

**Schroff®**

MAIN CATALOG

EQUIPMENT PROTECTION SOLUTIONS

24TH EDITION | OCTOBER 2012

06 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
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/19" chassis

europac PRO

19" subrack with high flexibility
in accordance with IEC 60297-3-103 and IEEE 1101.10/11

For different applications:

- Kits, individual configuration and an extensive accessory range
- Industrial applications
- Shock and vibration resistance up to 5 g, e.g. for mobile railway applications
- Shock and vibration resistance up to 25 g for rugged environments, e.g. mobile military applications



Subracks/19" chassis

Overview 6.0

multipacPRO

19" chassis for non-standard components and horizontal board construction

Versions 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



36106006 (06002001 06002003 02192004)

europacPRO . . . 6.2

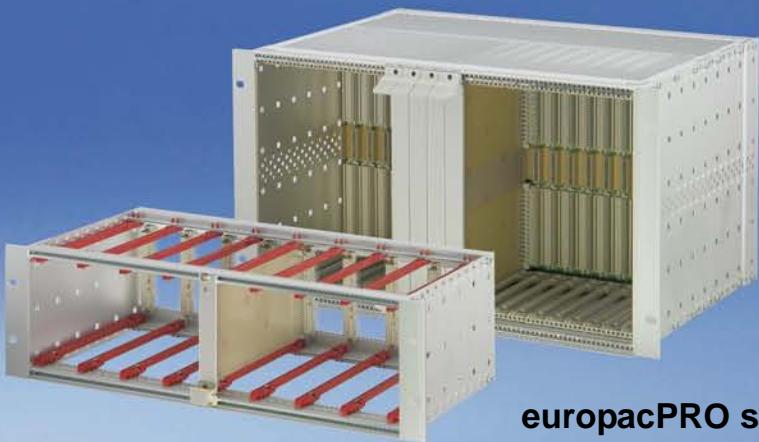
multipac 6.112

inpac 6.128

Application examples
europacPRO . . . 6.69
Subracks for
mobile railway
applications . . . 6.70
multipac 6.112

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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Front panels, plug-in units	7
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Power supply units	9
Backplanes ..	10
Connectors, front panel component system	11
Appendix	12

Subracks - *europac PRO*



europacPRO standard

- 19" subrack with high flexibility
- EMC shielding upgradable
- In accordance with IEC 60297-3-103 and IEEE 1101.10/11
- Kit from stock or individual configuration

europacPRO for mobile railway applications

- Over and above the europacPRO standard range additional shock and vibration properties for up to 5 g in accordance with the standards:
 - IEC 61587-1, EN 50155
 - BN 411002 and BN 411003
 - NF F 61-005 / NF F 60-002



europacPRO for industrial applications

- Over and above the europacPRO standard range additional kits for wall mounting or for installation of supply modules to DIN 43880



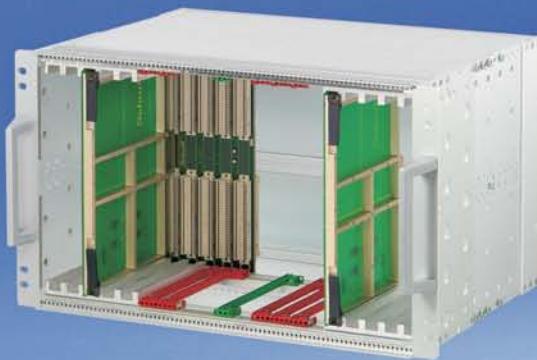
Introduction ... 6.4

europacPRO ... 6.6

Subracks for mobile railway applications ... 6.70

europacPRO for rugged applications

- Over and above the europacPRO standard range additional shock and vibration properties for up to 25 g in accordance with the standards:
MIL 167, IEC 61587 DL 3, MIL 810 G, MIL 901



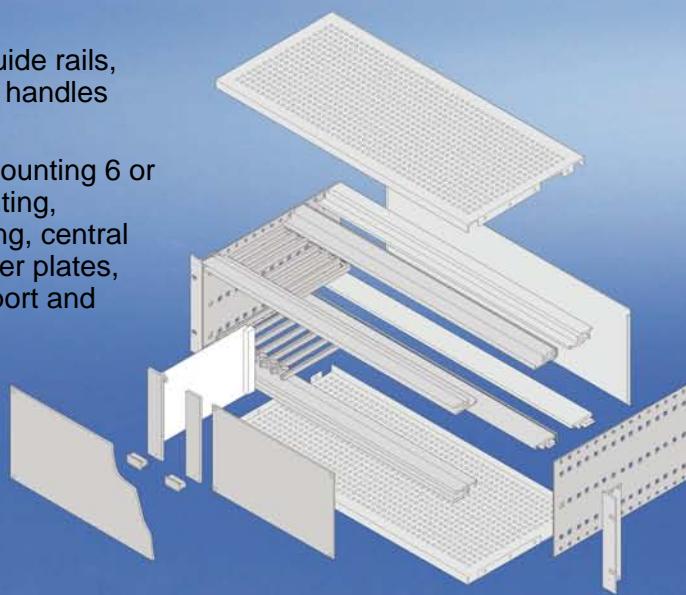
europacPRO for industrial applications ... 6.86

europacPRO for rugged applications ... 6.92

Accessories ... 6.17

europacPRO accessories

- Extensive range of accessories for europacPRO products
- Side panels, horizontal rails, guide rails, cover plates, front/rear covers, handles and shielding components
- Interior assembly: combined mounting 6 or 2 x 3 U, horizontal board mounting, mounting plates, panel mounting, central locking, telescopic slides, divider plates, air deflectors, 19" module support and extensive fixing material kit



36112002 (01494031 06112002 06112001 06112020)

Subracks - **europac PRO** Introduction

Platform-based standard solutions for individual requirements

Practical technology without time-consuming assembly. The modular europacPRO product platform allows 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.

Two ways of reaching your desired product:

- Kits
- Individual configuration



Simple assembly with europacPRO kits:



Delivered in space-saving flat packs. The threaded inserts or EMC gasket (depending on selected kit) are already pre-mounted on the horizontal rail.

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
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	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 via our **ServicePLUS assembly service** (even for orders of just one). We can also carry out individual modifications and cut-outs; and when time is short can do so very fast via ServicePLUS express.

