

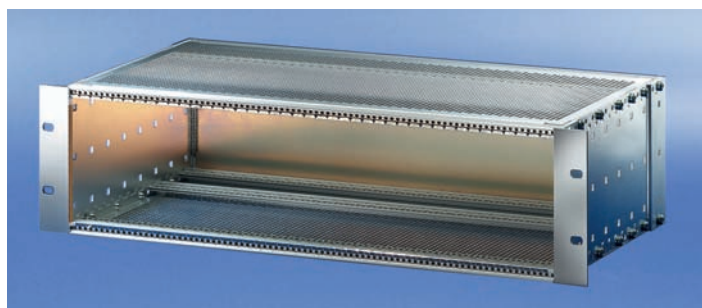


ServicePLUS see page 6.88



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Subracks - *europacPRO* for railway applications



06102008

Kit, shielded, "heavy", for backplane mounting

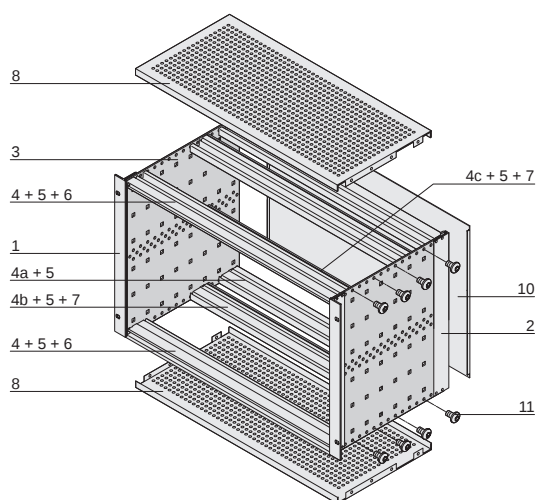
- Subrack in robust version ("heavy"), 19" bracket is firmly joined to side panel (Tox-cold welded)
- Rear horizontal rail with insulation strip for backplane mounting
- Typical shielding 40 dB at 1 GHz, 30 dB at 2 GHz (in accordance with VG 95373, part 15), on condition that the front is sealed with shielded front panels
- Tested to German railway standard BN 411002, BN 411003



NEW

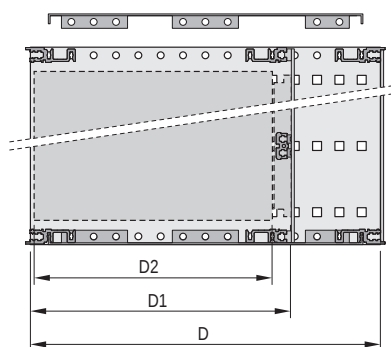
Delivery comprises (Kit)

Item	Qty	3 U	6 U	Description
1	2	2		19" support bracket for EMC textile gasket
2	2	2		Corner profile to rear for EMC textile gasket
3	2	2		Side panel type H
4	2	2		Front horizontal rail (H-KD)
4 a	2	2		Rear horizontal rail (H-KD)
4 b	2	2		Rear horizontal rail (H-ST) with insulation strip for backplane mounting
4 c	-	1		Centre horizontal rail (ST)
5	6	8		Threaded insert (pre-fitted)
6	2	2		Perforated strip (pre-fitted)
7	2	4		Insulation strip (pre-fitted)
8	2	2		EMC cover plate
9	1	1		EMC gasketing material (pre-fitted)
10	1	1		Rear panel
11	1	1		Assembly kit
12	1	1		User manual



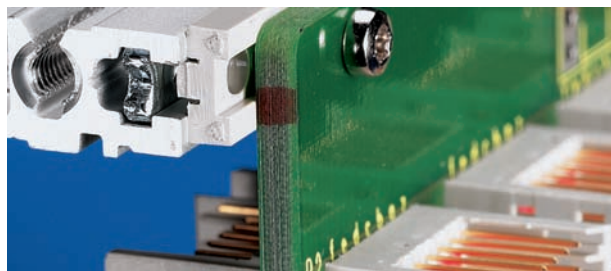
06107055

6 U



D=total depth, D1=insertion depth, D2=board depth

06108060



04400001

Rear horizontal rail with insulation strip for backplane mounting

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Depth D2 mm	Part no.
3	84	235	175/235	160/220	24563-172
3	84	295	175/235/295	160/220/280	24563-173
3	84	355	175/235/295	160/220/280	24563-174
6	84	235	175/235	160/220	24563-472
6	84	295	175/235/295	160/220/280	24563-473
6	84	355	175/235/295	160/220/280	24563-474
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet					21100-435

Guide rails (standard), ESD clip

Depth D2 mm	Qty/PU	Part no.
160	10	24560-351
220	10	24560-353
280	10	24560-379
ESD clip for guide rails PU 50 pieces		24560-255
Pan head screw with Torx, for extra bolting of the guide rails, 2.5 x 9.3, zinc-plated, PU 100 pieces		24560-141

- Perforated rail for connectors see page 6.33
- Further accessories see from page 6.17
- ServicePLUS configuration from page 6.88



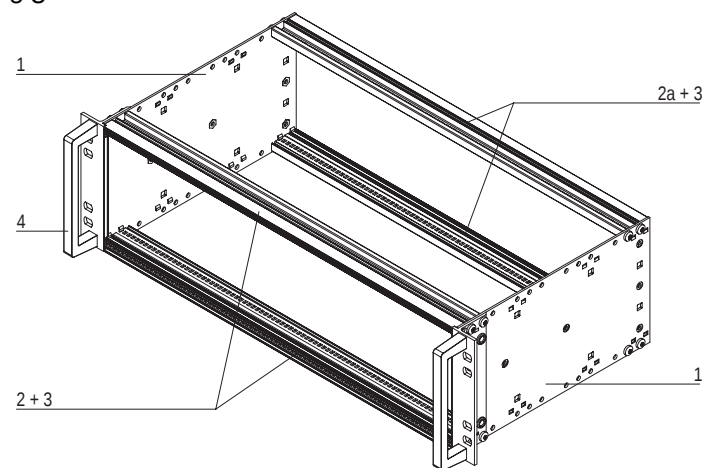
ServicePLUS see page 6.88

Subracks - *europac* **PRO** for railway applications

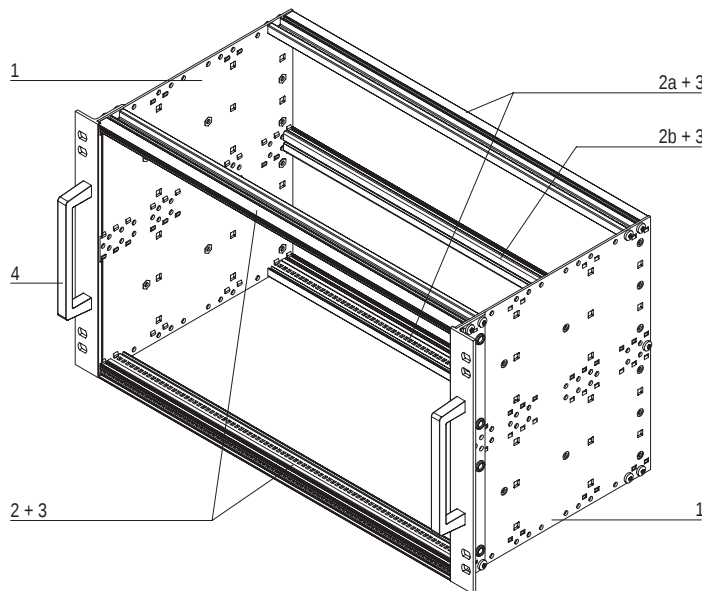
Kit, EN 50155, unshielded



3 U



6 U



06104057

- For mobile railway applications
- Tested in accordance with EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for board depths of 220 mm

Delivery comprises (kit)

Item	Qty	Description
	3 U	6 U
1	2	2
2	2	2
2 a	2	2
2 b	-	1
3	4	6
4	2	2
5	1	1
6	1	1

Order Information

Height U	Width HP	Depth mm	Part no.
3	84	235	21500-077
6	84	235	21500-078

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.34	24560-353
Pan head screw with Torx 2.5 x 9.3, zinc-plated, PU 100 pieces	24560-141
ESD clip for guide rails PU 50 pieces	24560-255
Cover plate for screw-fixing onto side panel width 84 HP, depth 220 mm, PU 1 kit	21500-037
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet	21100-435

Note

- Test reports online
- ServicePLUS configuration, see from page 6.88
- Further accessories see from page 6.17



For further information www.schroff.biz/oneclick
oneClick search code = Part no.



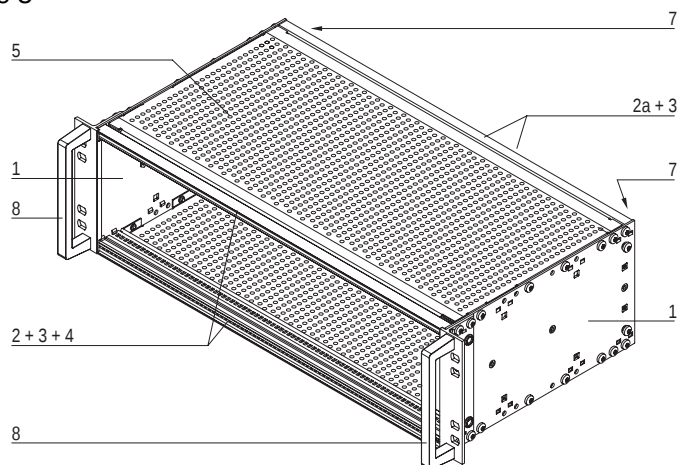
ServicePLUS see page 6.88

Subracks - *europac***PRO** for railway applications

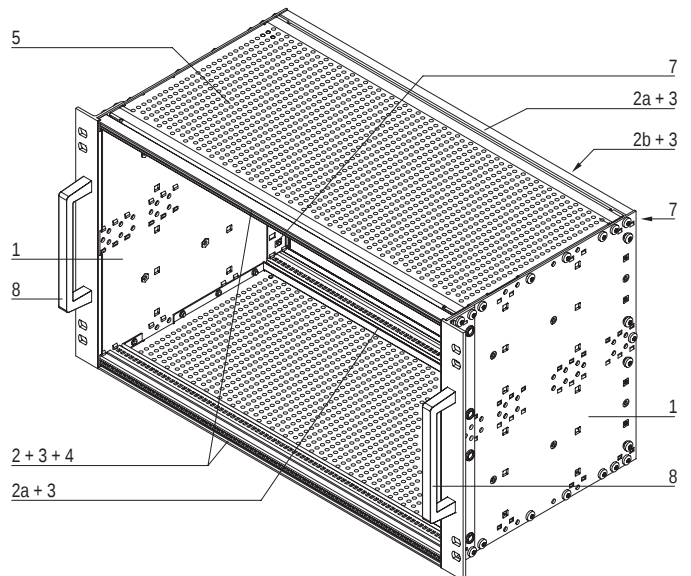
Kit, EN 50155, shielded



3 U



6 U



- For mobile railway applications
- Tested in accordance with EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for board depths of 220 mm

Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket with textile EMC gasket
2	2	2	Front horizontal rail (H-KD)
2 a	2	2	Rear horizontal rail (H-VT)
2 b	-	1	Rear centre horizontal rail (VT)
3	4	6	Threaded inserts
4	2	2	Perforated strip
5	2	2	EMC cover plate 235 T
6	1	1	EMC gasketing kit
7	1	2	EMC gasketing kit for backplanes
8	2	2	Handles
9	1	1	Assembly kit with self-locking screws
10	1	1	User manual

Order Information

Height U	Width HP	Depth mm	Part no.
3	84	235	21500-079
6	84	235	21500-080
Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.34			24560-353
Pan head screw with Torx 2.5 x 9.3, zinc-plated, PU 100 pieces			24560-141
ESD clip for guide rails PU 50 pieces			24560-255
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet			21100-435

Note

- Test reports online
- ServicePLUS configuration, see from page 6.88
- Further accessories see from page 6.17



For further information www.schroff.biz/oneclick
oneClick search code = Part no.



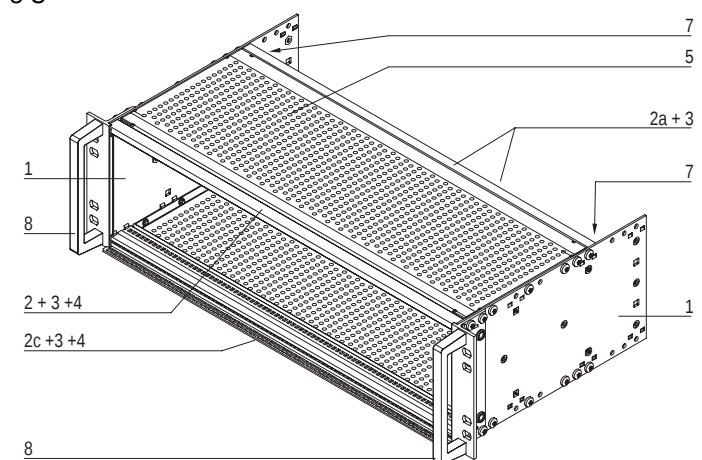
ServicePLUS see page 6.88

Subracks - *europac***PRO** for railway applications

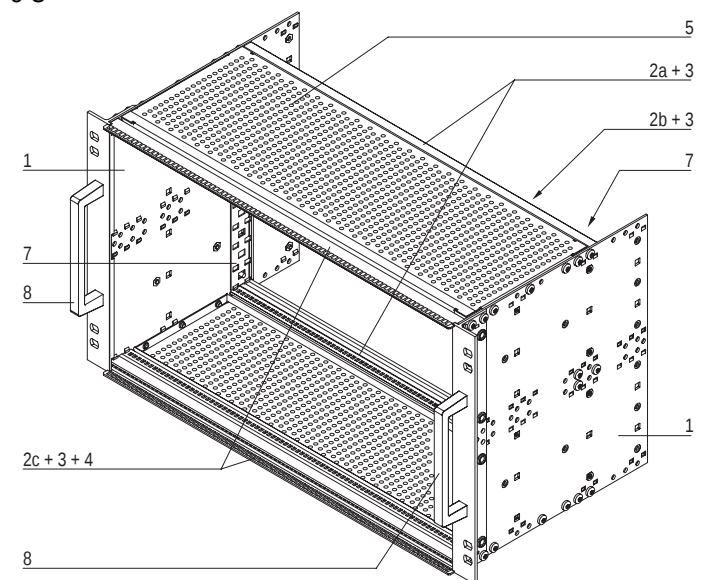
Kit, EN 50155, shielded, for CompactPCI applications



3 U



6 U



- For mobile railway applications
- Tested in accordance with EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for board depths of 160 mm
- Subrack in accordance with IEEE 1101.10

Delivery comprises (kit)

Item	Qty	Description
3 U 6 U		
1	2 2	Side panel type H incl. 19" support bracket with textile EMC gasket
2	1 -	Front horizontal rail (H-KD)
2 a	2 2	Rear horizontal rail (H-VT)
2 b	- 1	Rear centre horizontal rail (VT)
2 c	1 2	Front horizontal rail (H-LD)
3	4 6	Threaded inserts
4	2 2	Perforated strip
5	2 2	EMC cover plate 175 T
6	1 1	EMC gasketing kit
7	1 2	EMC gasketing kit for backplanes
8	2 2	Handles
9	1 1	Assembly kit with self-locking screws
10	1 1	User manual

Order Information

Height	Width	Depth	Part no.
U	HP	mm	
3	84	235	21500-081
6	84	235	21500-082
Assembly kit, PU 8 x screw, washer, nut			21100-435
for assembly of subracks in a 19" case or a cabinet			

Note

- Please order guide rails and ESD clips separately, see page 6.85
- Test reports online
- Rear hood see page 6.87
- ServicePLUS configuration, see from page 6.88
- Further accessories see from page 6.17



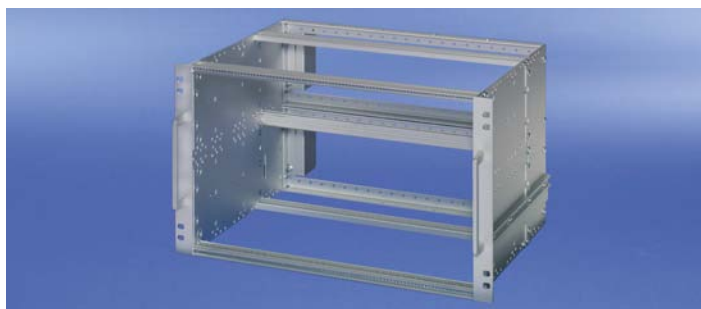
For further information www.schroff.biz/oneclick
oneClick search code = Part no.



