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Power supply units 9

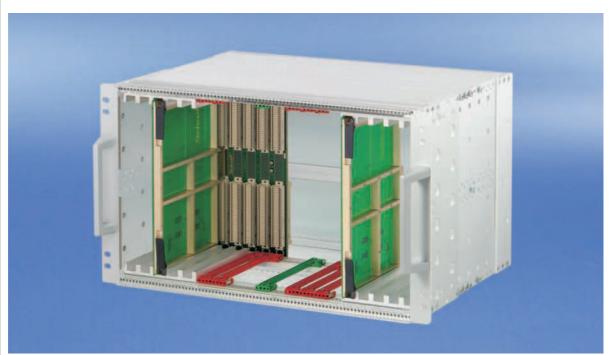
Backplanes .. 10

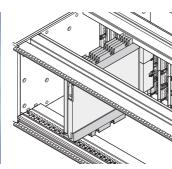
Connectors, front panel component system 11

Appendix 12

- Other finishes e.g. yellow chromated on request
- Subrack with telescopic slides can be adapted for cabinet mounting on request

Subracks - *europac PRO* rugged





Special adaptor rails allow conducted cooled assemblies to be fitted

06112052



Shock and vibration resistant in all three axial directions

Standards/Approvals

"heavy" horizontal rail)

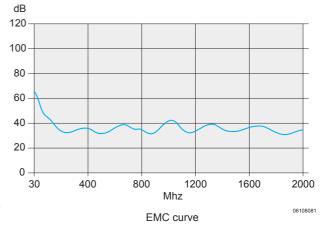
"rugged" horizontal rail with 3 hole

fixing for increased stability (+60 %

compared to 2 hole fixing of

- Internal and external dimensions in accordance IEC 60297-3-100, -101, -102, -103, -104, -105, IEEE 1101.1, 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; MIL 167, IEC 61587 DL 3, MIL 810 G, MIL 901

Note





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

Subracks - europac PRO rugged

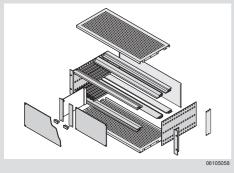
19" subracks

- Shock and vibration resistant up to 25 g
- Kits or individually configured subracks
- A product and accessory platform for the most different customers' requirements and applications
- Suitable for CompactPCI and VMEbus insertion and extractor handles
- **■** EMC shielding can easily be retrofitted
- 3D PDF or CAD 3D data available for download



Kits

- All required parts are available under one part number, even partly assembled
- Most popular versions and dimensions available from stock
- For installed loads over 15 kg up to 60 kg
- Supplied as a space-saving flat pack



ServicePLUS individual configuration

- Single parts may individually be configured, respectively assembled on request (from quantity 1)
- Wide range of variants in heigth, width and depth
- Guide rails for different applications
- EMC shielding material to improve EMC performance
- Other accessories and assembly kits



30407004

ServicePLUS from page 6.95

- e.g. modification (cut-outs)
- e.g. downloads (CAD drawings, user manuals, test reports)
- e.g. custom solutions (special depths, electromagnetically shielded applications)

www.schroff.biz/ServicePLUS

Kits 6.94

Overview 6.92

Introduction . . . 6.4

Individual configuration . . 6.97

ServicePLUS ... 6.95
Application
examples 6.69

europacPRO . . . 6.6

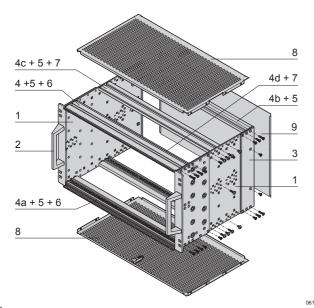
Subracks for mobile railway applications . . . 6.70

europacPRO for industrial applications . . . 6.86

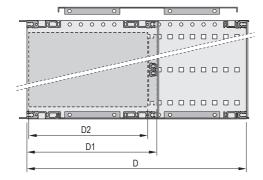
Subracks - *europac PRO* rugged



Illustration shows 3 U subrack



6 U



D = overall depth, D1 = insertion depth, D2 = board depth = D1 - 15 mm



Rear horizontal rail for backplane mounting with insulation strip

Kit, rugged, shielded, for backplane mounting

- Subrack with robust side panel and horizontal rail, type R "rugged"
- Rear horizontal rail for backplane mounting with insulation strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz (as per VG 95373, part 15 and IEC 61587, part 3), on condition that the front is closed with sealed front panels
- Shock and vibration resistant to 25 g



Part no.