Horizontal rails and side panels for different load-carrying classes



06197007 **Light** 06197008 **Heavy** 06112004 **Rugged**

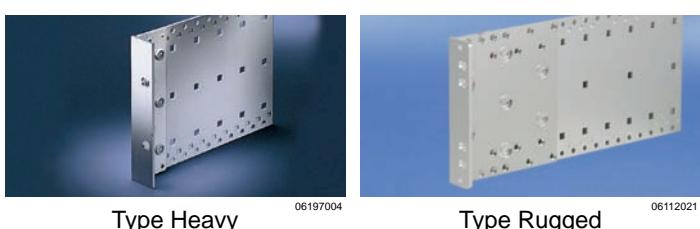
Horizontal rails are available for three load classes:

- "light" (load up to approx. 7.5 kg)
- "heavy" (load > 7.5 kg)
- "rugged" (load 15 kg)



Type Light 06197002

Type Flexible 06197003



Type Heavy 06197004

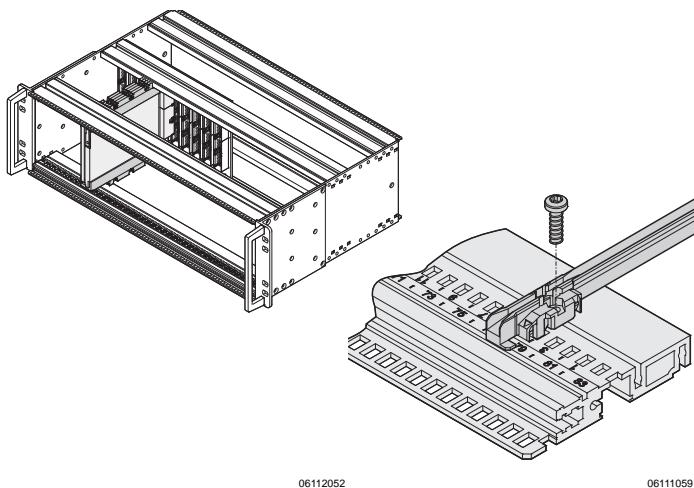
Type Rugged

Side panels for 4 different load classes

- Light: low-cost version with built-in 19" mounting bracket
- Flexible: with separate, depth-adjustable 19" mounting bracket
- Heavy: with integrated, tox-cold welded 19" mounting bracket, e.g. for shock and vibration environments up to 5 g
- Rugged: with integrated, tox-cold welded 19" mounting bracket and higher material thicknesses for extreme mechanical stresses, e.g. for increased shock and vibration environments up to 25 g
- The combination of the 3 horizontal rail variants with the 4 types of side panel results in an almost unlimited variety of potential applications for various market requirements

Subracks - **europacPRO** Introduction

Guide rails from plastic and aluminium profiles



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

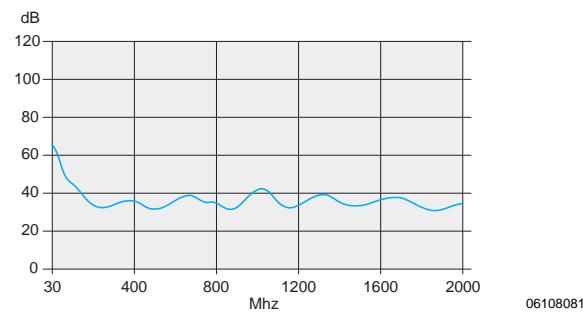
Robust snap-in fixings on the plastic rails assure a secure grip, even when exposed to vibrations. In the case of H and R-type horizontal rails the guide rails can also be bolted on. For extreme stresses, guide rails in aluminium extrusion are used.

To ensure that the wrong subassembly is not inserted into the wrong space we offer a mechanical coding to IEEE 1101.10/11 and IEC 60297-3-103.

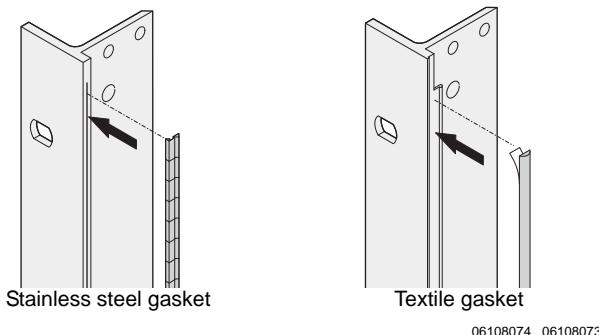
The continuous numbering on the horizontal rail (from 28 HP) and the markings on the guide rails facilitate quick fitting in the correct position.

We offer the appropriate adaptors for accommodating VPX or CompactPCI boards with strengthening frame or conduction-cooled assemblies (CCA) installed in a subrack.

Electromagnetic shielding and ESD



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

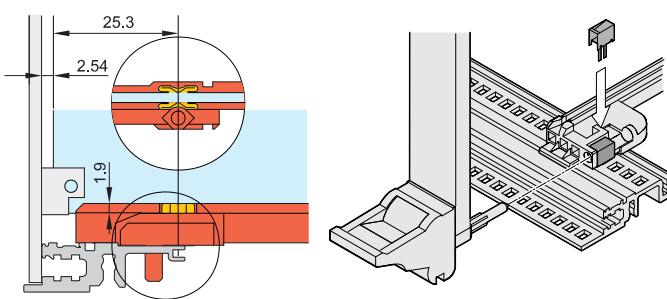


Two shielding concepts

It can't be more secure!

Two types of shielding concepts to front/rear of the subrack allow the use all Schroff frontpanels.

The shielding at the front of the subrack is by means of stainless steel or textile EMC gaskets.



ESD (electrostatic discharge)

To avoid electrostatic discharge when inserting PCBs, ESD contacts are clipped into the guide rails. These establish a conductive connection between PCB and subrack-earth. Under IEC 60297-3-101 two ESD areas are defined on the euroboard. The ESD clips of the guide rail of the europacPRO subrack allow the assembly of both following variants:

- ESD area (bottom and top) over the complete board length
- ESD area (bottom/top) begins at the front from 70 mm to end of board)

04503050 06103052

Overview 0

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Subracks/19" chassis ... 6

Front panels, plug-in units ... 7

Systems 8

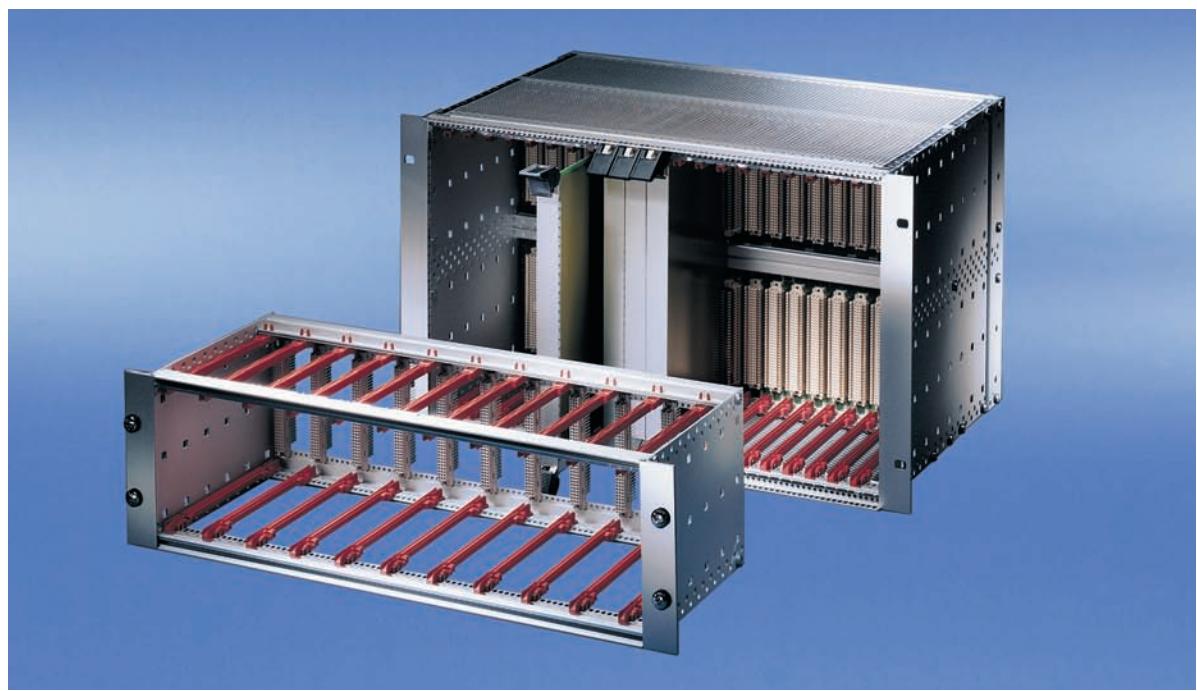
Power supply units 9

Backplanes ... 10

Connectors, front panel component system 11

Appendix 12

Subracks - **europac PRO**



06197001



06112014
Different horizontal rails for various applications



04602002
The IEEE handles and shielded front panels are designed for the construction of CompactPCI and VME64x subrack systems