ServicePLUS see page 6.88

Subracks - *europacPRO* for railway applications

Kit SNCF, unshielded



■ For mobile railway applications



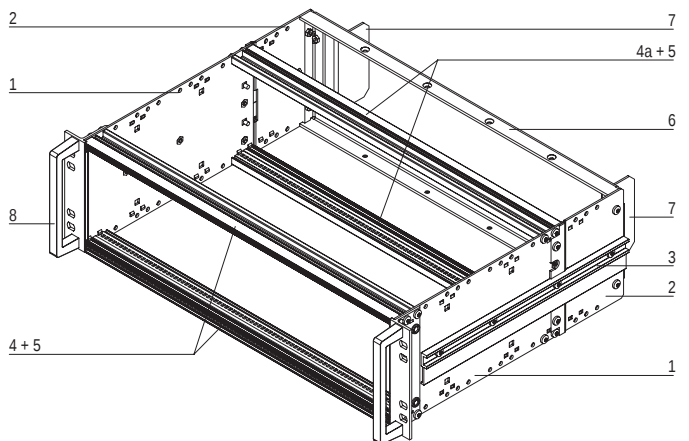
■ SNCF listed, europacPRO-fer, tested to NF F 61-005 and NF F 60-002

■ 3 U and 6 U, 9 T and 21 T, 320 mm deep, for board depths of 220 mm

Delivery comprises (kit)

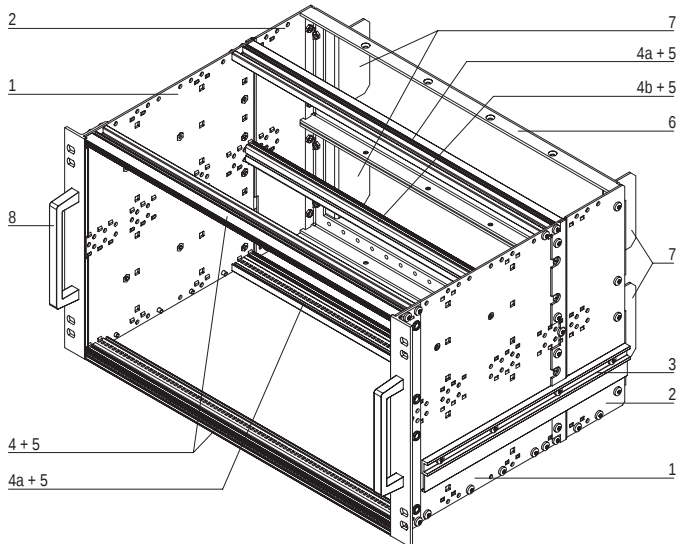
Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket prepared for EMC textile gasket
2	2	2	Side panel extension
3	2	2	Guide rail on the outside
4	2	2	Front horizontal rail (H-KD)
4 a	2	2	Rear horizontal rail (H-VT)
4 b	-	1	Rear centre horizontal rail (VT)
5	4	6	Threaded inserts
6	1	2	Rear frame 3 U, 21 T
7	2	4	Protective bracket SNCF
8	2	2	Handle
9	1	1	Assembly kit with self-locking screws
10	1	1	User manual

3 U



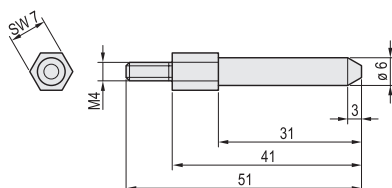
06104002

6 U



06104050

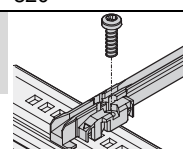
Coding pin



06104051

Order Information

Width mm	Height U	Depth mm	Part no.
36 HP (9 T)	3	320	21500-067
36 HP (9 T)	6	320	21500-070
84 HP (21 T)	3	320	21500-029
84 HP (21 T)	6	320	21500-027
Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.85			24560-353
Pan head screw with Torx 2.5 x 9.3, zinc-plated, PU 100 pieces			24560-141
ESD clip for guide rails PU 50 pieces			24560-255
Coding pin for rear frame, St, white zinc-plated, 1 piece			60895-018
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet			21100-435



Note

- fer = ferroviaire = French railways, 1 T = 4 HP = 20.32 mm
- Subrack receptacle/mounting frame in stainless steel 9 T or 21 T available on request
- Test reports online
- Cover plates for screw-fixing onto side panel see page 6.86
- ServicePLUS configuration, see from page 6.88
- Further accessories see from page 6.17



For further information www.schroff.biz/oneclick
oneClick search code = Part no.



ServicePLUS see page 6.88

06104062

Subracks - *europacPRO* for railway applications

Kit SNCF, shielded



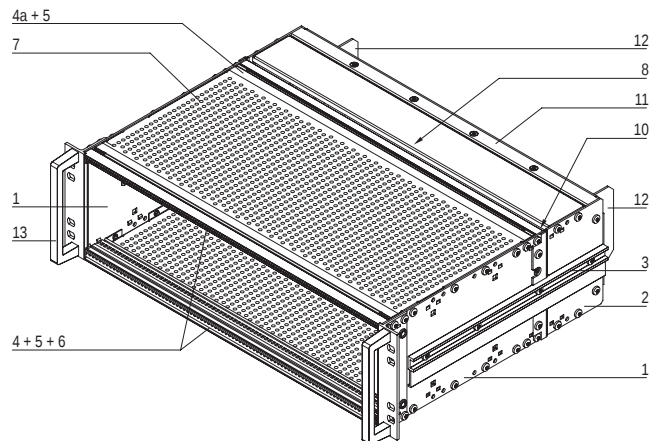
- For mobile railway applications
- SNCF listed, europacPRO-fer, tested to NF F 61-005 and NF F 60-002
- 3 U and 6 U, 9 T and 21 T, 320 mm deep, for board depths of 220 mm



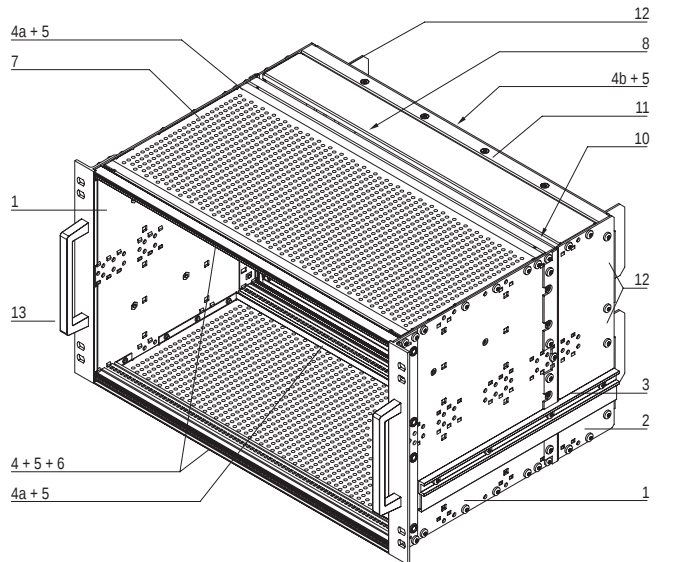
Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket with textile EMC gasket
2	2	2	Side panel extension
3	2	2	Guide rail on the outside
4	2	2	Front horizontal rail (H-KD)
4 a	2	2	Rear horizontal rail (H-VT)
4 b	-	1	Rear centre horizontal rail (VT)
5	4	6	Threaded inserts
6	2	2	Perforated strips
7	2	2	EMC cover plate 235 T
8	2	2	Rear cover plate 55 T
9	1	1	EMC gasketing kit
10	1	2	EMC gasketing kit for backplanes
11	1	2	Rear frame, 3 U, 21 T
12	2	4	Protective bracket SNCF
13	2	2	Handles
14	1	1	Assembly kit with self-locking screws
15	1	1	User manual

3 U

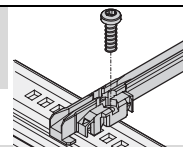


6 U

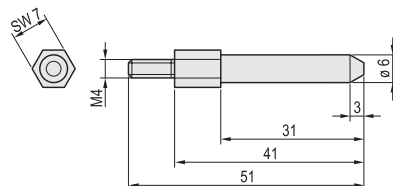


Order Information

Width	Height	Depth	Part no.
	U	mm	
36 HP (9 T)	3	320	21500-068
36 HP (9 T)	6	320	21500-071
84 HP (21 T)	3	320	21500-030
84 HP (21 T)	6	320	21500-028
Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.85			24560-353
Pan head screw with Torx 2.5 x 9.3, zinc-plated, PU 100 pieces			24560-141
ESD clip for guide rails PU 50 pieces			24560-255
Coding pin for rear frame , St, white zinc-plated, 1 piece			60895-018
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet			21100-435



Coding pin



ServicePLUS see page 6.88

Note

- fer = ferroviaire (French) = railway, 1 T = 4 HP = 20.32 mm
- Subrack receptacle/mounting frame in stainless steel 9 T or 21 T available on request
- Test reports online
- ServicePLUS configuration, see from page 6.88
- Further accessories see from page 6.17

Subracks - *europacPRO* for railway applications

Kit, SNCF, shielded, for CompactPCI applications



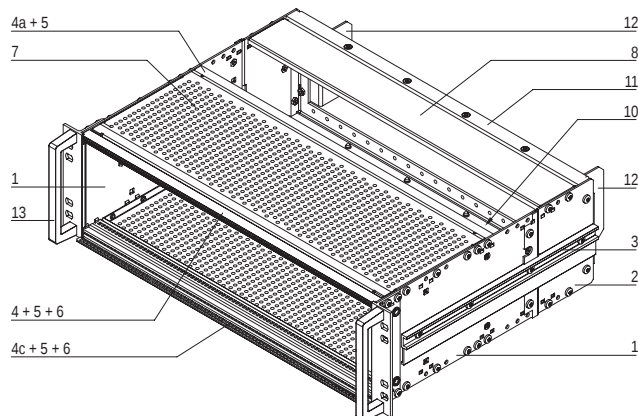
- For mobile railway applications
- SNCF listed, europacPRO-fer, tested to NF F 61-005 and NF F 60-002
- 3 U and 6 U, 9 T and 21 T, 320 mm deep, for board depths of 160 mm
- CompactPCI subrack in accordance with IEEE 1101.10



Delivery comprises (kit)

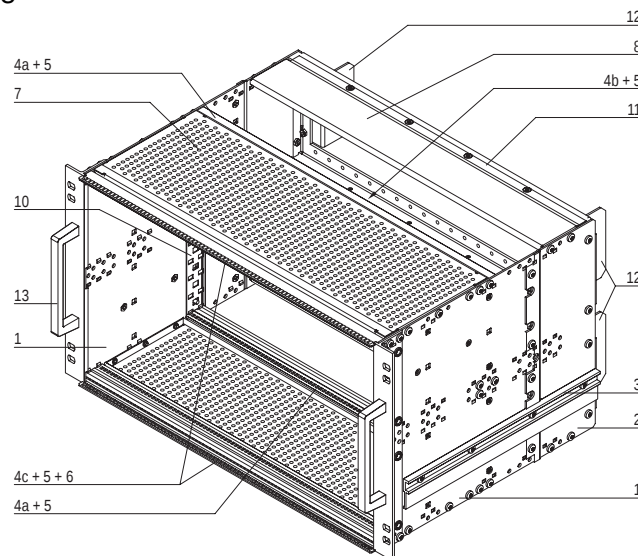
Item	Qty	Description
	3 U	6 U
1	2	2
2	2	2
3	2	2
4	1	-
4 a	2	2
4 b	-	1
4 c	1	2
5	4	6
6	2	2
7	2	2
8	2	2
9	1	1
10	1	2
11	1	2
12	2	4
13	2	2
14	1	1
15	1	1

3 U



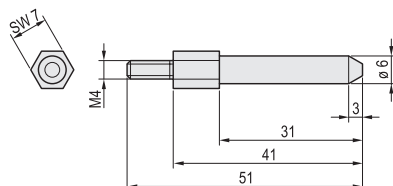
06104004

6 U



06104054

Coding pin



06104055

06104062

Order Information

Width	Height U	Depth mm	Part no.
36 HP (9 T)	3	320	21500-069
36 HP (9 T)	6	320	21500-072
84 HP (21 T)	3	320	21500-047
84 HP (21 T)	6	320	21500-046
Coding pin for rear frame, St, white zinc-plated, 1 piece			60895-018
Assembly kit, PU 8 x screw, washer, nut for assembly of subracks in a 19" case or a cabinet			21100-435

Note

- fer = ferroviaire (French) = railway, 1 T = 4 HP = 20.32 mm
- Subrack receptacle/mounting frame in stainless steel 9 T or 21 T available on request
- Please order guide rails and ESD clips separately, see page 6.85
- Test reports online
- ServicePLUS configuration, see from page 6.88
- Further accessories see from page 6.17



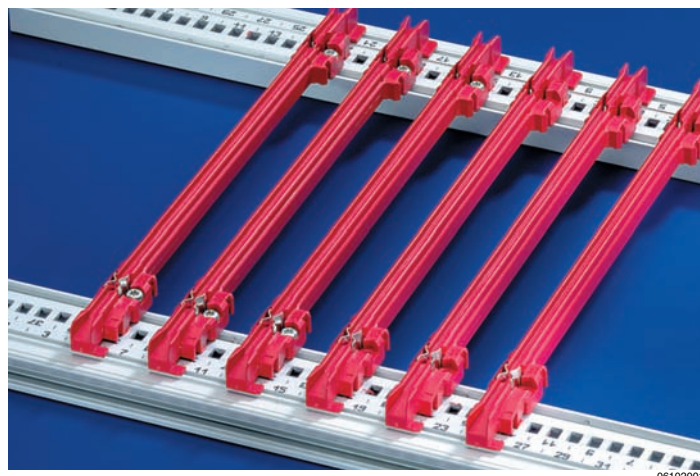
ServicePLUS see page 6.88



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Subracks - *europac***PRO** for railway applications