Delivery comprises (Kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type R, Al, 3 mm, clear passivated, with 19" support bracket 3.5 mm (tox-cold welded); for EMC gasketing (textile)
2	2	2	Front handle incl. fixing material kit
3	2	2	Rear corner profile for EMC gasketing (textile)
4	1	-	Front horizontal rail (R-KD)
4a	1	2	Front horizontal rail (R-LD)
4b	2	2	Rear horizontal rail (H-KD)
4c	2	2	Rear horizontal rail, centre (R-ST)
4d	-	1	Rear horizontal rail, centre (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, rugged, with top cover locking
9	1	1	EMC rear panel
10	1	1	EMC gasketing material, fixing material kit, user manual

Order Information

Width

Height

			- 1	
U	HP	mm	mm	
3	84	295	175	24567-149
6	84	295	175	24567-449
Accessori	es			
	•	es, 160 mm de bove width 2 mr	ep m, PU 10 pieces	24560-351
	ead screw 2.5 eces; torque r	× 9.3, zinc-plat nax. 0.2 Nm	ted,	24560-141
ESD clip fo	or guide rails	s PU 50 pieces		24560-255
Guide rail Al extrusion 1 piece (SF	g 34562-881			
•	nead screw :; torque max		ake coating, bla	ck, 24560-157
Adaptor to	accomodat	e conduction of	ooled assemb	lies

Depth D

Depth D1

Adaptor to accomodate conduction cooled assemblies (CCA) for VPX applications, 160 mm deep, PU 1 pair; includes fixing material kit

Adaptor to accomodate conduction cooled assemblies (CCA) for CompactPCI applications, 160 mm deep, 24566-005 PU 1 pair; includes fixing material kit

- Test reports online
- For further accessories see from page 6.17



configuration

Components can be varied and combined freely

Simple. Fast. To the ideal product.

- Configuration tables from page 6.96
- Online configuration: <u>www.schroff.co.uk/configuration</u>



assembly

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

Assembled by professionals. Double benefit!

- Professional and reliable from quantity 1
- Ready for despatch within 5 working days



modification

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

Small changes. Large impact.

- Custom modifications from quantity 1
- Ready for despatch within 10 working days



solution

Integration and custom developments

Simple. Fast. From one source.

- Special sizes (depth and width)
- Individual heat dissipation concepts
- Ready for dispatch within 10 working days



express

Delivery time to customer's request

When fast has to be faster.

■ Express logistics



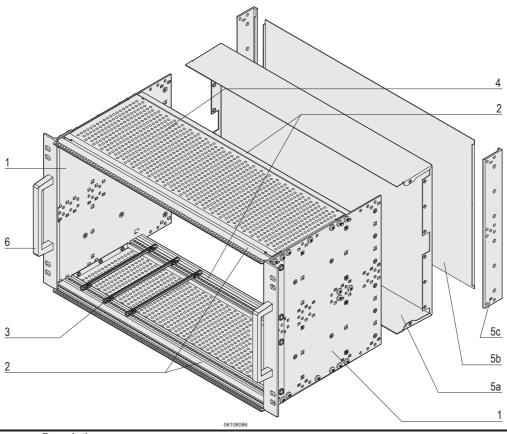
academy

Knowledge transfer and partnership

Knowledge. Sharing. Partnerships.