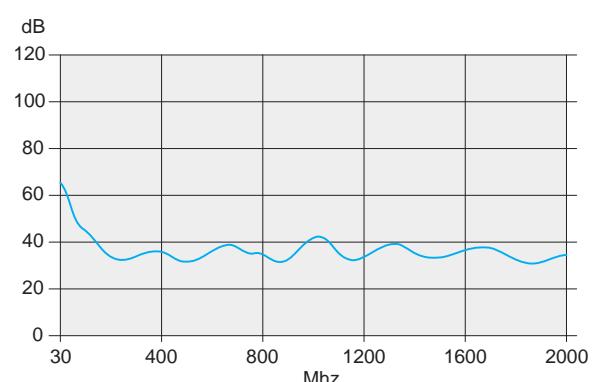


06
Sequential numbering on horizontal rails (> 28 HP) and markings on the guide rails provide quick optical positioning aids. ESD clips can be used at front or rear, to protect electronics from electrostatic discharge

Standards/certifications

- Inner and outer dimensions meet:
IEC 60297-3-100, -101, -102, -103, -104, -105
IEEE 1101.1 and IEEE 1101.10/11
- Type of protection IP 20 to IEC 60529
- EMC testing to IEC 61587-3
- Shock and vibration test reports:
German "Bahn" standards BN 411002, BN 411003;
NF F 60002, NF F 67012
IEC 61587-2, EN 50155
- Nuclear plants KTA 1401

EMC curve

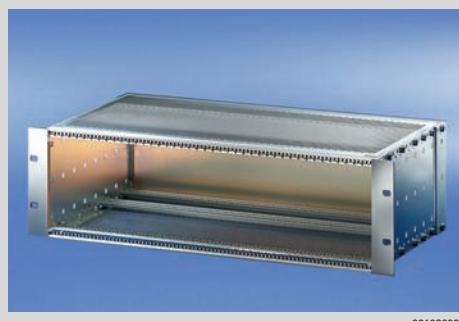


Downloads and further important information can be found on the Internet under www.schroff.biz

19" subracks

- Kits or individual configuration
- One product and accessories platform for every kind of customer requirement and application
- Suitable for CompactPCI and VME64x insertion and extractor handles
- EMC shielding can easily be retrofitted if needed
- Shock and vibration resistant up to 5 g
- 3D PDF or CAD 3D data available for download

Introduction . . . 6.4



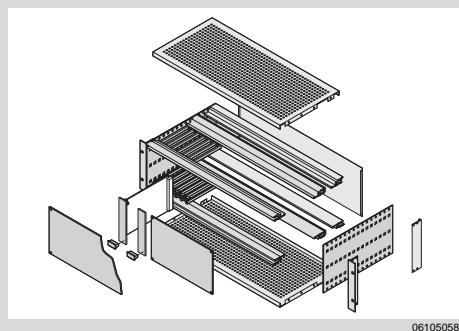
Kits

- All required parts available under one order number, some pre-fitted
- Most popular dimensions and versions available from stock
- For installed loads up to 7.5 kg, up to 11 kg and up to 15 kg
- As unshielded or shielded version
- Supplied as space-saving flat-pack

Kits

- Light 6.8
- Flexible 6.9
- Heavy 6.12
- CompactPCI 6.14

ServicePLUS . . . 6.16



ServicePLUS individual configuration

- Single parts may individually be configured, respectively assembled on request (from quantity 1)
- Very wide range of variants in height, width and depth
- Guide rails for different applications
- EMC shielding material to improve EMC performance
- Interior assembly options with mounting plate or combined mounting (3 + 6 U segments)
- Other accessories and assembly kits

ServicePLUS configuration

- Side panels 6.19
- Horizontal rails, threaded inserts, perforated strips 6.27
- Guide rails 6.35
- Cover plates 6.42
- EMC shielding 6.52
- Interior assemblies 6.57
- Assembly kits 6.63

Application examples 6.69

Subracks for mobile railway applications . . . 6.70

europacPRO for industrial applications . . . 6.86

europacPRO for rugged applications . . . 6.92

ServicePLUS from page 6.16

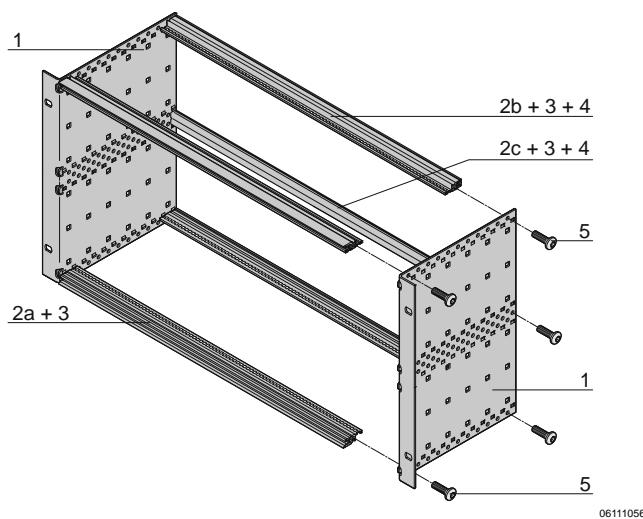
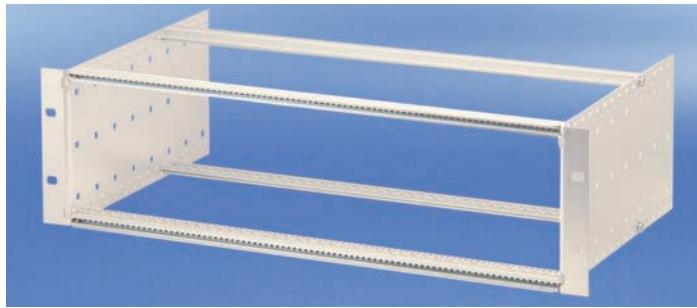
- e.g. individual configuration and assembly
- e.g. modification (cut-outs)
- e.g. downloads (CAD drawings, user manuals, test reports)
- e.g. custom solutions

www.schroff.biz/ServicePLUS

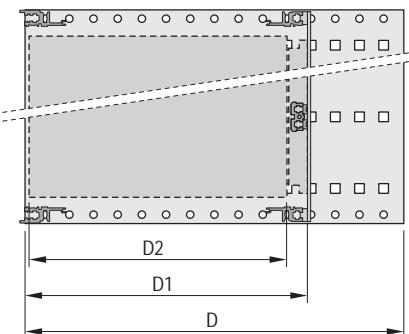


30407004

Kit, "light", unshielded,
for backplane mounting



6 U



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



Rear horizontal rail for backplane mounting with insulation strip

- Subrack with side panel type L ("light") with firmly fixed 19" brackets
- Rear horizontal rails for backplane mounting with insulation strip
- Installed load up to 7.5 kg
- Cost-optimised