Guide rails



- Material PBT UL 94 V-0, red, groove width 2 mm, for printed board thickness of 1.6 mm

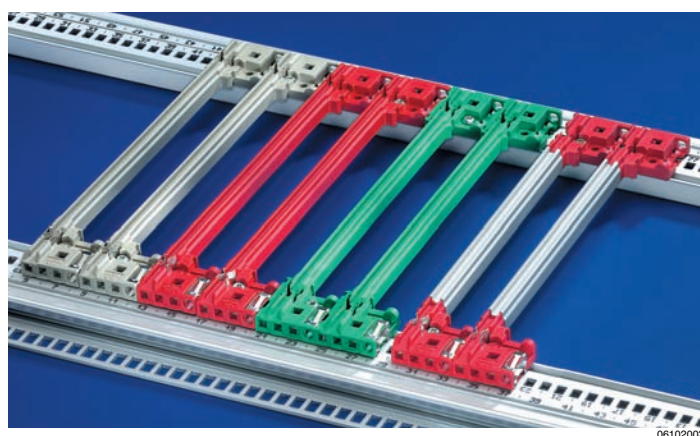
Order Information

Description	Depth mm	Qty/PU	Part no.
Guide rail, standard, 160 mm deep	160	10	24560-351
Guide rail, standard, 220 mm deep	220	10	24560-353
ESD clip for guide rails PU 50 pieces			24560-255



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Guide rails with coding for CompactPCI and VME64x

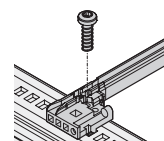


- The guide rails conform to IEC 60297-3-100 and IEEE 1101.10/11, are 4 HP wide and can be equipped with coding pins
- Material PBT UL 94 V-0, groove width 2 mm, for board thickness 1.6 mm
- Colour:
 - red (CPU board)
 - grey (periphery board)
 - green (CompactPCI power supply, 0.1" offset)

Order Information

Description	Depth mm	Qty/PU	Part no.
Guide rails with coding, red	160	10	24560-356
Guide rails with coding, grey	160	10	24560-358
Guide rails with coding, green, offset	160	10	24560-359

Pan head screw with Torx 2.5 × 9.3, zinc-plated, PU 100 pieces



24560-141

ESD clip for guide rails PU 50 pieces

24560-255

ESD clip for alignment pin of CPC/VM64x handle PU 50 pieces

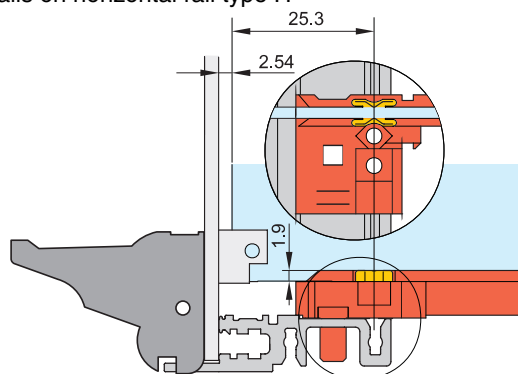
24560-256

Coding pin PC, UL 94 V-0, RAL 7035, PU 100 pieces

20817-501

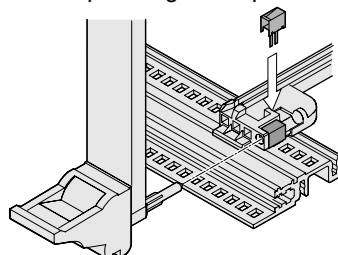
- More guide rails see page 6.34
- IEL/IET handle for CompactPCI/VME64x handles see chapter Sub-assemblies/plug-in units, page 7.18

Guide rails on horizontal rail type H



04505050

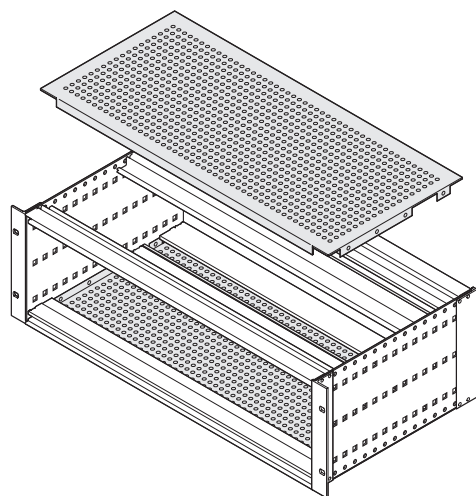
ESD clip for alignment pin



06103052

Subracks - *europac* **PRO** for railway applications

Cover plate for screw-fixing onto side panel



- Suitable for all horizontal rails
- Cover plate for assembly of 160 mm, 220 mm or 280 mm deep boards
- Lateral notch to mount the horizontal rails in depths of 160 mm or 220 mm
- Shielding by optional EMC stainless steel gaskets, between cover plate and horizontal rail

Delivery comprises

Item	Qty	Description
1	2	Cover plate, Al, 1.0 mm, clear chromated, hole diameter 4.0 mm, (no perforation at 55 mm depth)
2	16/32	Torx screws 4 x 6 pentaform, St, zinc-plated

06102084

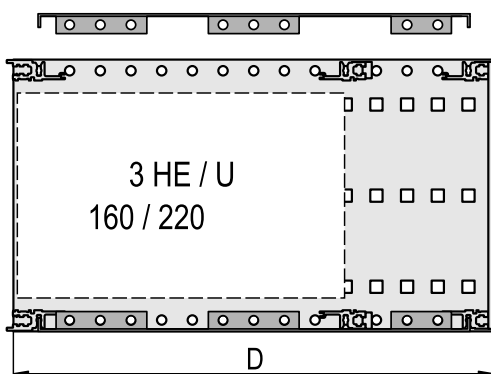
Order Information

Width HP	Depth D mm	Application	Part no.
84	55	—	21500-038
84	175	160	21500-048
84	235	160, 220	21500-037
36	55	—	21500-123
36	175	160	21500-124
36	220	160, 220	21500-122

Note

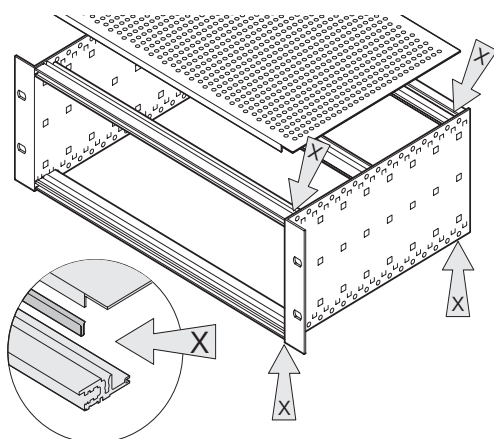
- 4 stainless steel EMC gaskets are necessary per subrack, see page 6.86

06102082

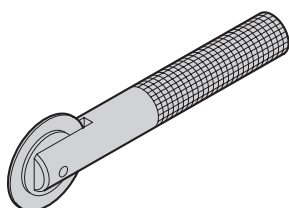


Side view for 175 mm and 235 mm depths

Stainless steel gasket between cover plate and horizontal rail



Assembly tools



06102052

- Stainless steel gasket is clipped into horizontal rail and forms the contact cover plate
- Fits all horizontal rails

Order Information

Width HP	Length mm	Qty/PU	Part no.
42	182.4	10	24560-241
63	284.0	10	24560-243
84	395.7	10	24560-245
84	395.7	100	24560-246
Assembly tool for stainless steel EMC gasket (horizontal rails), 1 piece			24560-271

Note

- When a rear hood is used, the EMC stainless steel gasket ensures the conductive connection between horizontal rail and rear hood

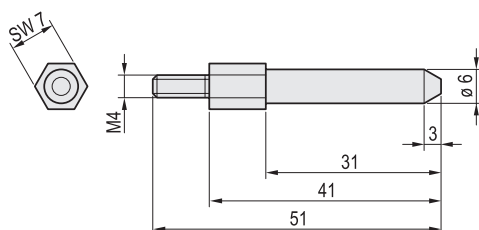


For further information www.schroff.biz/oneclick
oneClick search code = Part no.

aza45938

Subracks - *europac* **PRO** for railway applications

Coding pin for rear frame (NFF standard)



06104062

Order Information

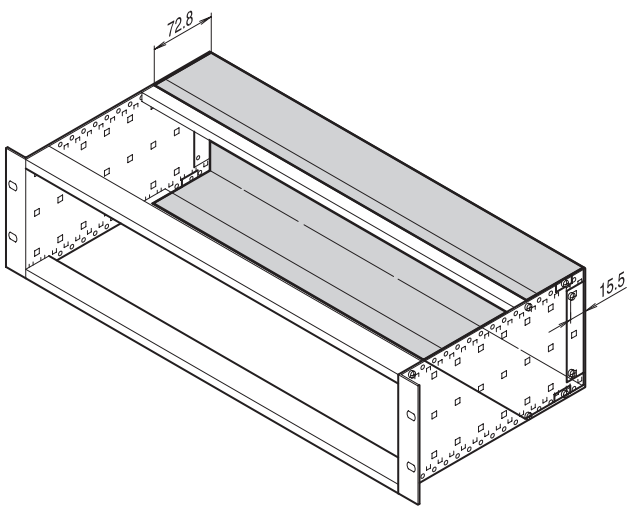
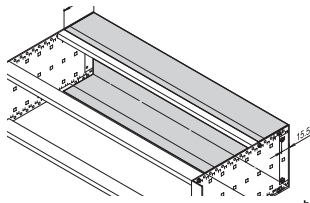
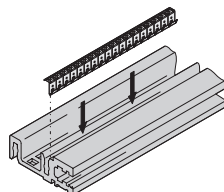
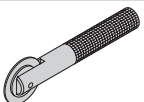
Description	Qty/PU	Part no.
Coding pin, St, white zinc-plated	1	60895-018



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Rear hood for 3 U and 6 U subracks (for stainless steel EMC gasket)

Order Information

		Rear hood  Al, 1 mm, clear passivated; 60 mm additional side panel depth required (board depth + 60 mm); for shielding please order EMC gasket for horizontal rail separately; cannot be used simultaneously with rear corner profile	EMC stainless steel gasket, between cover plate and horizontal rail  Stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails
Height U	Width HP	1 piece	PU 10 pieces
3	42	34561-750	24560-241
3	84	34561-752	24560-245
6	63	34561-763	24560-243
6	84	34561-764	24560-245
Torx pan head screw, M4 × 6, St, zinc-plated, PU 100 pieces		24560-135	—
Assembly tool, for stainless steel EMC gasket (horizontal rails), 1 piece 			24560-271

Note

- Other dimensions of rear hood available on request

Subracks – for railway applications ServicePLUS



configuration

Components can be varied and combined freely

Simple. Fast. For the product you want.

- Configuration tables from page 6.17
- Online configuration: www.schroff.co.uk/configuration



assembly

Fitting of all mechanical, electrical and electronic components by our specialists

Assembled by professionals. Twice the benefit!

- Professional and reliable from 1 piece
- Ready for despatch within 5 working days
- Further information: www.schroff.co.uk/assembly



modification

Custom drillings, cut-outs and special colours for standard products

Small changes. Large impact.

- Custom modifications from 1 piece
- Ready for despatch within 10 working days
- Further information: www.schroff.co.uk/modification



solution

Integration and custom developments

Simple. Fast. From one source.

- Special sizes (depth and width)
- Individual thermal concepts
- Ready for despatch within 10 working days
- Further information: www.schroff.co.uk/solution



express

Delivery time to customer's request

When fast has to be faster.

- Express logistics
- Further information: www.schroff.co.uk/express



academy

Knowledge transfer and partnership

Knowledge. Sharing. Partnerships.

- Seminars, CAD drawings, test reports, user reports
- Further information: www.schroff.de/academy

Subracks – for railway applications ServicePLUS

Application examples



Application: Subrack receptacle/mounting frame

06108006



Application: Electronic signal box

06108020



Application: Automatic train control system

41108002



Application: Mobile telephony system

41108001



Application: Control system

Csee_DSCN2296

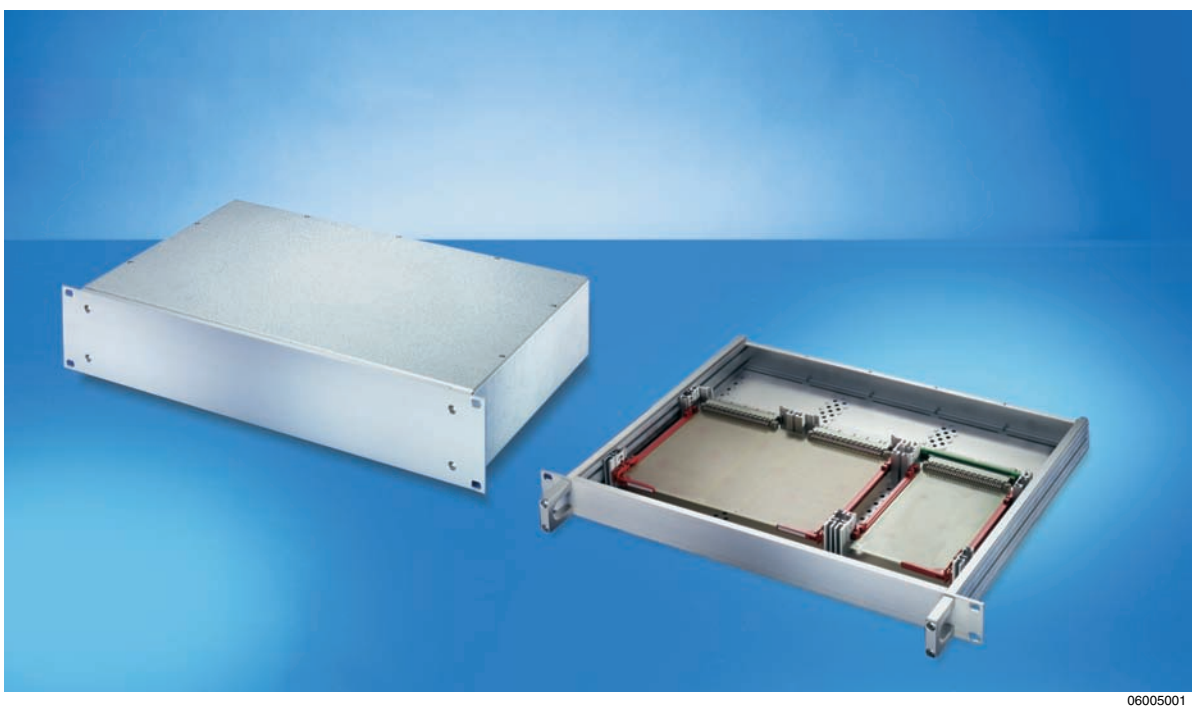


Application: Signalling control systems

01004031

Overview	0
Cabinets	1
Wall mounted cases	2
Accessories for cabinets and wall mounted cases	3
Climate control	4
Desk-top cases	5
Subracks/ 19" chassis	6
Front panels, plug-in units	7
Systems	8
Power supply units	9
Backplanes	10
Connectors, front panel component system	11
Appendix	12

19" chassis - *multipacPRO*



06005001

Standards/certifications

- External dimensions in accordance with: IEC 60297-3-100, -101, -105
- Type of protection IP 20 in accordance with IEC 60529
- EMC test in accordance with VG 95373 part 15 or IEC 61587 T3