■ Seminars, CAD drawings, test reports, user reports

Overview of individual components for shielded or unshielded subracks



Item	Description	Description	page
Item 1	Side panels	Establish the height and depth of the subrack; Al, 3 mm, with universal hole positions for mounting of accessories	6.97
Item 2	Horizontal rails	Establish 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: rugged loading up to 15 kg	6.98
Item 3	Guide rails	Guide rails act as interface between subracks and boards, for different board formats, are available in plastic or metal, optionally codable and optionally can be fitted with ESD clip to allow electrostatic discharge	6.105
Item 4	Cover plates	Provide mechanical protection and/or EMC shielding and are perforated	6.108
Item 5	Rear/front	Rear hood (5a) or front panel (5b) with corner profile (5c) as support for EMC shielding gaskets used in conjunction with shielded front panels; Note: rear hood and corner profile cannot be fitted simultaneously	6.47
Item 6	Handles	Handles can be mounted on the 19" brackets	6.97
-	EMC shielding (without illustration)	Extensive component range for specific shielding of subrack according to your application	6.110
_	Internal mounting (without illustration)	Universal assemblies, e.g. for horizontal and vertical mounting and for mounting plates	6.109 6.58

Side panel type R, EMC sealing, corner profile, front handle

Order Information

		Side panel type R for textile gasket	EMC textile gasket	Corner profile, rugged	Front handle
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	04602054	1	06112057
	06112054 06112056	Side panel, Al 3 mm, tox-cold welded with 19" Al bracket, 3.5 mm with handle hole, clear passivated, front anodised; please order front handles separately	Textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 70 °C	Al extrusion, 3 mm, finish clear passivated; with lateral grooves for EMC stainless steel gasket; rear hood cannot be used simultaneously	Die-cast Al profile, powder-coated, RAL 9006; load-carrying capacity 30 kg, fixing material kit
Height U	Depth mm	PU 1 pair	PU 10 pieces	PU 1 pair	PU 1 kit
3	175	24568-145	1011		1 2 1110
3	235	24568-147			
3	275	24568-143			
3	277.75	24568-144	21101-853	24566-199	24566-010
3	295	24568-149			
3	355	24568-151			
6	175	24568-445			
6	235	24568-447			
6	275	24568-443	24404 955	24500 400	24566.040
6	277.75	24568-444	21101-855	24566-499	24566-010
6	295	24568-449			
6	355	24568-451			
Elvina re-	torial kits see nage f	100			

Fixing material kits see page 6.103

Side panel, type R

- For high mechanical demands up to 25 g (vibration resistance, shock and vibration requirements to e.g. IEC 61587-DL 3)
- 19" bracket is fixed firmly to side panel (tox-cold welded)
- Height 3 U and 6 U
- Depths 175, 235, 275, 277.75, 295 and 355 mm
- EMC shielding concept for front/rear with EMC textile gasket
- Other dimensions on request



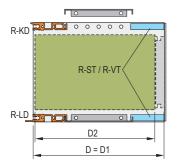
For further information <u>www.schroff.biz/oneclick</u> oneClick search code = Part no.

Mounting position of horizontal rail/central rails

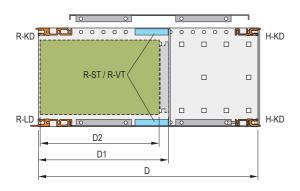
06112061

06112063

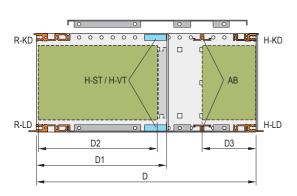
3 U (board depth 160, 220, 280 mm)



3 U (board depth 160, 220, 280 mm)



3 U (for CompactPCI/VME64x applications)

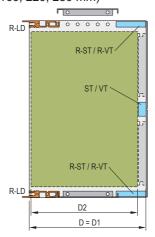


Horizontal rails R-ST

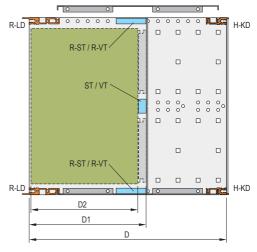


R-VT

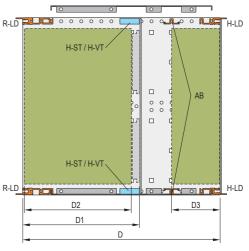
6 U (board depth 160, 220, 280 mm)



6 U (board depth 160, 220, 280 mm)



6 U (for CompactPCI/VME64x applications)



H-ST

06112065



H-VT

Ref.