NEW

Delivery comprises (Kit)

Item	Qty	3 U	6 U	Description
1	2	2	2	Side panel type L, Al, 2 mm, passivated, with built-in 19" support bracket
2a	2	2	2	Front horizontal rail (L-KD)
2b	2	2	2	Rear horizontal rail (L-ST)
2c	-	1	1	Rear horizontal rail centre (ST)
3	4	6	6	Threaded insert, front and rear (pre-fitted)
4	2	4	4	Insulation strip (pre-fitted)
5	1	1	1	Fixing material kit, user manual

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no.
3	84	175	175	24564-131
3	84	235	175/235	24564-132
3	84	295	175/235/295	24564-133
6	84	175	175	24564-431
6	84	235	175/235	24564-432
6	84	295	175/235/295	24564-433

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
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Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU piece	Part no.
160	10	24560-351
220	10	24560-353
280	10	24560-379

ESD clips for guide rails PU 50 pieces 24560-255

Cover plates for insertion in horizontal rails (type L)

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

Note

- Subrack is not prepared for shielding
- ServicePLUS configuration from page 6.16



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

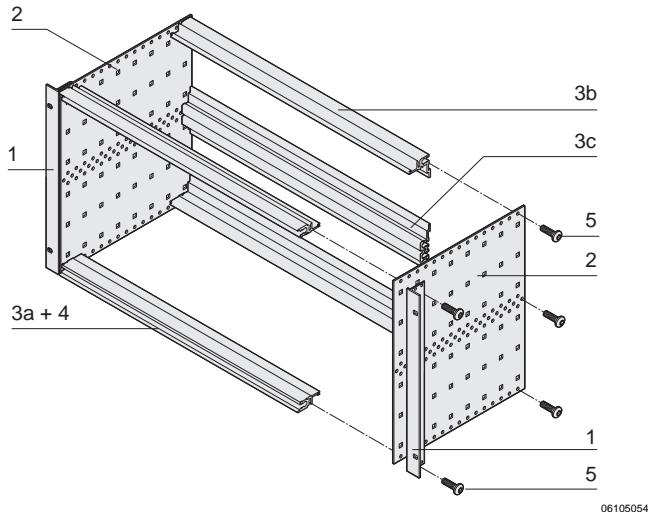


ServicePLUS see page 6.16

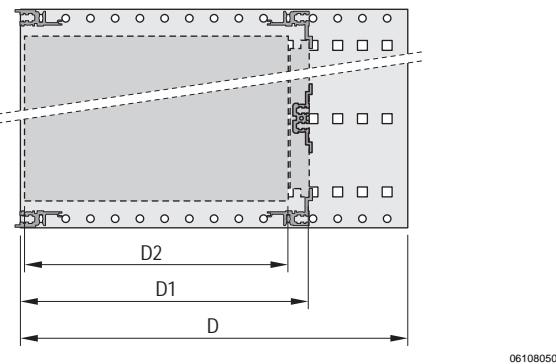
Kit, "flexible", unshielded,
for connector mounting



Photo: 3 U subrack



6 U



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



Horizontal rail to rear for connector mounting



ServicePLUS see page 6.16

- Subrack with side panel type F ("flexible"), 19" bracket is depth-adjustable

- Rear horizontal rails for connector mounting (IEC 60603-2 / DIN 41612)
- Installed load up to 11 kg

Delivery comprises (kit)

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

Order Information

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

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
--	-----------

Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU piece	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

Cover plates for insertion in horizontal rails (type L)	24560-255
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Cover plates for insertion in horizontal rails (type L)

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

Note

- ServicePLUS configuration from page 6.16

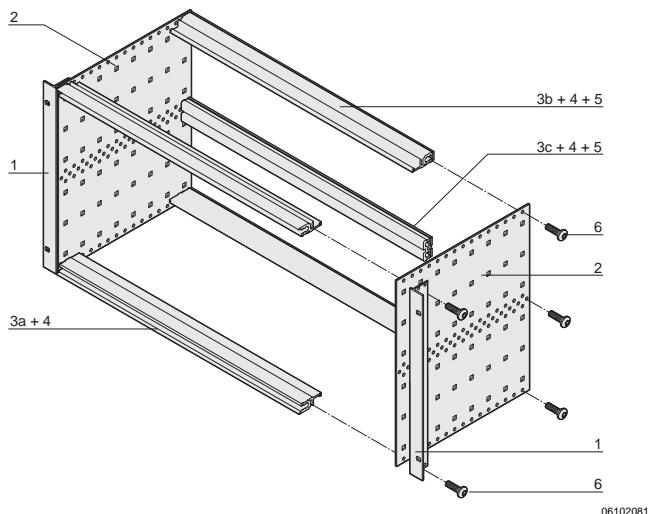


For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Kit, "flexible", unshielded,
for backplane mounting

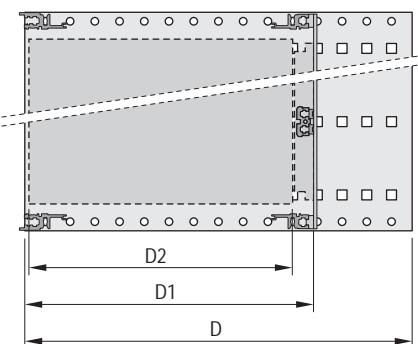


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06102081

6 U



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

06108051



04400001

Rear horizontal rail for backplane mounting with insulation strip

- Subrack with side panel type F ("flexible"), 19" bracket is depth-adjustable
- Rear horizontal rail for backplane mounting with insulation strip
- Installed load up to 11 kg

Delivery comprises (kit)

Item	Qty	3 U	6 U	Description
1	2	2	2	19" support bracket, Al extrusion, for EMC stainless steel gasket
2	2	2	2	Side panel type F, Al, 2 mm
3a	2	2	2	Front horizontal rail (L-KD)
3b	2	2	2	Rear horizontal rail (L-ST) for backplane mounting
3c	-	1	1	Rear horizontal rail centre (ST)
4	4	6	6	Threaded insert, front and rear (pre-fitted)
5	2	4	4	Insulation strip (pre-fitted)
6	1	1	1	Fixing material kit, user manual

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no.
3	84	175	175	24563-131
3	84	235	175/235	24563-132
3	84	295	175/235/295	24563-133
3	84	355	175/235/295/355	24563-134
3	84	415	175/235/295/355	24563-135
3	84	475	175/235/295/355	24563-136
6	84	175	175	24563-431
6	84	235	175/235	24563-432
6	84	295	175/235/295	24563-433
6	84	355	175/235/295/355	24563-434
6	84	415	175/235/295/355	24563-435
6	84	475	175/235/295/355	24563-436

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
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Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU piece	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
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Cover plates for insertion in horizontal rails (type L)