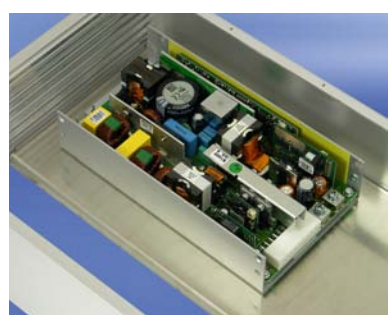
06008009

Handles can be bolted on from front



06008010

High stability through aluminium profile side panel



06008011

Mounting plate for installation of heavy components

Top cover and base plate in 3 versions



06008003

Plain



06008005

Perforated



06008004

For standardised board mounting

 **Downloads and further important information can be found on the Internet under www.schroff.biz**



19" chassis - *multipacPRO*

Overview 6.90

19" chassis

- Aluminium or steel (AlZn coated) designs
- For standardised 19" board mounting or for installation of non-standardised components
- The ideal solution for electronic devices in the most compact dimensions
- EMC shielding upgradable
- Mounting service and customized machining with ServicePLUS



06002003

19" complete chassis (steel)

- 1, 2 U
- Steel chassis (AlZn coated), Al front panel
- Plain top cover and base plate



06008004

19" complete chassis (aluminium)

- 1, 2, 3, 4, 5 U
- Entirely from aluminium
- Versions:
 - Plain top cover and base plate
 - Perforated top cover and base plate
 - Top cover and base plate for standardised boards

NEW

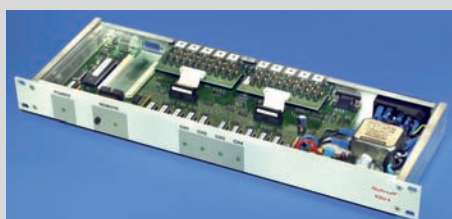
Configure 19" chassis with ServicePLUS (aluminium)

19" chassis for non-standardised assembly

- For the assembly of power supplies with mounting plates, boards...
- Heights 1, 2, 3, 4, 5 U

For standardised board mounting (IEC 60297-3-101)

- For the assembly of connectors (EN 60603) or insulated backplanes
- Heights 1, 2 U



06006001 06002002



30407004

ServicePLUS from page 6.96

- e.g. individual configuration and assembly
- e.g. modifications (cut-outs)
- e.g. downloads (CAD drawings, user manuals, test reports)
- e.g. custom solutions (special sizes)

www.schroff.biz/serviceplus/

multipacPRO

19" complete chassis (St) 6.92
19" complete chassis (Al) 6.93

How to configure 19" chassis?

19" chassis for non-standardised assembly 6.98
(basic frame, mounting plate, cover plate, front handles, assembly of telescopic slides)

19" chassis for standardised assembly 6.100
(basic frame, base plate, cover plate, front handles, assembly of telescopic slides).

Accessories

Guide rails 6.102
EMC gasketing kit 6.103
Telescopic slides
1 U 6.104
Telescopic slides
2 U 6.105

ServicePLUS . . 6.96

Application examples 6.106



19" chassis - *multipacPRO*

19" complete chassis from steel, plain top cover and base plate



06002003

- Complete chassis, St (AlZn coated) with Al extrusion front panel
- Detachable rear panel for easy machining
- In the 1 U version 19" and ATX power supplies can be assembled up to a clearance of 40 mm
- EMC shielding of approx. 30 dB(A) at 1 GHz (without additional shielding material)
- In accordance with standard IEC 60297-3-101

Delivery comprises (kit)

Item	Qty	Description
1	1	Front panel, Al extrusion, 3 mm; at 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Base body plain, St, 1 mm, (AlZn coated)
3	1	Rear panel, St, 1 mm (AlZn coated)
4	1	Cover plain, St, 1 mm (AlZn coated)
5	1	Assembly kit

Order Information

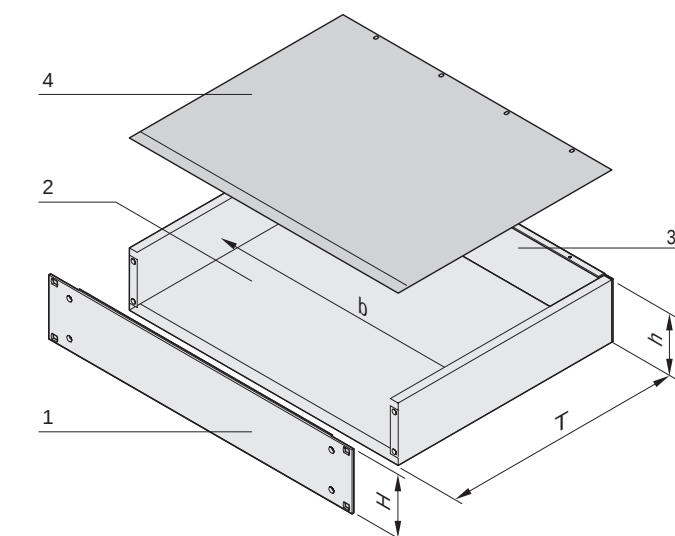
Height U	Height H mm	Depth T mm	Part no.
1	43.7	220	20860-120
1	43.7	280	20860-121
1	43.7	340	20860-122
2	88.1	280	20860-126
2	88.1	340	20860-127
Front handles incl. assembly kit for 1 U, Al extrusion, anodised, PU 2 pieces			20860-256
Front handles incl. assembly kit for 2 U, Al extrusion, anodised, PU 2 pieces			20860-257

Note

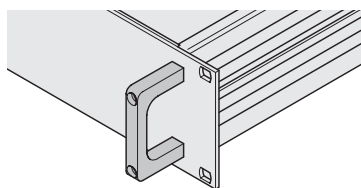
- Further versions with steel front panel (pizza box) available on request
- Use of telescopic slides not possible
- No special EMC version available
- Standardised internal mounting kits cannot be used

06002051

06002052



h = clear height (overall) (H - 3.0 mm)
b = clear installation width = 447 mm



Front handle



ServicePLUS see page 6.96



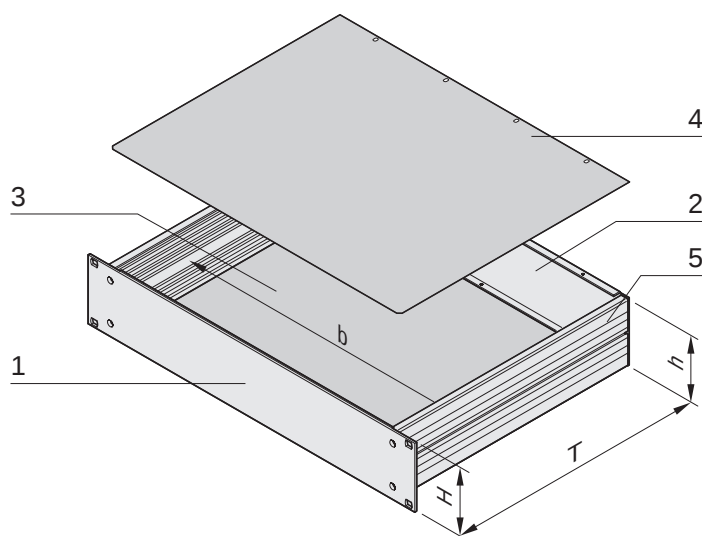
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

19" chassis - *multipacPRO*

19" complete chassis from aluminium, plain top cover and base plate

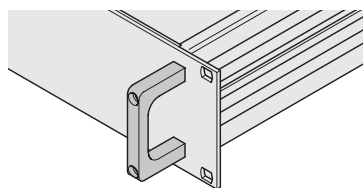


06008003



06008052

h = clear height (overall) (H - 8.1 mm)
b = clear installation width = 403 mm



Front handle



ServicePLUS see page 6.96

06002052

- Complete chassis from aluminium
- Detachable rear panel for easy machining
- 19" and ATX power supplies can be assembled in the 1 U case height up to a clearance of 35 mm
- EMC shielding of approx. 30 dB(A) at 1 GHz (without additional shielding material)
- In accordance with standard IEC 60297-3-100, -101, -105

NEW

Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, Al extrusion, 3 mm; at 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Rear panel, Al, 1 mm, etched
3	1	Base plate, plain, Al, 1 mm
4	1	Cover plate, plain, Al, 1 mm
5	2	Side panel, Al extrusion, untreated; with groove for threaded insert (2 x 7); 5 U two-piece, 3+2 U; EMC sealing
6	1	Assembly kit

Order Information

Height U	Height H mm	Depth T mm	Part no. Kit
1	43.7	220	20860-601
1	43.7	280	20860-602
2	88.1	280	20860-605
2	88.1	340	20860-606
3	132.6	280	20860-607
3	132.6	340	20860-608
3	132.6	400	20860-609
4	177.0	340	20860-612
4	177.0	400	20860-613
4	177.0	460	20860-614
5	221.5	460	20860-615

EMC gasketing kit Silicone/nickel gasket 2100 mm for contacting side panel/cover plate; stainless steel gasket for front panel/cover plate **20860-130**

Front handles incl. assembly kit for 1 U, Al extrusion, anodised, PU 2 piece **20860-256**

Front handles incl. assembly kit for 2 U, Al extrusion, anodised, PU 2 piece **20860-257**

Front handles incl. assembly kit for 3 U, Al extrusion, anodised, PU 2 pieces **20860-258**

Front handles incl. assembly kit for 4 U, Al extrusion, anodised, PU 2 pieces **20860-259**

Front handles incl. assembly kit for 5 U, Al extrusion, anodised, PU 2 pieces **20860-260**

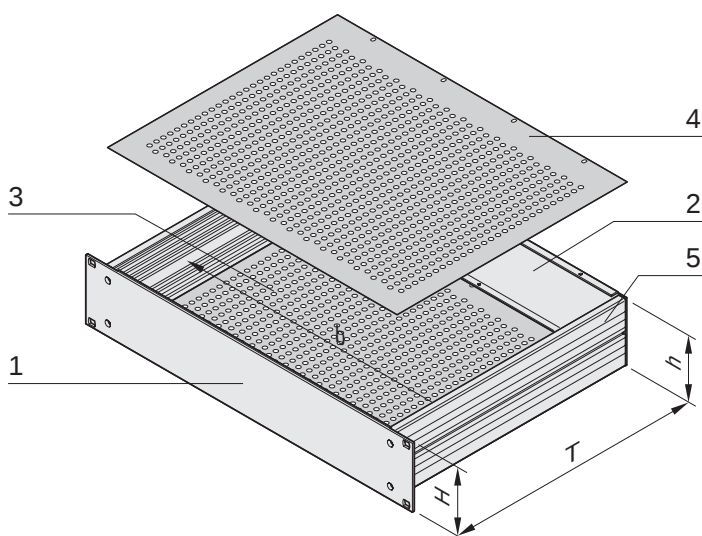
Note

- Threaded inserts to push into the side panel see page 6.99
- Telescopic slides to mount into cabinet see page 6.104

19" chassis - *multipacPRO*

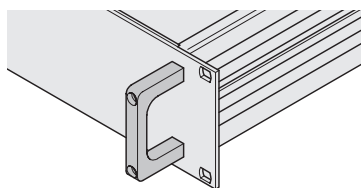


06008005



06008051

h = clear height (overall) (H - 8.1 mm)
b = clear installation width = 403 mm



Front handle



ServicePLUS see page 6.96

06002052

19" complete chassis from aluminium, plain top cover and base plate

- Complete chassis from aluminium
- Detachable rear panel for easy machining
- 19" and ATX power supplies can be assembled in the 1 U case height up to a clearance of 35 mm
- EMC shielding of approx. 30 dB(A) at 1 GHz (without additional shielding material)
- In accordance with standard IEC 60297-3-100, -101, -105

NEW

Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, Al extrusion, 3 mm; at 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Rear panel, Al, 1 mm, etched
3	1	Base plate, perforated, Al, 1 mm
4	1	Cover plate, perforated, Al, 1 mm
5	2	Side panel, Al extrusion, untreated; with groove for threaded insert (2 x 7); 5 U two-piece, 3+2 U; incl. EMC sealing
6	1	Assembly kit

Order Information

Height U	Height H mm	Depth T mm	Part no.
1	43.7	220	20860-621
1	43.7	280	20860-622
2	88.1	280	20860-625
2	88.1	340	20860-626
3	132.6	280	20860-627
3	132.6	340	20860-628
3	132.6	400	20860-629
4	177.0	340	20860-632
4	177.0	400	20860-633
4	177.0	460	20860-634
5	221.5	460	20860-635

EMC gasketing kit Silicone/nickel gasket 2100 mm for contacting side panel/cover plate; stainless steel gasket for front panel/cover plate **20860-130**

Front handles incl. assembly kit for 1 U, Al extrusion, anodised, PU 2 piece **20860-256**

Front handles incl. assembly kit for 2 U, Al extrusion, anodised, PU 2 piece **20860-257**

Front handles incl. assembly kit for 3 U, Al extrusion, anodised, PU 2 pieces **20860-258**

Front handles incl. assembly kit for 4 U, Al extrusion, anodised, PU 2 pieces **20860-259**

Front handles incl. assembly kit for 5 U, Al extrusion, anodised, PU 2 pieces **20860-260**

Note

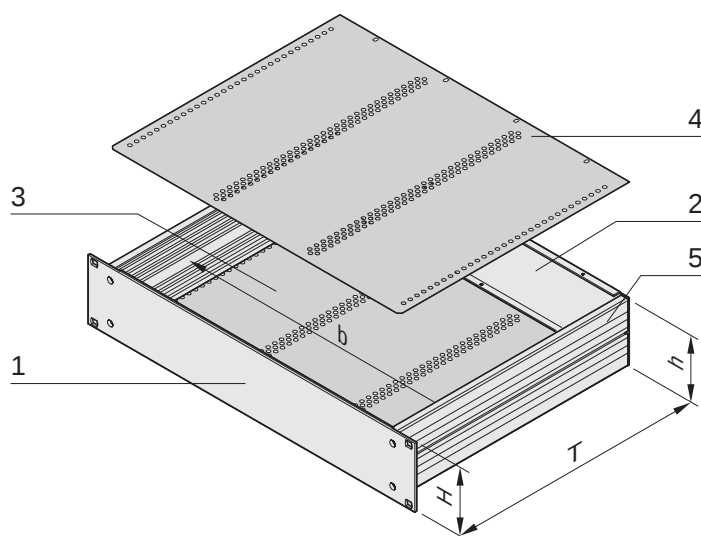
- Threaded inserts to push into the side panel see page 6.99
- Telescopic slides to mount into cabinet see page 6.104

19" chassis - *multipacPRO*

19" complete chassis from aluminium, for assembly of euroboards

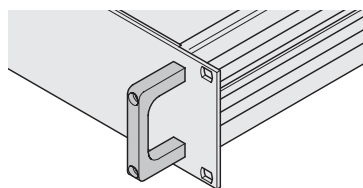


06008004



06008050

h = clear height (overall) (H - 8.1 mm)
b = clear installation width = 403 mm



Front handle

06002052



ServicePLUS see page 6.96

- Complete chassis from aluminium
- Detachable rear panel for easy machining
- 19" and ATX power supplies can be assembled in the 1 U case height up to a clearance of 35 mm
- EMC shielding of approx. 30 dB(A) at 1 GHz (without additional shielding material)
- In accordance with standard IEC 60297-3-100, -101, -105

NEW

Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, Al extrusion, 3 mm; at 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Rear panel, Al, 1 mm, etched
3	1	Base plate, Al, 1 mm; with drill holes for horizontal assembly with euroboards
4	1	Cover plate, Al, 1 mm; with drill holes for den horizontal assembly with euroboards
5	2	Side panel, Al extrusion, untreated; with grooves for threaded inserts (2 x 7)
6	1	Assembly kit

Order Information

Height U	Height H mm	Depth T mm	Part no.
1	43.7	220	20860-641
1	43.7	280	20860-642
2	88.1	280	20860-645

EMC gasketing kit Silicone/nickel gasket 2100 mm for contacting side panel/cover plate; stainless steel gasket for front panel/cover plate **20860-130**

Front handles incl. assembly kit for 1 U, Al extrusion, anodised, PU 2 piece **20860-256**

Front handles incl. assembly kit for 2 U, Al extrusion, anodised, PU 2 piece **20860-257**

Note

- Threaded inserts to push into the side panel see page 6.99
- Guide rails see page 6.102
- Telescopic slides to mount into cabinet see page 6.104



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

19" chassis – *multipacPRO* ServicePLUS



configuration

Components can be varied and combined freely

Simple. Fast. To the ideal product.