06112066

06112062

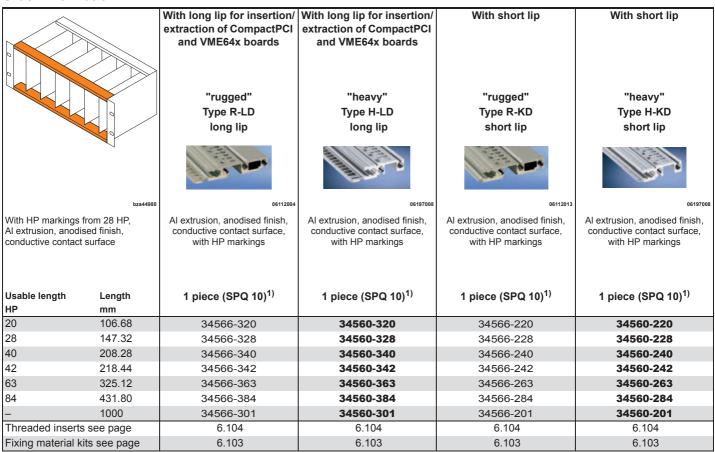
06112064

06112072

06112073

Front horizontal rails

Order Information

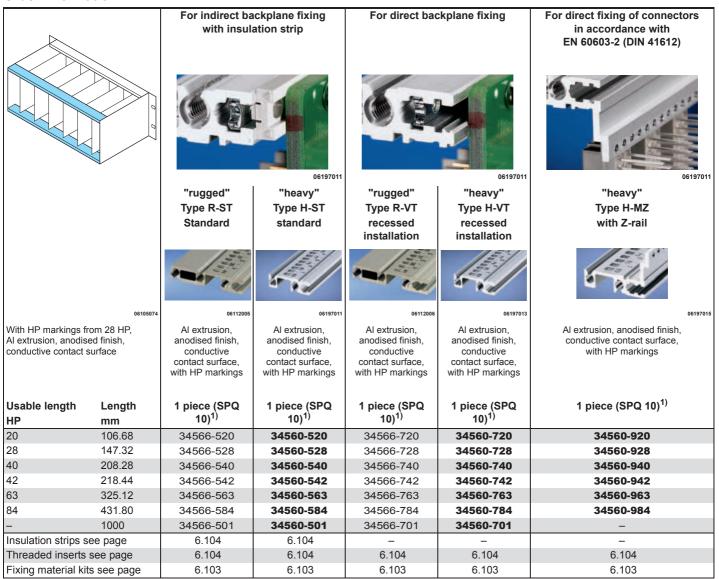


¹⁾ SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple "heavy" load > 7.5 kg; "rugged" load > 15 kg;

- 1000 mm version without M4 thread to front, without printing and without notch for 19"-bracket
- EMC gasket see page 6.54
- For further horizontal rails see page 6.27

Rear horizontal rails

Order Information



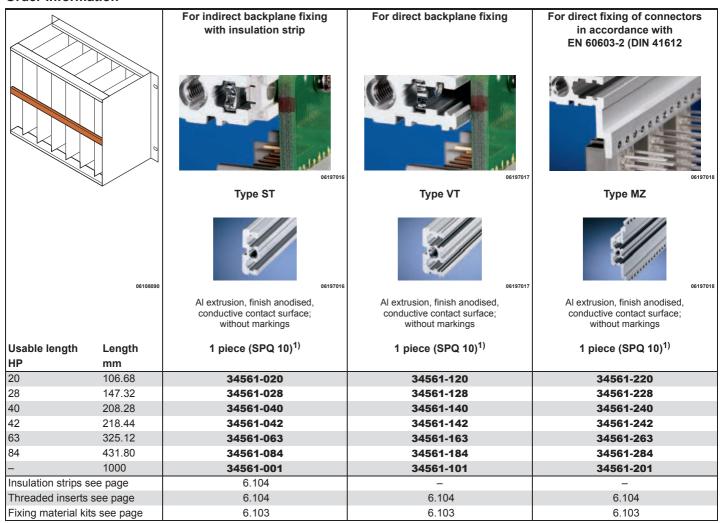
¹⁾ SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ);