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

Note

- ServicePLUS configuration from page 6.16

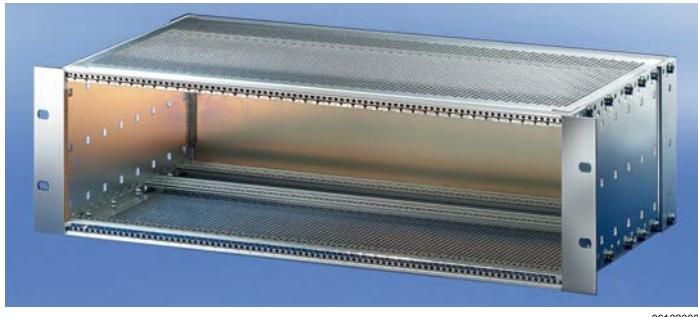


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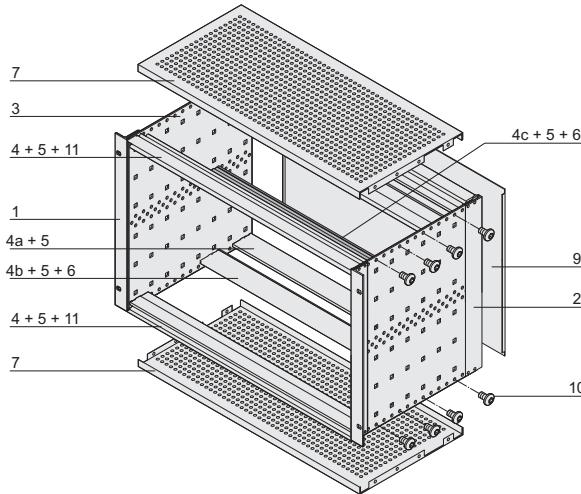


ServicePLUS see page 6.16

Kit, "flexible", shielded,
for backplane mounting

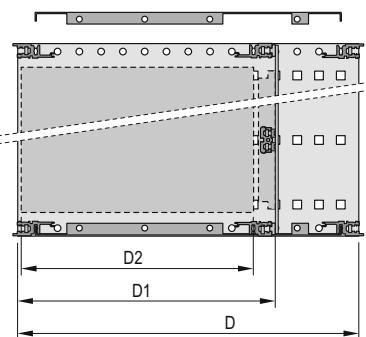


06102008



6 U

06102075



06113056

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



04400001

Rear horizontal rail for backplane mounting with insulation strip



ServicePLUS see page 6.16

- Subrack with side panel type F ("flexible"), 19" bracket is depth-adjustable
- Rear horizontal rail for backplane mounting with insulation strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz, assuming that the front is closed with shielded front panels
- Installed load up to 11 kg

Delivery comprises ((kit))

Item	Qty	Description	
		3 U	6 U
1	2	2	19" support bracket for EMC textile gasket
2	2	2	Rear corner profile 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	Fixing material kit
11	2	2	Perforated strip (pre-fitted)
12	1	1	User manual

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no.
3	84	235	175/235	24563-142
3	84	295	175/235/295	24563-143
3	84	355	175/235/295	24563-144
3	84	415	175/235/295	24563-145
3	84	475	175/235/295	24563-146
6	84	235	175/235	24563-442
6	84	295	175/235/295	24563-443
6	84	355	175/235/295	24563-444
6	84	415	175/235/295	24563-445
6	84	475	175/235/295	24563-446

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
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Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU piece	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

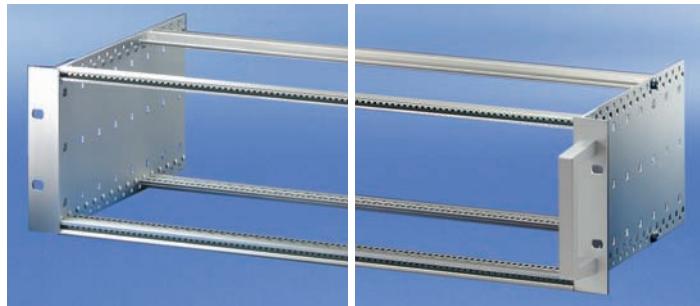
Note

- ServicePLUS configuration from page 6.16



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

Kit, 'heavy', unshielded,
for backplane mounting



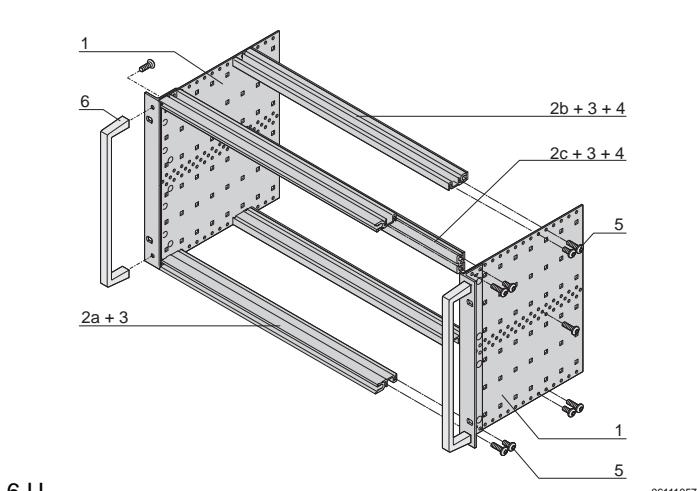
Without front handle

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With front handle

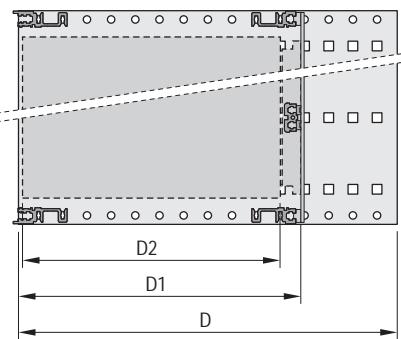
06111003

NEW



6 U

06111057



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



04400001

Rear horizontal rail for backplane mounting with insulation strip



ServicePLUS see page 6.16

- Subrack with side panel type H ("heavy"), 19" bracket is firmly fixed to side panel (tox-cold welded)
- Rear horizontal rail for backplane mounting with insulation strip
- Shock and vibration resistance up to 5 g
- Installed load up to 15 kg
- Versions with/without front handles

Delivery comprises (Kit)

Item	Qty	Description	
		3 U	6 U
1	2	2	Side panel type H, Al, 2 mm, passivated, with 19" support bracket (tox-cold welded) for textile EMC gasket
2a	2	2	Front horizontal rail (H-KD)
2b	2	2	Rear horizontal rail (H-ST)
2c	-	1	Rear horizontal rail centre (H-ST)
3	4	6	Threaded insert, front and rear (pre-fitted)
4	2	4	Insulation strip (pre-fitted)
5	1	1	Fixing material kit, user manual
6	2	2	Front handle (on version with front handle only)

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no. with front handle	Part no. without front handle
3	84	175	175	24567-161	24563-161
3	84	235	175/235	24567-162	24563-162
3	84	295	175/235/295	24567-163	24563-163
3	84	355	175/235/295/355	24567-164	24563-164
6	84	175	175	24567-461	24563-461
6	84	235	175/235	24567-462	24563-462
6	84	295	175/235/295	24567-463	24563-463
6	84	355	175/235/295/355	24567-464	24563-464

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
--	-----------

Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU piece	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

Torx panhead screw, for extra bolting of the guide rails, 2.5 x 9.3, zinc-plated, PU 100 pieces; torque max. 0.2 Nm 24560-141