- Configuration tables from page 6.97
- Online configuration: www.schroff.co.uk/configuration



assembly

Fitting of all mechanical, electrical and electronic components by our specialists

Assembled by professionals. Double benefit!

- Professionally and reliable from quantity 1
- Ready for despatch within 5 working days
- Further information: www.schroff.co.uk/assembly



modification

Custom drilling, cut-outs and special colours for off-the-shelf products

Small changes. Large impact.

- Customised modifications from 1 piece
- Ready for despatch within 10 working days
- Further information: www.schroff.co.uk/modification

FRONT PANEL
EXPRESS



solution

Integration and custom developments

Simple. Fast. From one source.

- Special sizes (depth and width)
- Individual thermal concepts
- Ready for despatch within 10 working days
- Further information: www.schroff.co.uk/solution



express

Delivery time to customer's request

When fast has to be faster.

- Express logistics
- Further information: www.schroff.co.uk/express



academy

Knowledge transfer and partnership

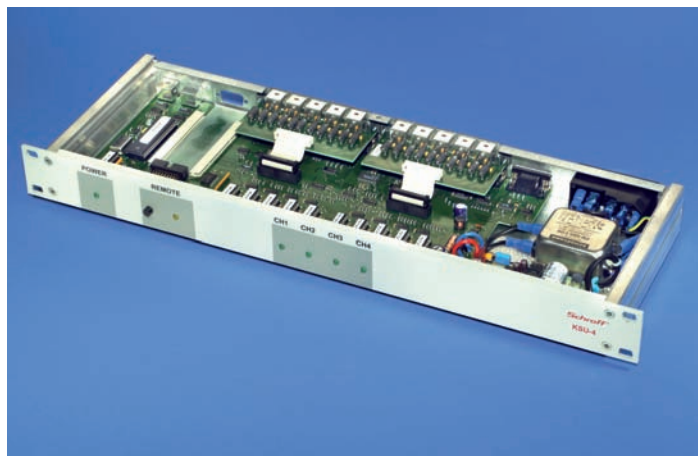
Knowledge. Sharing. Partnerships.

- Seminars, CAD drawings, test reports, user reports
- Further information: www.schroff.co.uk/academy

19" chassis – *multipacPRO* ServicePLUS

How to configure 19" chassis

- Select height and depth of the basic kit
- Select further components



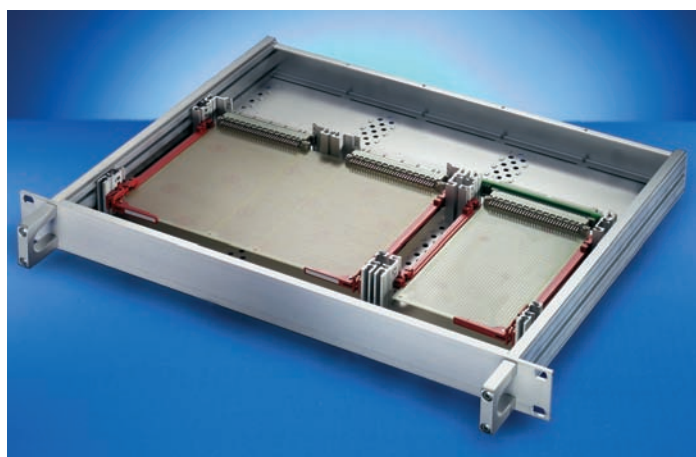
06006001

For non-standardised assemblies (1, 2 U) in accordance with IEC 60297-3-105

- Mounting plate
- Top cover/base plate
- Front handles
- EMC gasketing kit
- Telescopic slide

Note

- Non-standardised assemblies from page 6.98



06002001

For non-standardised assemblies (1, 2 U) in accordance with IEC 60297-3-100, -101, -105

- Top cover/base plate for horizontal boards
- Interior mounting for connector or backplane assembly
- front handles
- EMC gasketing kit
- Telescopic slides

Note

- Standardised assemblies from page 6.100

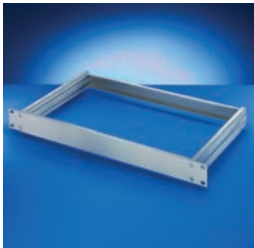
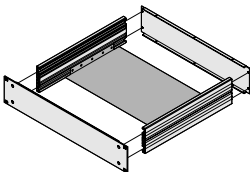
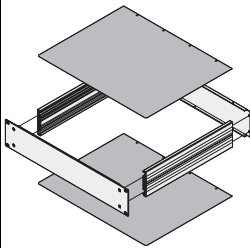
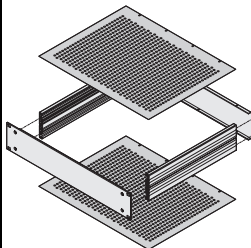
19" chassis – *multipacPRO* ServicePLUS

Individual components 19" chassis for non-standardised assemblies

- Please select:
 - Height and depth of basic kit (1 ... 5 U)
 - Mounting plate
 - Top cover/base plate
 - Front handles
 - EMC gasketing kit
 - Telescopic slides

- In accordance with standard 60297-3-105

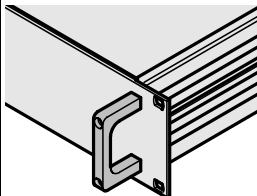
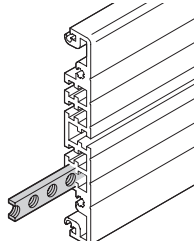
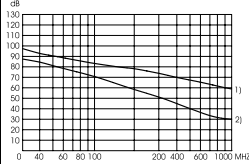
Order Information

				Basic kit	Mounting plate	Top cover/base plate	
						plain	perforated
				06002004	06002058		
				1 x Al front panel, 3 mm; 2 x Al profile side panel; 1 x Al rear panel incl. assembly kit	Al, 2 mm, depth = D - 70 mm; for heavy equipment	is pushed into basic kit, Al, 1 mm, clear passivated, please order EMC gasketing kit separately	Pushed into basic frame, Al, 1 mm, clear chromated, hole diameter 4 mm, degree of perforation 58 %
Height U	Height mm	Width HP	Depth D mm	PU 1 kit	1 piece	1 piece	1 piece
1	43.7	84	220	20860-201	20860-107	30860-501	30860-510
1	43.7	84	280	20860-202	20860-108	30860-502	30860-511
1	43.7	84	340	20860-203	20860-109	30860-503	30860-512
2	88.1	84	220	20860-210	20860-107	30860-501	30860-510
2	88.1	84	280	20860-211	20860-108	30860-502	30860-511
2	88.1	84	340	20860-212	20860-109	30860-503	30860-512
3	132.6	84	280	20860-219	20860-108	30860-502	30860-511
3	132.6	84	340	20860-220	20860-109	30860-503	30860-512
3	132.6	84	400	20860-221	20860-110	30860-504	30860-513
3	132.6	84	460	20860-222	20860-111	30860-505	30860-514
4	177.0	84	280	20860-228	20860-108	30860-502	30860-511
4	177.0	84	340	20860-229	20860-109	30860-503	30860-512
4	177.0	84	400	20860-230	20860-110	30860-504	30860-513
4	177.0	84	460	20860-231	20860-111	30860-505	30860-514
5	221.5	84	460	20860-240	20860-111	30860-505	30860-514

19" chassis – *multipacPRO* ServicePLUS

Individual components 19" chassis for non-standardised assemblies

Order Information

				Front handles  06002052 Al extrusion, anodised, incl. assembly kit	Threaded insert M3 for extruded side panel  06007051 St, 2 mm, zinc-plated, height 7 mm, length 431.3 mm, M3 hole threaded 1 HP = 5.08 mm	EMC gasketing kit  esa44237 to increase EMC shielding see page 6.103	Assembly kit for telescopic slides  06094004 Assembly kit and adaptor bracket for the cabinets VARISTAR, eurorack, minirack; for assembly of 19" chassis on telescopic slides, please order telescopic slides separately see page 6.104
Height U	Height mm	Width HP	Depth D mm	PU 2 pieces	1 piece	PU 1 kit	PU 1 kit
1	43.7	84	220	20860-256	30821-589	20860-130	20860-131
1	43.7	84	280				
1	43.7	84	340				
2	88.1	84	220	20860-257			
2	88.1	84	280				
2	88.1	84	340				
3	132.6	84	280	20860-258			
3	132.6	84	340				
3	132.6	84	400				
3	132.6	84	460				
4	177.0	84	280	20860-259			
4	177.0	84	340				
4	177.0	84	400				
4	177.0	84	460				
5	221.5	84	460	20860-260			

Note

- Further sizes available on request
- Al extrusion side panels up to 1000 mm length available on request
- Telescopic slides see page 6.104

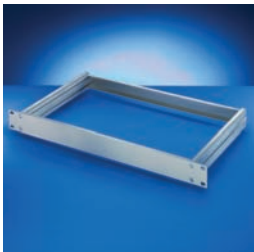
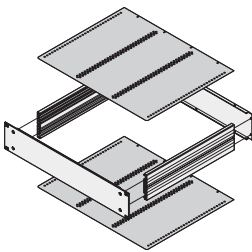
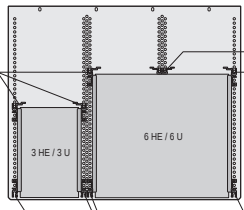
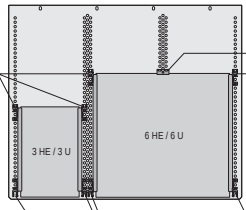
19" chassis – *multipacPRO* ServicePLUS

Individual components 19" chassis for standardised 19" assemblies

- Please select:
 - Height and depth of basic kit (1, 2 U)
 - Top cover/base plate for horizontal boards
 - Interior mounting for connector or backplane assembly
 - Front handles
 - EMC gasketing kit
 - Telescopic slides

- In accordance with standard 60297-3-100, -101, -105

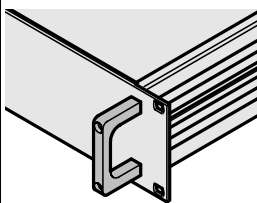
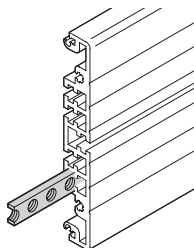
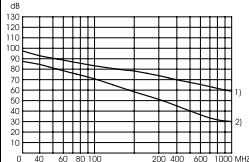
Order Information

				Basic kit	top cover/base plate	Mounting of euroboards for connector EN 60603	for insulated backplane assembly
							
				06002004	06008053	06003050	06003051
				1 x Al front panel, 3 mm; 2 x Al profile side panel; 1 x Al rear panel, incl. assembly kit	Al, 1 mm; with drill hole for horizontal assembly with euroboards	2 x front horizontal rails; 2 x rear horizontal rails Z sufficient for one 3 U board as well as one 6 U board (for 1 U: 6 HP for 2 U: 15 HP)	2 x front horizontal rails; 2 x rear horizontal rails for insulated backplane assembly, threaded inserts and insulation strips sufficient for one 3 U board as well as one 6 U board (for 1 U: 6 HP for 2 U: 15 HP)
Height U	Height mm	Width HP	Depth D mm	PU 1 kit	1 piece	PU 1 kit	PU 1 kit
1	43.7	84	220	20860-201	30860-519	20860-115	20860-116
1	43.7	84	280	20860-202	30860-520	20860-115	20860-116
1	43.7	84	340	20860-203	30860-521	20860-115	20860-116
2	88.1	84	220	20860-210	30860-519	20860-117	20860-118
2	88.1	84	280	20860-211	30860-520	20860-117	20860-118
2	88.1	84	340	20860-212	30860-521	20860-117	20860-118

19" chassis – *multipacPRO* ServicePLUS

Individual components 19" chassis for standardised 19" assemblies

Order Information

				Front handles  06002052 Al extrusion, anodised, incl. assembly kit	Threaded insert M3 for extruded side panel  06007051 St, 2 mm, zinc-plated, height 7 mm, length 431.3 mm, M3 hole clearance 1 HP = 5.08 mm	EMC gasketing kit  esa44237 to increase EMC shielding see page 6.103	Assembly kit for telescopic slides  06094004 Assembly kit and adaptor bracket for the cabinets VARISTAR, eurorack, minirack; for assembly of 19" chassis on telescopic slides, please order telescopic slides separately see page 6.104			
Height U	Height mm	Width HP	Depth D mm	PU 2 pieces	1 piece	PU 1 kit	PU 1 kit			
1	43.7	84	220	20860-256	30821-589	20860-130	20860-131			
1	43.7	84	280							
1	43.7	84	340							
2	88.1	84	220	20860-257						
2	88.1	84	280							
2	88.1	84	340							

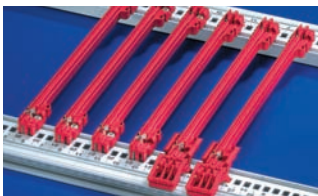
Note

- Further sizes available on request
- Al extrusion side panels up to 1000 mm length available on request
- Telescopic slides see page 6.104

19" chassis – *multipacPRO* ServicePLUS

Guide rails for boards without front panels, one-piece, groove width 2 mm

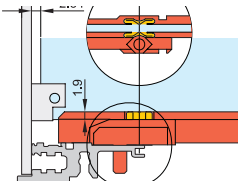
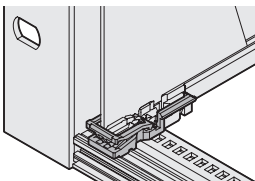
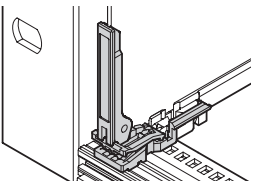
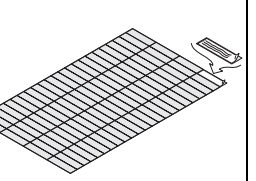
Order Information