- 1000 mm version without M4 thread to front, without printing and without notch for 19"-bracket
- EMC gasket see page 6.54
- For further horizontal rails see page 6.27

please order at least the SPQ quantity or a multiple "heavy" load > 7.5 kg; "rugged" load > 15 kg;

Rear horizontal rails, centre, for 6 U

Order Information



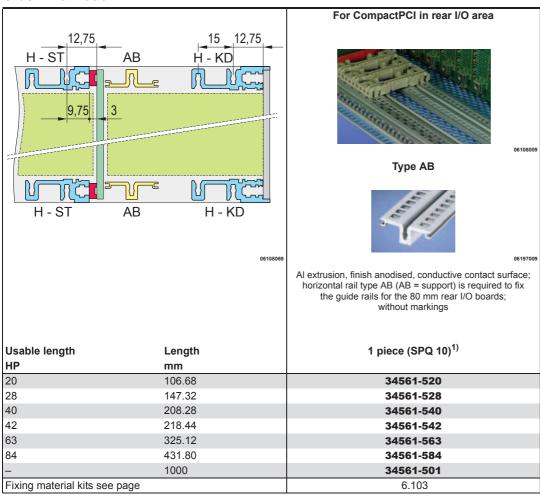
¹⁾ SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

- All horizontal rails without printed markings
- 1000 mm version without M4 thread to front

[&]quot;heavy" load > 7.5 kg; "rugged" load > 15 kg;

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

Order Information



¹⁾ SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple "heavy" load > 7.5 kg; "rugged" load > 15 kg;

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

	Screws	overview			
	Description	Material	Dimension	Qty/PU	Part no.
06712051	Countersunk screw, with thread locking compound Application: Rugged side panel to horizontal rail; for area of tox-cold welded brackets and corner profiles except when guide rail is fitted to slot 1	Stainless steel	M4 x 18	100	24566-100
06712051	Countersunk screw, with thread locking compound Application: Rugged side panel to horizontal rail; for area of tox-cold welded brackets and corner profiles <u>if</u> guide rail is fitted to slot 1	Stainless steel	M4 x 14	100	24566-101
aza45940	Panhead screw, with thread locking compound Application: Rugged side panel to horizontal rail; not for area of tox-cold welded brackets and corner profiles except when guide rail is fitted to slot 1	Stainless steel	M4 x 14	100	24566-102
06712053	Panhead screw, with thread locking compound Application: Rugged side panel to horizontal rail; not for area of tox-cold welded brackets and corner profiles if guide rail is fitted to slot 1	Stainless steel	M4 x 10	100	24566-103
06712053	Panhead screw, with thread locking compound Application: Rugged side panel to cover plate, not for area of tox-cold welded brackets and corner profiles	Stainless steel	M4 x 8	100	24566-104
06708053	Torx countersunk screw , with thread locking compound Application: Rugged side panel to cover plate, for area of tox-cold welded brackets and corner profiles	Stainless steel	M4 x 10	100	24566-106
06708053	Torx countersunk screw, with thread locking compound Application: Rugged side panel to corner profile; in EMC-shielded subracks and to increase robustness	Stainless steel	M4 x 7	100	24566-105
A784507	Square nut Application: Rugged side panel to corner profile; in EMC-shielded subracks and to increase robustness	Zinc-plated steel	M4	100	24560-140