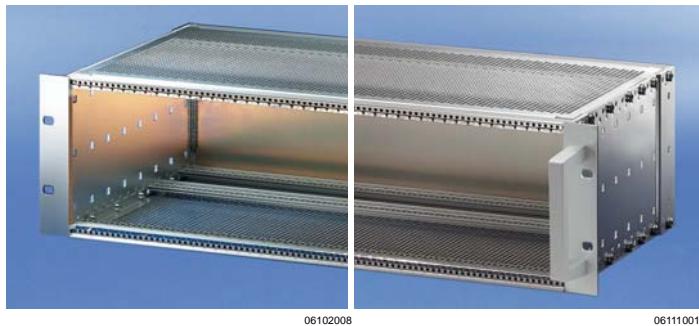
Cover plates for bolting to side panel

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

Note

- ServicePLUS configuration from page 6.16

Kit, "heavy", shielded,
for backplane mounting

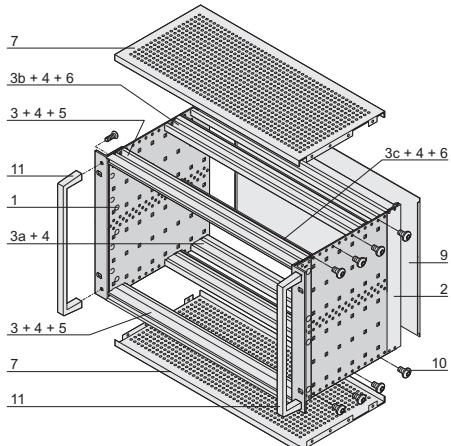


Without front handle

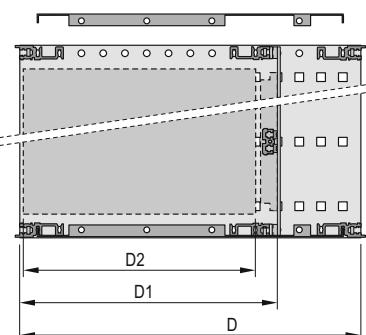
With front handle

- Subrack with side panel type H ("heavy"), 19" bracket is firmly fixed to side panel (tox-cold welded)
- Rear horizontal rail for backplane mounting with insulation strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz, assuming that the front is closed with sealed front panels
- Shock and vibration resistance up to 5 g
- Installed load up to 15 kg
- Versions with/without front handles

NEW



6 U



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



Rear horizontal rail for backplane mounting with insulation strip

Delivery comprises (Kit)

Item	Qty	Description	
		3 U	6 U
1	2	2	2
		Side panel type H, Al, 2 mm, passivated, with 19" support bracket (tox-cold welded); for textile EMC gasket	
2	2	2	2
		Rear corner profile for textile EMC gasket	
3	2	2	2
		Front horizontal rail (H-KD)	
3 a	2	2	2
		Rear horizontal rail (H-KD)	
3 b	2	2	2
		Rear horizontal rail (H-ST)	
3 c	-	1	1
		Rear horizontal rail centre (ST)	
4	6	8	8
		Threaded insert (pre-fitted)	
5	2	2	2
		Perforated strip (pre-fitted)	
6	2	4	4
		Insulation strip (pre-fitted)	
7	2	2	2
		EMC cover plate	
8	1	1	1
		EMC gasketing material (pre-fitted)	
9	1	1	1
		EMC rear panel	
10	1	1	1
		Fixing material kit, user manual	
11	2	2	2
		Front handle (on version with front handle only)	

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no. with front handle	Part no. without front handle
3	84	235	175/235	24567-172	24563-172
3	84	295	175/235/295	24567-173	24563-173
3	84	355	175/235/295	24567-174	24563-174
6	84	235	175/235	24567-472	24563-472
6	84	295	175/235/295	24567-473	24563-473
6	84	355	175/235/295	24567-474	24563-474

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
--	-----------

Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU piece	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; torque max. 0.2 Nm 24560-141

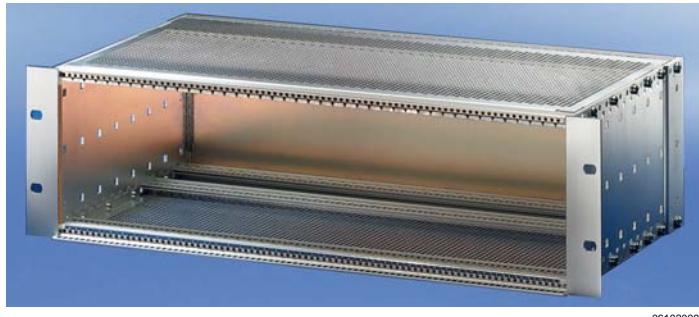
Note

- ServicePLUS configuration from page 6.16

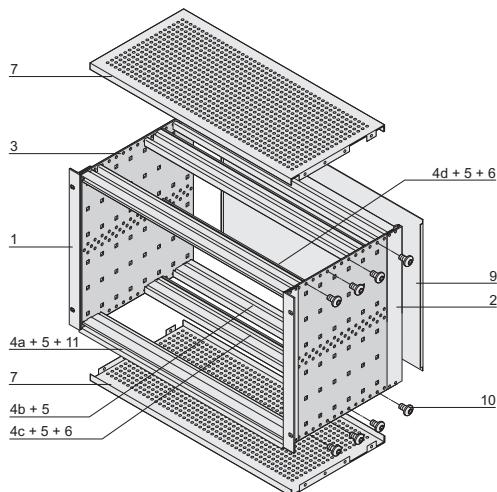


ServicePLUS see page 6.16

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



6 U



06102009

- Subrack with side panel type F ("flexible") for CompactPCI plug-in units with high insertion and withdrawal forces
- Rear horizontal rail for backplane mounting with insulation strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz, assuming that the front is covered with shielded front panels
- Installed load up to 11 kg

Delivery comprises (kit)

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

06102078

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no.
3	84	235	175	24563-152
6	84	235	175	24563-452

Accessories

Guide rail with coding, red 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	24560-356
Guide rail with coding, grey 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	24560-358
Guide rail 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 CPCI/VME64x handle PU 50 pieces	24560-256
Torx panhead screw 2.5 x 9.3, zinc-plated, PU 100 pieces; torque max. 0.2 Nm	24560-141
Coding peg PC , UL 94 V-0, RAL 7035, PU 100 pieces	20817-501
19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435



06113055

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



04400001

Rear horizontal rail for backplane mounting with insulation strip

Note

- ServicePLUS configuration from page 6.16

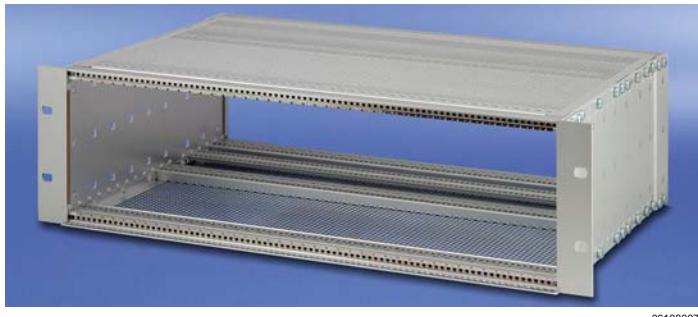


For further information www.schroff.biz/oneclick
oneClick search code = Part no.