Assembly - can be clipped into Al extruded horizontal rails - can be clipped into 1.5 mm thick plates storage temperature from -40 °C ... 130 °C			For PCBs without front panels "Accessories"  up to 220 mm length PBT, UL 94 V-0; from 280 mm length, multi-piece, end piece PBT, UL 94 V-0, middle section Al extrusion
Board lengths	Groove width	Colour	PU 10 pieces²⁾ 24560-373 24560-374 24560-375 24560-376
mm	mm	mm	
160	2	red	
220	2	red	
280	2	red	
340	2	red	
Retention screw, PU 100 pieces 			24560-141

2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

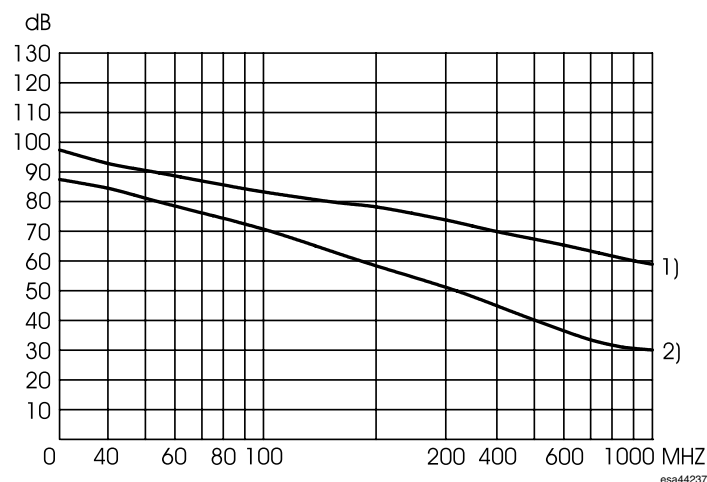
Guide rail accessories

Order Information

		ESD clip for guide rails  04503050 Spring steel, tin-plated, ensures conductive contact between circuit board and horizontal rail, on both the solder side and the component side. PU 50 pieces	Board retention for PCBs without front panel  04805050 PBT, UL 94 V-0, red, to fix the PCB in the subrack (also slot 1), can also be used without board handle, minimum distance 3 HP PU 10 pieces	Board handle for board locking  04805051 PBT, UL 94 V-0, red, insertion/extraction function with connection to board locking (also slot 1), mounting directly behind front panel (upper and lower), minimum distance 3 HP PU 10 pieces	Identification strips for board handle  06108076 Polyester film, 31 x 4 mm, self-adhesive, white/matt (1 A4 sheet contains 438 pieces) PU 10 pieces
Assembly	Colour				
mm	mm				
above/below	red	—	24560-377	24560-378	—
	silver	24560-255	—	—	60817-228
	white/matt	—	—	—	60817-228

19" chassis - *multipacPRO* ServicePLUS

EMC gasketing kit



- 1) with EMC gasketing material
2) without EMC gasketing material

- The EMC gasket kit and the cover plates increase the shielding of the chassis from approx. 30 dB(A) to approx. 60 dB(A)

Delivery comprises (kit)

Item	Qty	Description
1	1	Gasket 2100 mm; silicone/nickel, contacting side panel/top cover and base plate
2	2	Saw tooth gasket 400 mm; stainless steel; contacting front panel/top cover and base plate

Order Information

Description	Part no.
EMC gasketing kit	20860-130

Note

- EMC test report: please enter part number under www.schroff.biz/oneclick/



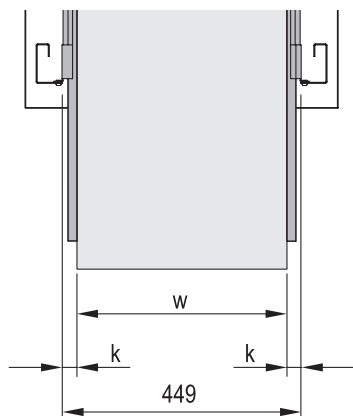
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

19" chassis - *multipacPRO* ServicePLUS

Universal 1 U telescopic slide



005050110050505



k = rail width, w = max. installation width

Dimensions table

Length L	Internal part								External part		
	A	B	C	D	E	F	G	X	O	P	Q
356	29.5	92.1	184.2	276.2	-	-	-	349.3	304.6	317.3	330.0
406	29.5	92.1	184.2	276.2	-	-	-	349.3	355.4	368.1	380.8
457	29.5	92.1	184.2	276.2	-	-	-	349.3	406.4	419.1	431.8
508	89.9	92.1	184.2	276.2	368.3	-	-	501.7	457.4	470.1	482.8
559	89.9	92.1	184.2	276.2	368.3	-	-	501.7	508.1	520.8	533.5
610	89.9	92.1	184.2	276.2	368.3	-	-	501.7	558.6	571.3	584.0
660	7.4	92.1	184.2	276.2	368.3	460.4	552.4	603.3	609.4	622.1	634.8
711	7.4	92.1	184.2	276.2	368.3	460.4	552.4	603.3	660.2	672.9	685.6

00505060

- Load-carrying capacity 23 - 39 kg per pair
- Lateral assembly on the 19" uprights (19" plane remains free for assembly of shelf/extraction drawer)
- Hinged
- Extension length > 100 %
- Rail width k = 9.7 mm,
max. installation width of shelf/extraction drawer w = 429 mm

Delivery comprises

Item	Qty	Description
1	2	Telescopic slide, St, zinc-plated

Order Information

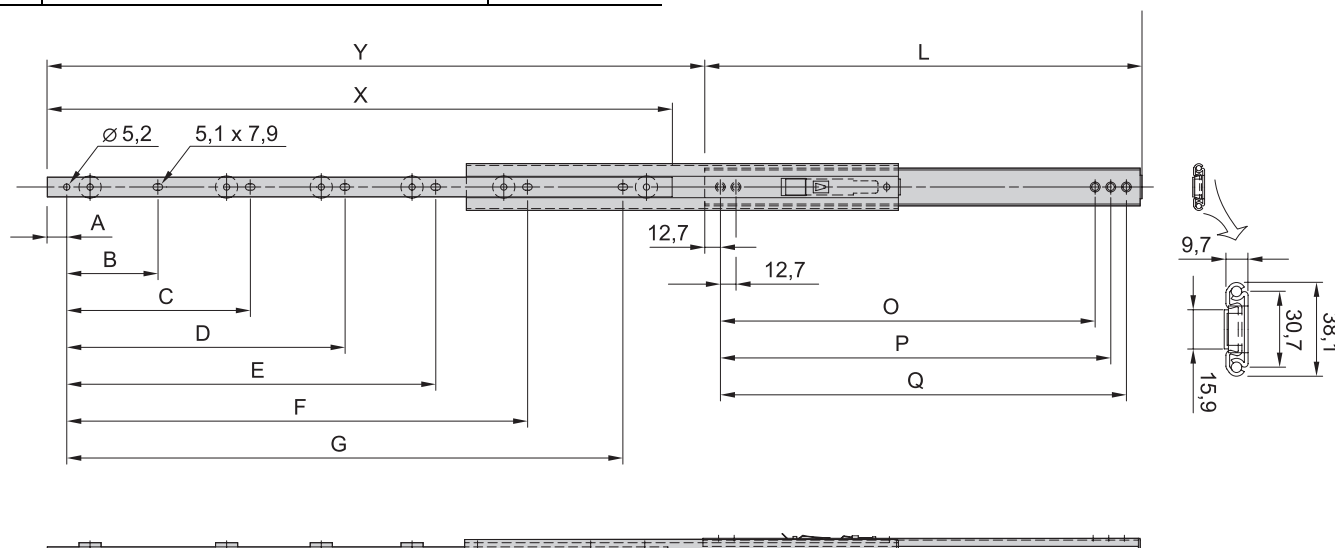
Length L	Extension length Y	Load-carrying capacity P	Part no.
mm	mm	kg	
356	381	39	20110-090
406	432	36	20110-091
457	483	34	20110-092
508	533	32	20110-093
559	584	29	20110-094
610	635	27	20110-095
660	686	23	20110-096
711	737	23	20110-097

Note

- For mounting into Schroff cabinets please order assembly kit separately, see page 6.101



For further information www.schroff.biz/oneclick
oneClick search code = Part no.



19" chassis - *multipacPRO* ServicePLUS

Universal 2 U telescopic slide



0050501000505054

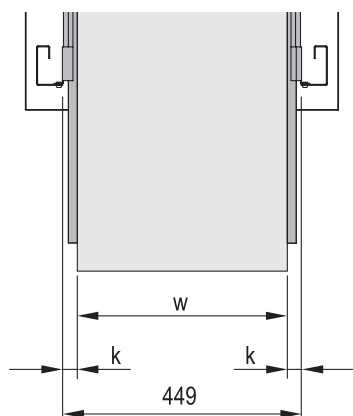
- Load-carrying capacity 46 - 61 kg per pair
- Lateral assembly on the 19" uprights (19" plane remains free for assembly of shelf/extraction drawer)
- Locks at full extension
- Extension length > 100 %
- Rail width k = 16 mm,
max. installation width of shelf/extraction drawer w = 417 mm

Delivery comprises

Item	Qty	Description
1	2	Telescopic slide, St, zinc-plated

Order Information

Length L	Extension length Y	Load-carrying capacity P	Part no.
mm	mm	kg	
305	330	61	20110-100
356	381	60	20110-101
406	432	58	20110-102
457	483	57	20110-103
508	533	55	20110-104
559	584	52	20110-105
610	635	50	20110-106
660	686	48	20110-107
711	737	46	20110-108



00505060

k = rail width, w = max. installation width

Dimensions table

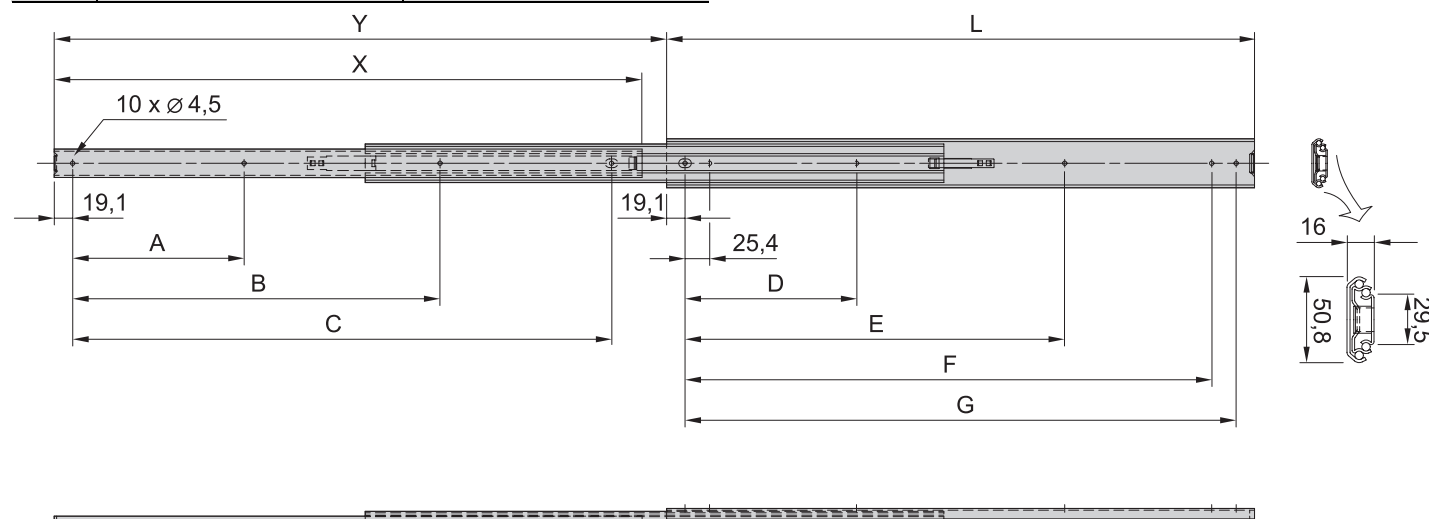
Length L	Internal part				External part			
	A	B	C	X	D	E	F	G
305	76.2	177.8	254.0	305.0	76.2	190.5	241.3	266.7
356	101.6	203.2	304.8	356.0	88.9	215.9	292.1	317.5
406	127.0	228.6	355.6	406.0	127.0	241.3	342.9	368.3
457	127.0	279.4	406.4	457.0	127.0	292.1	393.7	419.1
508	152.4	304.8	457.2	508.0	152.4	317.5	444.5	469.9
559	177.8	330.2	508.0	559.0	177.8	342.9	495.3	520.7
610	177.8	381.0	558.8	610.0	177.8	393.7	546.1	571.5
660	203.2	406.4	609.6	660.0	203.2	419.1	596.9	622.3
711	228.6	431.8	660.4	711.0	228.6	444.5	647.7	673.1

Note

- For mounting into Schroff cabinets please order assembly kit separately, see page 6.101



For further information www.schroff.biz/oneclick
oneClick search code = Part no.



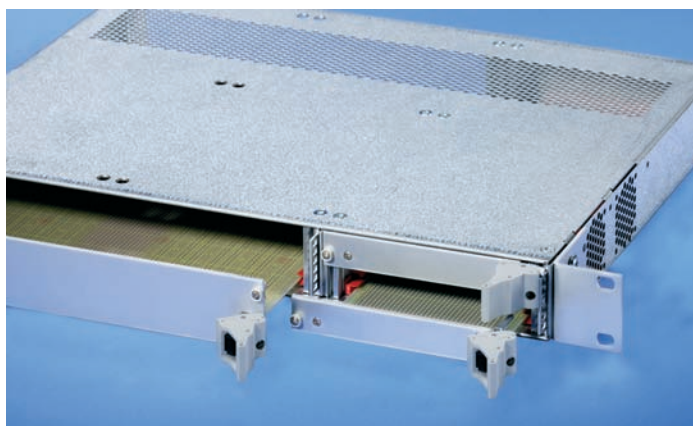
19" chassis – *multipacPRO* ServicePLUS

Application examples



Application: Different cut-outs

06002006



Application: Combined 3 U and 6 U assembly

06002007



Application: 2 U version with 2 x 3 U assembly

06002005



Application: 1 U multipacPRO (pizza box) complete in steel plate; 19" brackets can be removed if required

06108006



Application: 1 U multipacPRO complete in steel plate; Front panel in aluminium with cut-outs

06108007



Application: 1 U multipacPRO complete in steel plate; printed 19" front panel in aluminium with cut-outs

06101008

19" chassis – *multipacPRO* ServicePLUS

Overview 0

Cabinets 1

Wall mounted
cases 2

Accessories for
cabinets and wall
mounted cases 3

Climate control 4

Desk-top cases 5

**Subracks/
19" chassis 6**

Front panels,
plug-in units 7

Systems 8

Power supply
units 9

Backplanes 10

Connectors, front
panel component
system 11

Appendix 12

19" chassis - *inpac*



02192001



02192005

Robust 19" chassis, also for board assembly

Standards

- External dimensions in accordance with IEC 60297-3-101
- Protection class IP 20 as per IEC 60529
- Protective GND/earth connections according to:
 - DIN EN 50178 / VDE 0160
 - DIN EN 60950 / VDE 0805
 - DIN EN 61010-1 / VDE 0411 part 1
 - DIN EN 61010-1A2 / VDE 0411 part 1/A1



Downloads and further important information can be found
on the Internet under www.schroff.biz



19" chassis - *inpac*

Overview 6.108.