Note

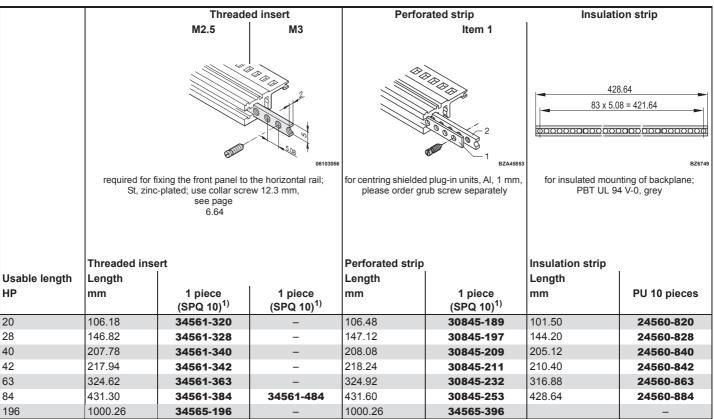
■ Stainless steel screws; with organic surface layer (silver)



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

Threaded inserts, perforated strips, insulation strips

Order Information



Accessories

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

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

Adaptor to accommodate conduction cooled assemblies (CCA)

Order Information

Adaptor to accomodate conduction cooled assemblies (CCA) in subracks

Al die-cast, silver, can be screw-fixed, 0.8" pitch; suitable for heavy and rugged horizontal rails, incl. fixing material kit

Board length

VPX

CompactPCI

mm

PU 1 pair

PU 1 pair

160

24566-005

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

Order Information

Assembly
Plastic guide rail
- 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 plug-in units and frame type plug-in units "Standard"



06102001

Board length	Groove width	Colour	up to 220 mm length, PBT, UL 94 V-0; from 280 mm length, multi-piece, end piece PBT, UL 94 V-0, central section Al extrusion	PBT, UL 94 V-0
mm	mm	mm	PU 10 pieces ²⁾	1 piece (SPQ 50) ¹⁾
70	2	red	-	34579-230
70	2	grey	_	34579-231
160	2	red	24560-351	64560-001
220	2	red	24560-353	64560-002
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; Torque max. 0.2 Nm	24560-141	24560-141
ESD clip, PU 50 pieces	24560-255	24560-255

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

Description of accessories see from page 6.107

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

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

Guide rails for heavy assemblies, CompactPCI, VME64x

Order Information

Assembly			For heavy modules,	For CompactPCI, VME64x with coding			
Plastic guide rails - can be clipped into Al extruded horizontal rails - can be clipped into 1.5 mm thick plates			Al extrusion, silver, robust version	In accordance with IEEE 1101.10 and IEC 60297-3-103	Offset 0.1" for power supply units in accordance with IEEE 1101.10 and IEC 60297-3-103		
Storage ter from -40 °C							
			06102005	06106001	06106002		
			Al extrusion; is screwed to horizontal rail "heavy" or "rugged" with retention screws	One-piece for groove width 2 mm, PBT, UL 94 V-0; multi-piece for groove width 2.5 mm, end piece PBT, UL 94 V-0, middle section Al extrusion	PBT, UL 94 V-0, for installation of power supplies in CompactPCI systems or plug-in units with SMD placement		
Board length	Groove width	Colour	1 piece (SPQ 10) ¹⁾	PU 10 pieces ²⁾	PU 10 pieces ²⁾		
mm	mm	mm					
70	2	red	-	24560-355	-		
70	2	grey	_	24560-360	-		
160	2	red	-	24560-356	-		
160	2	grey	34562-881	24560-358	-		
160	2	green	-	-	24560-359		
220	2	grey	34562-882	-	-		
220	2	green	34562-883	-	-		
160	2.5	red	34562-884	_	_		
220	2.5	red	34562-885	24561-330	-		
220	2.5	grey	34564-881	24561-340	-		
280	2.5	red	34564-882	24561-331	-		
280	2.5	grey	34564-883	24561-341	_		

Accessories

ESD clips, PU 50 pieces	-	24560-255	-
ESD clips, for alignment pin, PU 50 pieces	_	24560-256	24560-256
Retention screw, PU 100 pcs.; torque max. 0.2 Nm	24560-157	24560-141	24560-141
Coding peg, PU 100 pieces	_	20817-501	20817-501