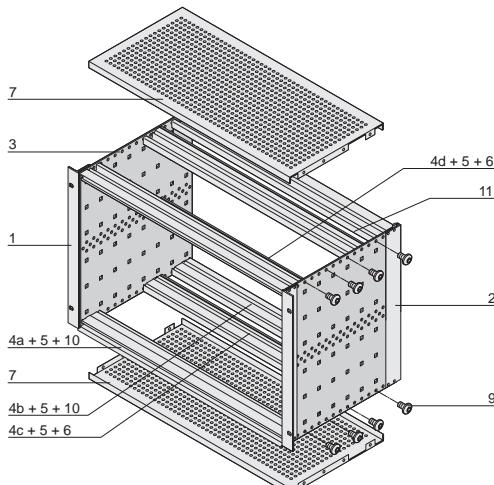


ServicePLUS see page 6.16

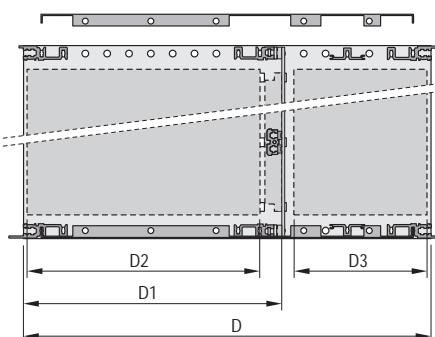
Kit, for CompactPCI, for backplane mounting, for rear I/O, shielded



6 U



06108007



06108075

D = overall depth, D1 = insertion depth,
D2 = board depth = D1 - 15 mm, D3 = rear I/O board depth



04400001

Rear horizontal rail for backplane mounting with insulation strip

- Subrack with side panel type F ("flexible") for CompactPCI plug-in units with high insertion and withdrawal forces
- For rear I/O boards (depth 80 mm)
- Rear horizontal rail for backplane mounting with insulation strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz, assuming that the front is covered with shielded front panels
- Installed load up to 11 kg

Delivery comprises (kit)

Item	Qty	Description	
		3 U	6 U
1	2	2	19" support bracket for EMC textile gasket
2	2	2	Rear corner profile 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 (H-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	Fixing material kit
10	2	2	Perforated strip (pre-fitted)
11	2	2	Horizontal rail type AB
12	1	1	User manual

Order Information

Height	Width	Depth D	Depth D1	Depth D3	Part no.
U	HP	mm	mm	mm	
3	84	275	175	80	24563-157
6	84	275	175	80	24563-457

Accessories

Guide rail with coding, red 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	24560-356
Guide rail with coding, grey 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	24560-358
Guide rail 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 CPCI/VME64x handle PU 50 pieces	24560-256
Guide rail with coding, red 70 mm deep, PU 10 pieces	24560-355
Guide rail with coding, grey 70 mm deep, PU 10 pieces	24560-360
Torx panhead screw 2.5 x 9.3, zinc-plated, PU 100 pieces; torque max. 0.2 Nm	24560-141
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces	20817-501
19" fixing material kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435

Note

- ServicePLUS configuration from page 6.16



ServicePLUS see page 6.16



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!

- 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 despatch within 10 working days



express

Delivery time to customer's request

When fast has to be faster.

- Express logistics



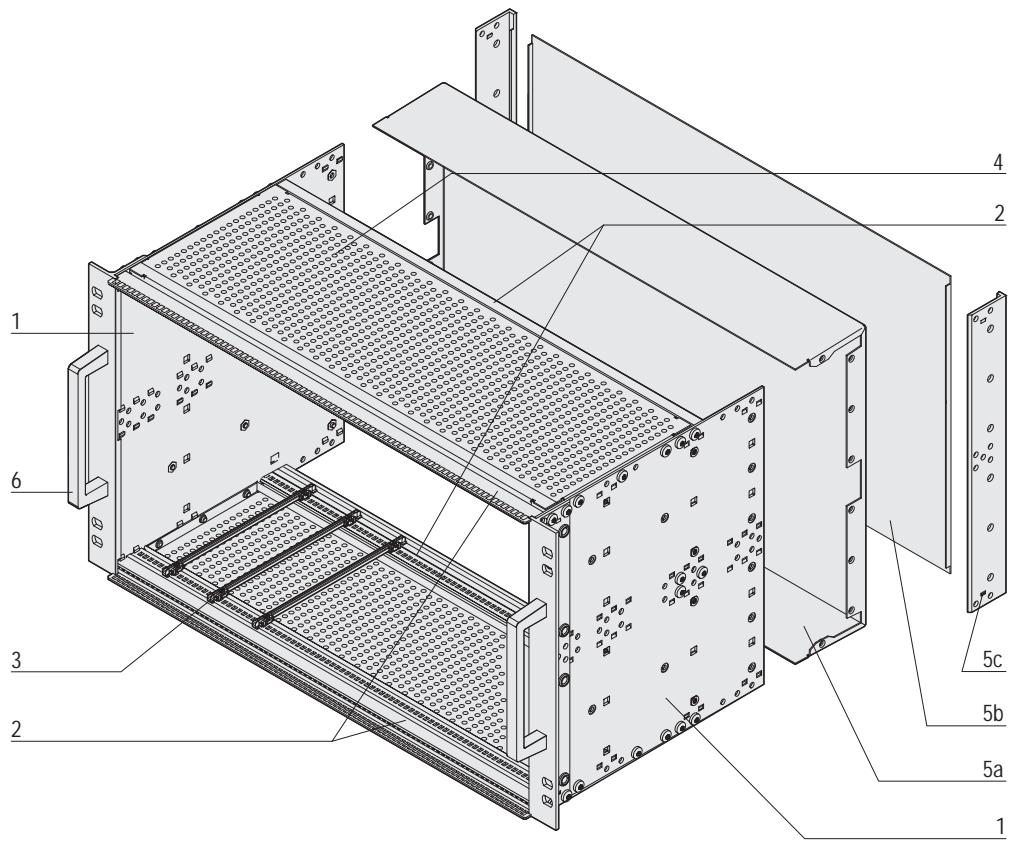
academy

Knowledge transfer and partnership

Knowledge. Sharing. Partnerships.

- Seminars, CAD drawings, test reports, user reports

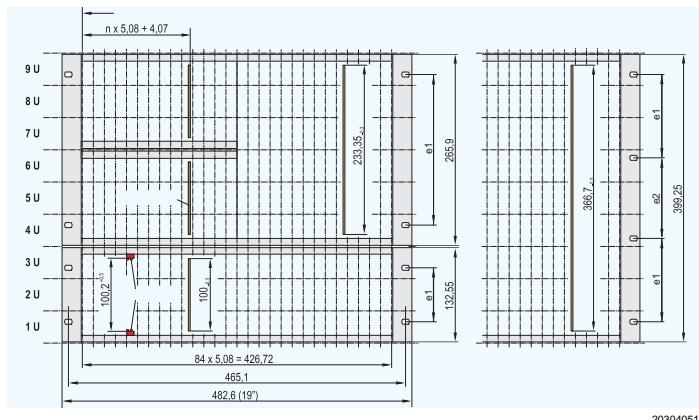
Overview of individual components for shielded or unshielded subracks