19" chassis with high mechanical stability

- Also usable as desk-top case
- Robust cases from aluminium die-cast frames to front and rear
- Flexible assembly for standardised board formats or individually, e.g. for mounting plates
- Cost benefit with mounting service and custom processing in ServicePLUS



02192002

19" chassis/desk-top enclosure

- 2 U, 3 U, 4 U and 6 U heights



02192003

inpac built into 19" cabinet



30407004

ServicePLUS from page 6.96

- e.g. individual configuration and assembly from 1 piece
- e.g. printing
- e.g. cut-outs in front or rear panels or cover plates
- e.g. modifications (special colours)
- e.g. customised solutions (special depths, electromagnetically shielded applications)

www.schroff.biz/serviceplus/

inpac

19" chassis 6.110

Accessories

Full-width front panels 6.111
 Full-width rear panels 6.111
 Support rails 6.112
 Horizontal rails . . 6.112
 Guide rails 6.113
 Front handles . . . 6.114
 GND/earthing kit . 6.114
 Dimensions 6.116

ServicePLUS . 6.96

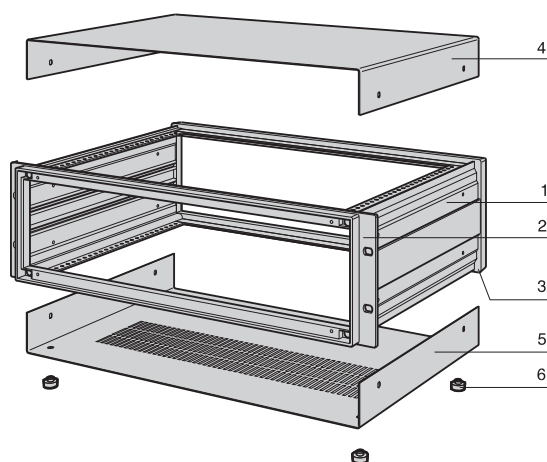


19" chassis - *inpac*

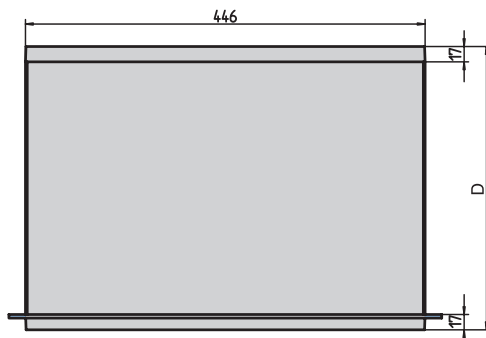
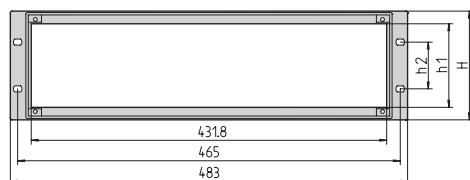
19" chassis



02192006



ipa30632



IPA30635

- For assembly with 19" components or individually with mounting plate
- Three rows ventilation slots in base for air inlet

Delivery comprises (Kit, Pos. 1, 2 and 3 assembled)

Item	Qty	Description
1	2	Side panel, Al extrusion, RAL 7030 at 6 U: 2 Al corner profiles 1 divider plate (steel plate)
2	1	Front frame, Al die-cast, RAL 7030, rear side with counterbores for drill holes to mount handles and front panels
3	1	Rear frame, Al die-cast, RAL 7030
4	1	Cover plate, St, 1 mm, RAL 7035, plastic-coated, with GND/earthing connection
5	1	Base plate, St, 1 mm, RAL 7035, plastic-coated, with GND/earthing connection
6	4	Case foot with anti-slip protection, PC, UL 94 V-0
7	1	Assembly kit

Order Information

Height H	Height H	h	h1	h2	Depth D	Part no.
U	mm	mm	mm	mm	mm	
2	88.0	86.0	57.5	76.2	254.5	10828-071
2	88.0	86.0	57.5	76.2	314.5	10828-072
2	88.0	86.0	57.5	76.2	374.5	10828-073
3	132.5	130.5	102.0	57.2	254.5	10828-051
3	132.5	130.5	102.0	57.2	314.5	10828-052
3	132.5	130.5	102.0	57.2	374.5	10828-053
3	132.5	130.5	102.0	57.2	434.5	10828-054
4	177.0	174.5	146.5	101.6	254.5	10828-056
4	177.0	174.5	146.5	101.6	314.5	10828-057
4	177.0	174.5	146.5	101.6	374.5	10828-058
4	177.0	174.5	146.5	101.6	434.5	10828-059
6	265.9	263.5	235.4	190.5	374.5	10828-068
6	265.9	263.5	235.4	190.5	434.5	10828-069

Note

- Extent of delivery includes screws for fixing rear panel and front panel



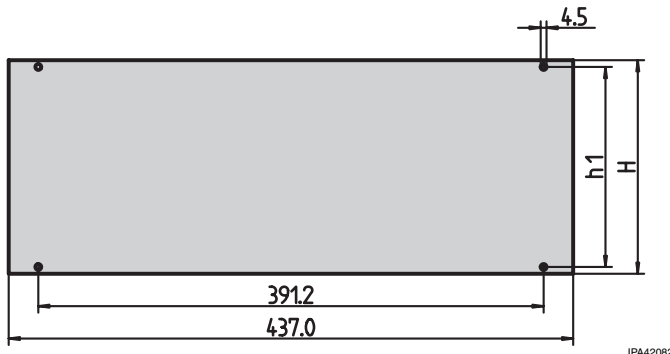
For further information www.schroff.biz/oneclick
oneClick search code = Part no.



ServicePLUS see page 6.96

19" chassis - *inpac*

Front panels



Delivery comprises

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, anodised, cut edges untreated

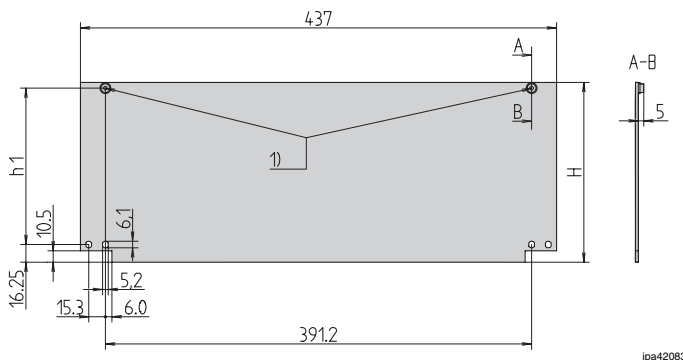
Order Information

Height U	Height H mm	h1 mm	Part no.
2	76.0	65.6	30828-055
3	120.5	110.0	30828-058
4	165.0	154.5	30828-061
6	253.8	243.4	30828-067

Note

- Delivery of the 19" chassis comprises assembly kit for the front panel

Front panels, bottom-hinged



1) Sleeve pressed-in

Delivery comprises

Item	Qty	Description
1	1	Full-width front panel, hinged, Al, 2.5 mm, anodised, cut edges plain; steel sleeve pressed-in

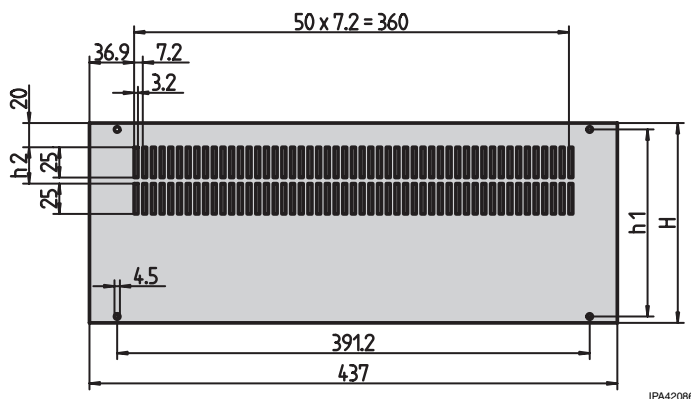
Order Information

Height U	Height H mm	h1 mm	Part no.
2	76.0	54.5	30828-085
3	120.5	99.0	30828-088
4	165.0	143.5	30828-091
6	253.8	232.3	30828-097
Hinge for front panel PPE, UL 94 V-0, 1 kit			20828-028

Note

- Please order hinge for front panel separately

Rear panels



Delivery comprises (kit)

Item	Qty	Description
1	1	Rear panel, including assembly kit, Al 2.5 mm, anodised, cut edges untreated

Order Information

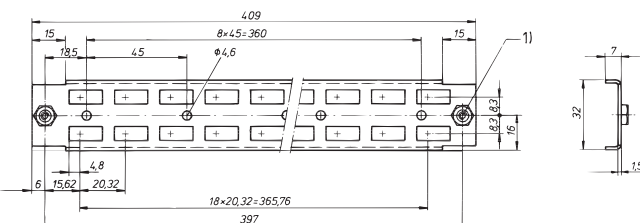
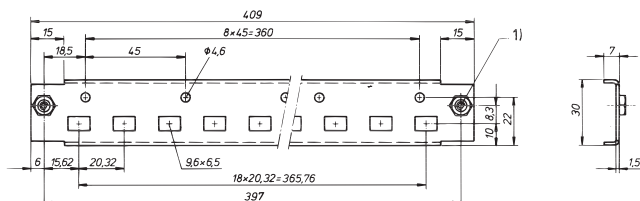
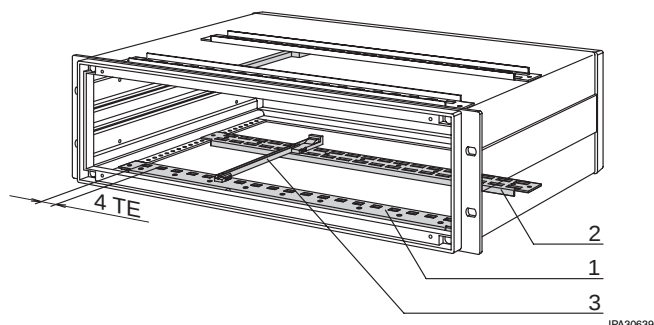
Height U	Height H mm	h1 mm	h2 mm	Part no.
2	76.0	65.6	—	30828-070
3	120.5	110.0	—	30828-073
4	165.0	154.5	—	30828-076
6	253.8	243.4	30	30828-082

Note

- Delivery of the 19" chassis comprises assembly kit for the front panel

19" chassis - *inpac*

Support rails



1) Press-in insert M4

- Guide rails for PCBs 100 × 160 mm or 100 × 220 mm can be fitted

Order Information

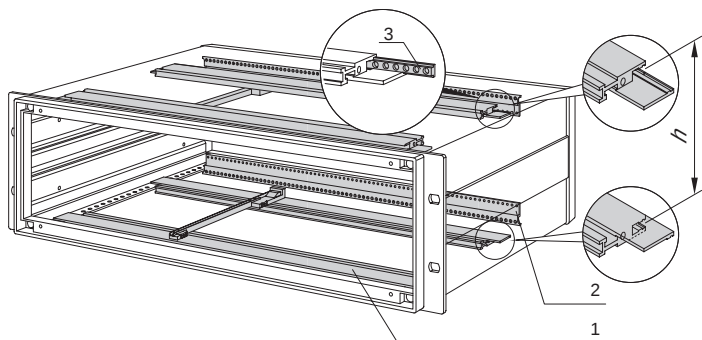
Item	Description	Part no.
1	Front support rail, St, 1.5 mm, blue-passivated, 1 piece	30828-165
2	Rear support rail, St, 1.5 mm, blue-passivated, 1 piece	30828-174
3	Guide rail 160 mm, PBT, UL 94 V-0, with integrated fixture for connector to EN 60603 (DIN 41612), PU 1 pair	60817-078
3	Guide rail 220 mm, PBT, UL 94 V-0, with integrated fixture for connector to EN 60603 (DIN 41612), PU 1 pair	60817-079
Screw For horizontal rail assembly, M4 × 8, flat head Pozidrive, PU 100 pieces		21100-677

■ More guide rails see page 6.113

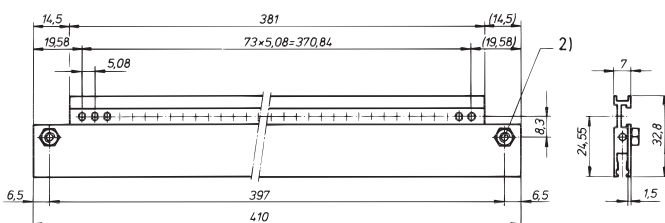


For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Horizontal rails



h	Bolt-on dimensions of backplane
U	mm
2	75.40
3	119.80
4	164.30
6	252.90



2) Press-in insert M4

- For assembly with PCB

- Usable width 75 HP

Delivery comprises (components)

Item	Qty	Description
1	1	Horizontal rail, Al extrusion, anodised
2	1	Z-rail, Al extrusion, anodised
3	1	Threaded insert, St, zinc-plated (blue)

Order Information

Item	Description	Qty/PU	Part no.
1	Horizontal rail 75 HP	1	30828-128
2	Z-rail 75 HP, for DIN 41 612	1	30814-513
3	Threaded insert 75 HP	1	30819-604

Screw For horizontal rail assembly, M4 x 8, flat head Pozidrive, PU 100 pieces	21100-677
---	------------------

Cheesehead screw with slot M2.5 × 6, DIN 84,
PU 100 pieces **21100-146**

Guide rail 160 mm PBT, UL 94 V-0, with integrated fixture for connector to EN 60603 (DIN 41612). PU 1 pair **60817-078**

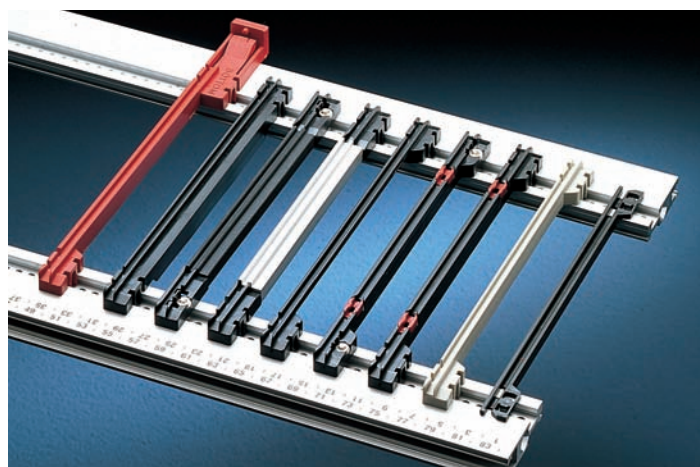
Guide rail 220 mm PBT, UL 94 V-0, with integrated
fixture for connector to EN 60603 (DIN 41612), PU 1 pair **60817-079**

Note

- Threaded insert may not be used to front

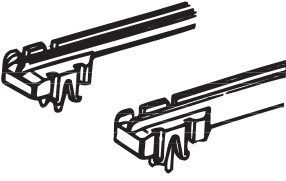
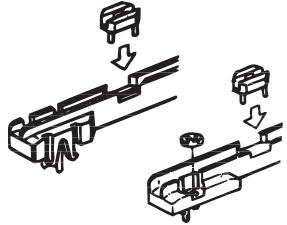
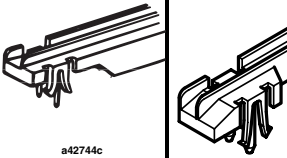
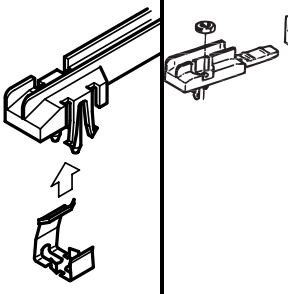
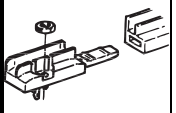
19" chassis - *inpac* Accessories