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

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

Description of accessories see from page 6.107

Guide rail accessories

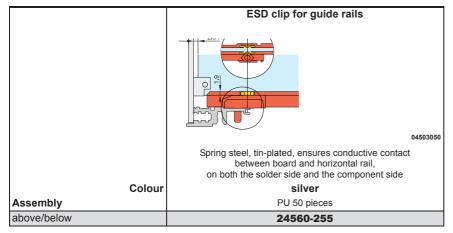
Order Information

	ESD clips, CompactPCI/VME 64 alignment pin	Coding for plug-in components
	for guide rails	Keying/coding for CompactPCI, VME64x handles to IEEE 1011.10 and IEC 60297-3-103
	06103052	04612052
	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; provides conductive contact between the guide pin of the inserter/ extractor handle (IEL or IET handle) and the horizontal rail	
Assembly	PU 50 pieces ²⁾	PU 100 pieces ²⁾
At the top/ at the bottom	24560-256	20817-501

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

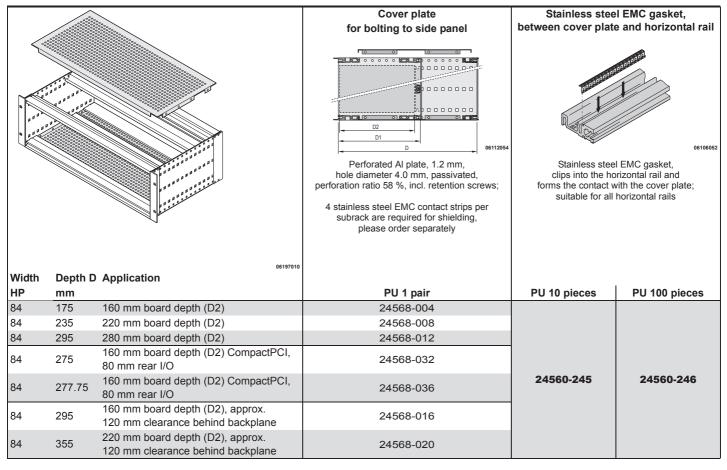
Guide rail accessories

Order Information



Cover plates for bolting to rugged side panel

Order Information



Accessories

710000001100			_
Cover plate latch, additional securing for rugged cover plate, PU 4 pieces	24566-007	-	-
Assembly tool, to fit EMC gasket, stainless steel, for horizontal rails, 1 piece	-	24560-271	24560-271

Note

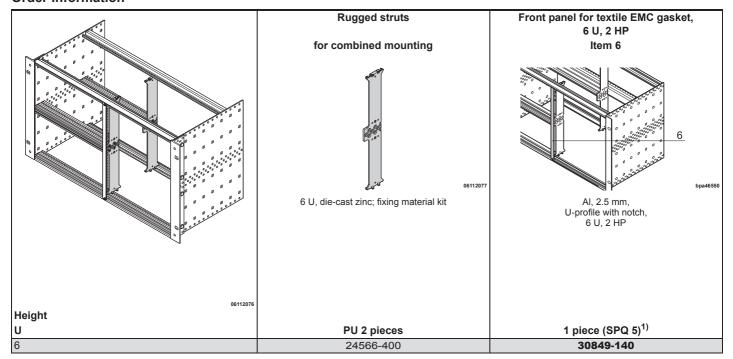
- Cover plates without perforation available on request
- Mounting position of horizontal rails, see page 6.98