Guide rails



04292012

Order Information

Board lengths mm mm	Groove width mm mm	 A42744 Light version, snap-in		 A42744 Version with board securing, snap-in		 A42744 Version for heavy load carrying capacity, snap-in		 A42744 Version with ESD clip		 A42744 Universal version with AI middle section, bolt-on	
		Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.
		1 piece (SPQ 50) ¹⁾	1 piece (SPQ 50) ¹⁾	1 piece (SPQ 50) ¹⁾	1 piece (SPQ 50) ¹⁾	1 piece (SPQ 50) ¹⁾	Qty/PU 1 piece	Qty/PU 1 piece	Qty/PU 1 piece	Qty/PU 1 piece	Qty/PU 1 piece
100	2	-	60817-015	-	-	-	-	-	-	-	-
160	2	60817-064	60817-103	60817-001	60817-053	60817-102	20817-368	-	-	-	-
160	2.5	-	60817-076	-	-	-	-	-	-	-	-
180	2	-	-	60817-026	-	-	-	-	-	-	-
220	2	-	60817-149	60817-016	60817-083	60817-085	20817-369	-	-	-	-
220	2.5	-	-	-	-	60817-098	-	-	-	-	-
280	2	-	-	-	-	60817-080	-	-	-	-	-
340	2	-	-	-	-	-	-	-	-	20825-120	-
400	2	-	-	-	-	-	-	-	-	20825-121	-
1) SPQ (Standard Pack Quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple thereof											

Note

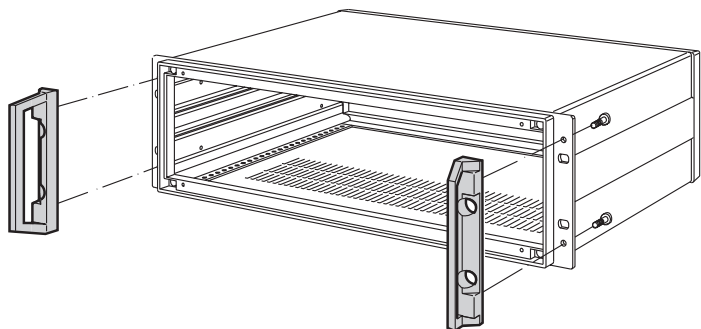
- For a detailed description of the guide rails see our website; if using oneClick, enter part number



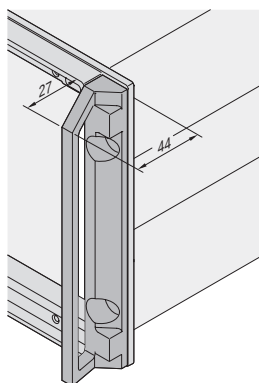
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

19" chassis – *inpac*

Front handles



IPA30636



02108050

- Load-carrying capacity 35 kg per pair

Delivery comprises (kit)

Item	Qty	Description
1	2	Front handle, Al die-cast, powder-coated, RAL 7030 , incl. assembly kit

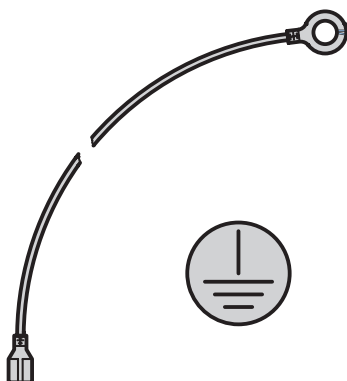
Order Information

Height	Part no.
U	
3	20828-127
4	20828-128
6	20828-129



For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Earthing kit



a2a43284

- The earthing kit ensures VDE compliant earthing of the cases in accordance with
 - DIN EN 50178/VDE 0160
 - DIN EN 60950/VDE 0805
 - DIN EN 61010-1/VDE 0411 part 1
 - DIN EN 61010-1A2/VDE 0411 part 1/A

- VDE inspection carried out

Order Information

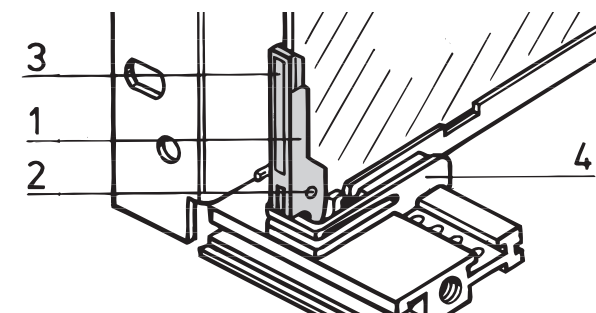
Description	Qty/PU	Part no.
GND/earthing kit, Cu wire, 1.5 mm ² , PVC sheathing, green/yellow, connects side panels, top and base plate and rear panel	1	21100-814



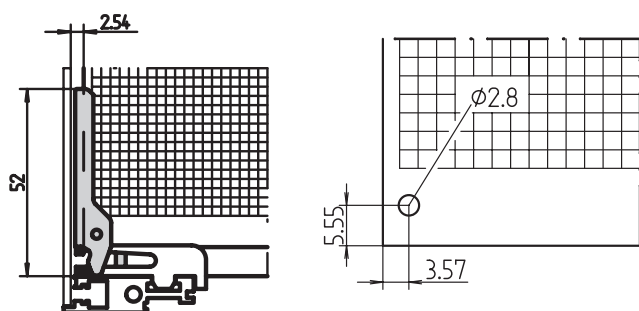
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

19" chassis - *inpac*

PCB handle A



B4-2728



BZA42727 BZA42724

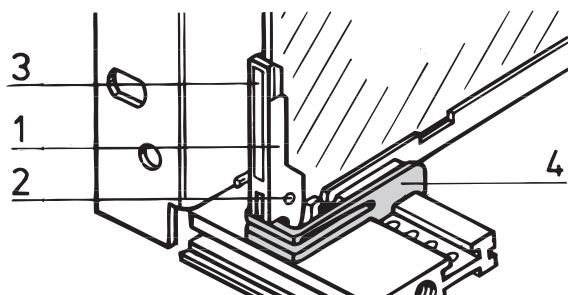
- To be mounted behind front panel, for PCB thickness 1.6 mm
- Insertion and extraction function
- Can be labelled

Order Information

Item	Description	Material	Colour	Qty/PU	Part no.
1	PCB handle A	PBT, UL 94 V-0	red	1 piece (SPQ 10)	60817-096
2	Pivot pin	Stainless steel	–	100	21100-671
3	Identification strip	Polyester film, self-adhesive	mat-silver	100	21100-672

SPQ (Standard Pack Quantity): Order number includes 1 piece, but delivery is exclusively made in Standard Pack Quantity: Therefore please order at least 10 pieces PCB handles or a multiple thereof

PCB retainer A



C4-2728

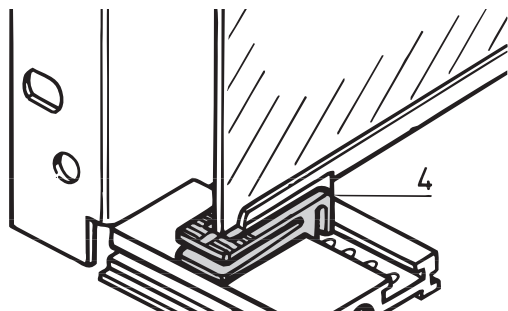
- Can be used on upper and lower horizontal rail, groove width 2 mm
- Minimum distance of guide rail 3 HP
- Can also be used without PCB handle

Order Information

Item	Description	Material	Colour	Qty	Part no.
4	PCB retainer A for top and bottom	PPE, UL 94 V-0	red	1 piece (SPQ 10)	60817-097

1) Order number includes 1 piece, but delivery is exclusively made in Standard Pack Quantity: Therefore please order at least 10 pieces PCB retainers or a multiple thereof

PCB retainer B



BZA46428

- Can be used on upper and lower horizontal rail, for PCB thickness 1.6 mm
- Can also be used without PCB handle
- Can also be used with guide blocks

Order Information

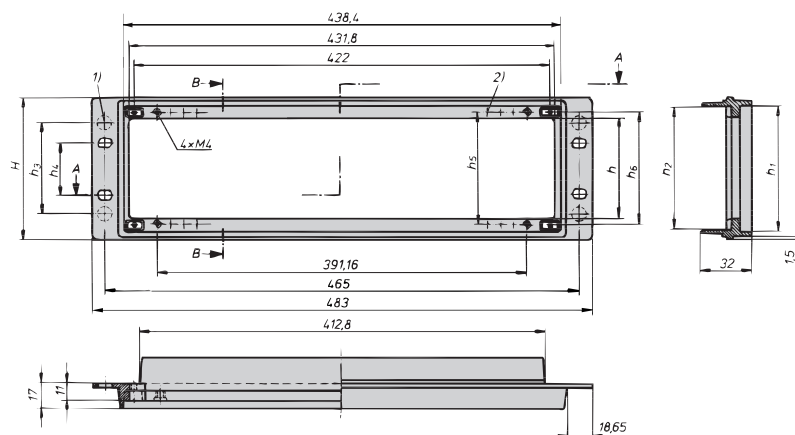
Item	Description	Material	Colour	Qty	Part no.
4	PCB retainer, bottom	PPE, UL 94 V-0	red	1 piece (SPQ 10)	60817-054
4a	PCB retainer, top	PPE, UL 94 V-0	black	1 piece (SPQ 10)	60817-071

SPQ (standard pack quantity): Order number includes 1 piece, but delivery is exclusively made in standard pack quantity: Therefore please order at least 10 pieces PCB retainers or a multiple thereof

19" chassis - *inpac*

Dimensions

19" front frame



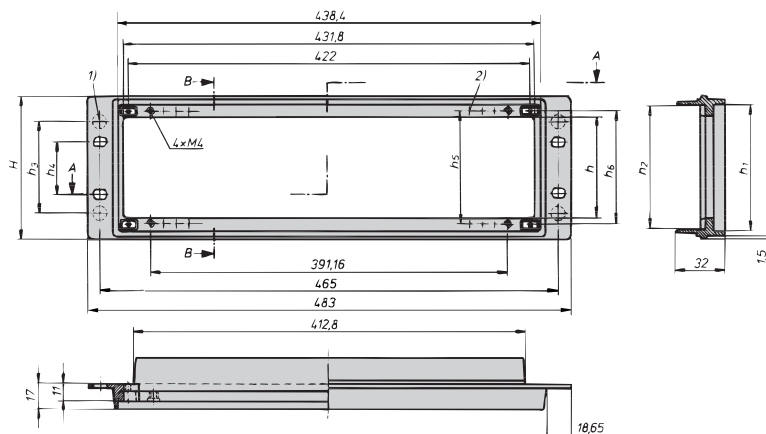
A3-306

Section A-A

There are counterbores on the rear side of the front frame which can be drilled if required:

- 1) For handle assembly
- 2) For front panel assembly (grid 5.08 mm)

19" rear frame



A3-305

Section A-A

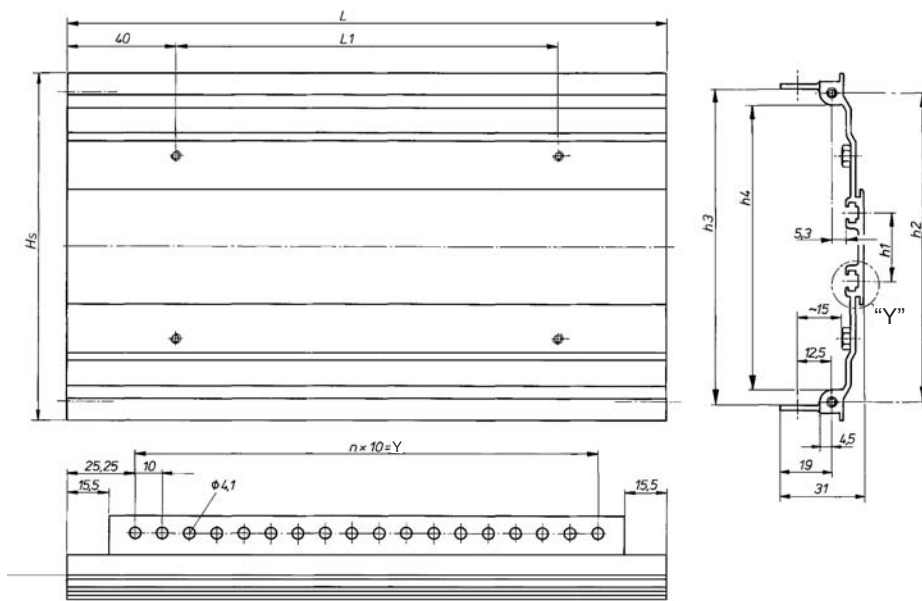
Dimensions table

Height in U	H	H _R	h	h ₁	h ₂	h ₃	h ₄	h ₅	h ₆	h ₇
2	88.0	86.0	57.5	77.3	69.8	25.0	76.2	65.5	68.0	68.4
3	132.5	130.5	102.5	121.8	114.3	90.0	57.1	110.0	112.5	112.8
4	177.0	175.0	146.5	166.3	158.8	134.5	101.6	154.5	157.0	157.3
6	265.9	263.9	235.4	255.2	247.7	233.4	190.4	243.4	245.9	245.9

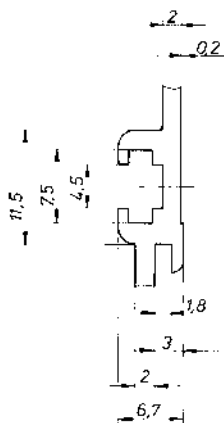
19" chassis - *inpac*

Dimensions

Side panel



Detail "Y"



A3-304a

A3-304b

Dimensions table

Height in U	H	h ₁	h ₂	h ₃	h ₄	L	L ₁	(n)	Y	t
2	82.6	–	68.0	71.4	59.0	220.5	140.5	17.0	170	254.5
2	82.6	–	68.0	71.4	59.0	280.5	200.5	23.0	230	314.5
2	82.6	–	68.0	71.4	59.0	340.5	260.5	29.0	290	374.5
3	127.0	24.0	112.5	115.8	103.5	220.5	140.5	17.0	170	254.5
3	127.0	24.0	112.5	115.8	103.5	280.5	200.5	23.0	230	314.5
3	127.0	24.0	112.5	115.8	103.5	340.5	260.5	29.0	290	374.5
4	171.0	68.5	157.0	160.3	148.0	220.5	140.5	17.0	170	254.5
4	171.0	68.5	157.0	160.3	148.0	280.5	200.5	23.0	230	314.5
4	171.0	68.5	157.0	160.3	148.0	340.5	260.5	29.0	290	374.5
6	260.4	157.1	245.9	248.9	236.5	220.5	140.5	17.0	170	254.5
6	260.4	157.1	245.9	248.9	236.5	280.5	200.5	23.0	230	314.5
6	260.4	157.1	245.9	248.9	236.5	340.5	260.5	29.0	290	374.5

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Clear order information in the catalogue.

Detailed product descriptions on the Internet.