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

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

Order Information



Accessories

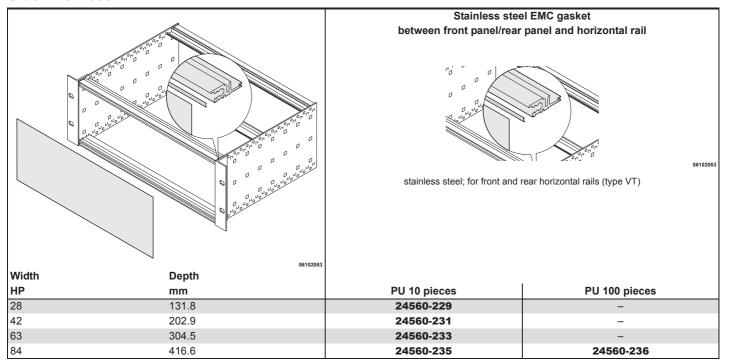
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated, PU 100 pieces	-	21101-101
Pozidrive/slotted collar screw M2.5, black, zinc-plated, PU 100 pieces	-	21101-102
Washer 2.7 x 5 x 1, PA 6, PU 100 pieces	_	21101-121
Textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, PU 10 pieces	-	21101-855

Note

■ Rugged horizontal rails in various lengths, see page 6.99

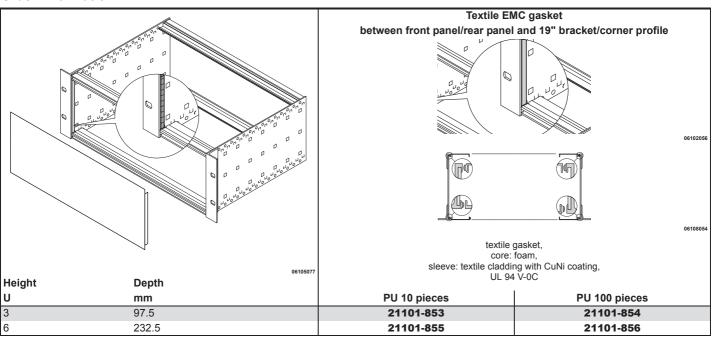
EMC gaskets between front/rear panel and horizontal rail

Order Information



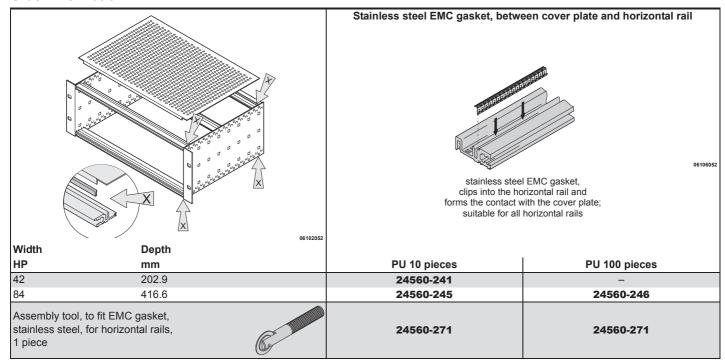
EMC gaskets between front panel and 19" bracket/corner profile

Order Information



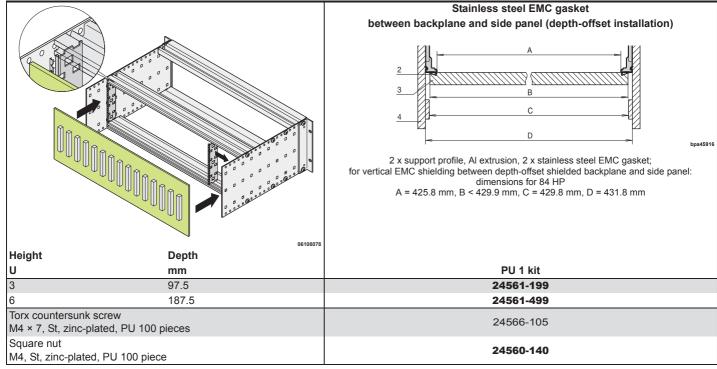
EMC gasket between horizontal rail and cover plate

Order Information



EMC gasket between backplane and side panel

Order Information



With appropriate design, the backplane can be used as shielded rear wall of the rack; in this case a rear horizontal rail (L-type VT or H-VT) must be used for deeper installation to ensure the horizontal contact.

Für den vertikalen Kontakt kann die Trägerleiste standardmäßig an der europacPRO-Seitenwand befestigt werden (Tiefenraster 30 mm)