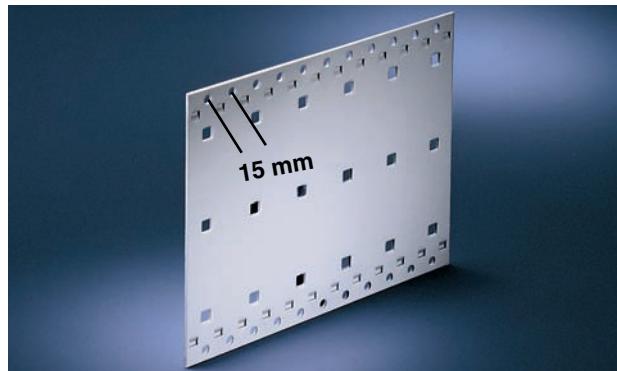
06108086

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. 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, 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).	6.27
Item 3	Guide rails	Act as interface between subracks and boards, for different board formats, are available in plastic or metal, optionally codable and can be fitted with ESD clips to allow electrostatic discharge, also optionally.	6.35
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 profile (5c) act 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	Can be mounted on the 19" brackets.	6.25
-	EMC shielding (without illustration)	Extensive component range for specific shielding of subracks with respect to their application.	6.52
-	Interior assemblies (without illustration)	Universal assemblies, e.g. for horizontal and vertical assembly and for mounting plates.	6.57

Subrack dimensions



- Dimensions in accordance with 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 positioning aid for 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



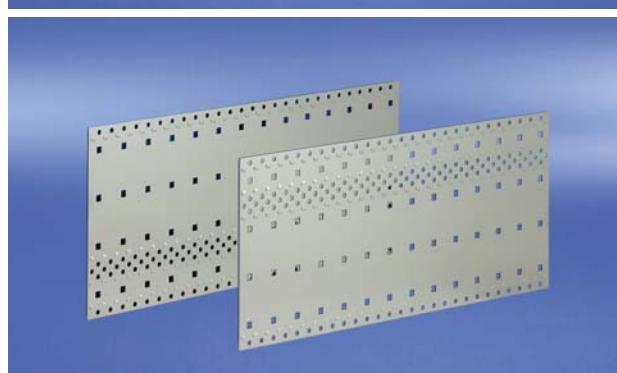
Depth grid

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



Side panel 3 U, 6 U and 9 U

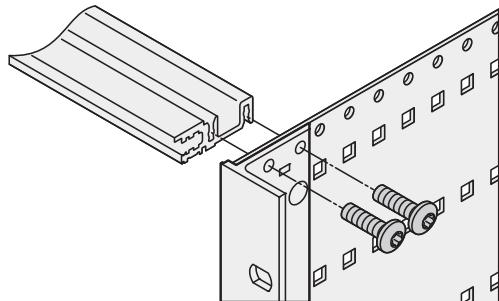
3 and 6 U side panels have the same hole positions (the 6 U is a doubling vertically of the 3 U); thus subdivisions can be made in the vertical dimension (6 U: 2 x 3 U; 9 U: 3 x 3 U)



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

Side panels



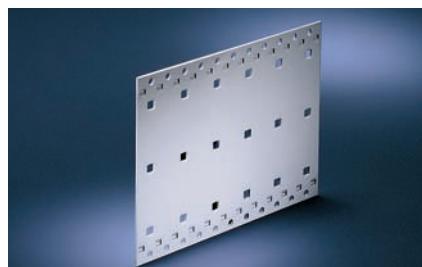
Side panel - horizontal rail assembly

06108062

- Aluminium
- 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 positioning aid for 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
- 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)
- 4 versions of the side panel:
 - Type F = flexible
 - Type H = heavy
 - Type L = light
 - Type R = rugged

Note

- Type R - rugged side panels see "Rugged Subracks" section, page 6.97



06197003

Type F (flexible)

- Universal version: 19" bracket (please order separately) can be fitted variably to front, rear or depth-offset
- Heights: 3, 4, 6 and 9 U
Depths: 175, 235, 275, 277.75, 295, 355, 415 and 475 mm;
Other dimensions on request
- 2 EMC shielding concepts for the front/rear:
stainless steel or textile EMC gasket
- Installed load up to 11 kg



06197004

Type H (heavy)

- 19" bracket is hot-cold welded to side panel; particularly designed for mechanically demanding environments (vibration resistance, applications requiring high levels of shock and vibration, e.g. IEC 61587-2)
- Heights: 3 and 6 U
Depths: 175, 235, 295 and 355 mm
Other dimensions on request
- 2 EMC shielding concepts for the front/rear:
with stainless steel or textile EMC gasket
- Installed load up to 15 kg



06197002

Type L (light)

- Side panel with moulded 19" bracket, for standard applications, unshielded
- Particularly cost-effective version (not suitable for EMC applications)
- Heights: 3 and 6 U
Depths: 175, 235 and 295 mm
Other dimensions on request
- Installed load up to 7.5 kg

Side panels type F for stainless steel gasket

Order Information

		Side panel type F	19" bracket without handle holes	19" bracket with handle holes	19" bracket depth-adjustable	EMC gasket (stainless steel)	Rear angle	Side panel connection
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	24560-197	24560-198	24560-199	21101-705	24561-198	21101-954
3	295	34560-189						
3	355	34560-191						
3	415	34560-193						
3	475	34560-195						
4	175 3)	34560-285						
4	235 3)	34560-287						
4	295 3)	34560-289	24560-297	24560-298	24560-299	21101-713	24561-298	21101-954
4	355 3)	34560-291						
4	415 3)	34560-293						
4	475 3)	34560-295						
6	175	34560-485						
6	235	34560-487						
6	275 1)	34579-038						
6	277.75 2)	34579-012	24560-497	24560-498	24560-499	21101-707	24561-498	21101-954
6	295	34560-489						
6	355	34560-491						
6	415	34560-493						
6	475	34560-495						
6	970	34560-496						
9	175	34560-785						
9	235	34560-787						
9	295	34560-789	24560-797	24560-798	24560-799	21101-709	24561-798	21101-954
9	355	34560-791						
9	415	34560-793						
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel		24560-130	24560-130	24560-130	24560-130	-	24560-130	-
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		24560-155	24560-155	24560-155	24560-155	-	24560-155	-

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

Side panels type F for textile EMC gasket

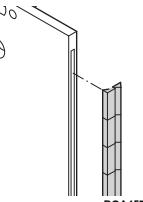
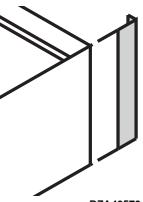
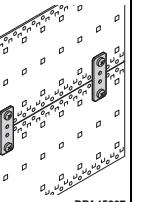
Order Information

		Side panel type F	19" bracket without handle holes	19" bracket with handle holes	19" bracket depth-adjustable	EMC gasket (textile)	Rear angle	Side panel connection
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	24564-197	24564-198	24560-199	21101-853	24564-199	21101-954
3	295	34560-189						
3	355	34560-191						
3	415	34560-193						
3	475	34560-195						
4	175 3)	34560-285						
4	235 3)	34560-287						
4	295 3)	34560-289	24564-297	24564-298	24560-299	21101-858	24564-299	21101-954
4	355 3)	34560-291						
4	415 3)	34560-293						
4	475 3)	34560-295						
6	175	34560-485						
6	235	34560-487						
6	275 1)	34579-038						
6	277.75 2)	34579-012	24564-497	24564-498	24560-499	21101-855	24564-499	21101-954
6	295	34560-489						
6	355	34560-491						
6	415	34560-493						
6	475	34560-495						
6	970	34560-496						
9	175	34560-785						
9	235	34560-787						
9	295	34560-789	24564-797	24564-798	24560-799	21101-859	24564-799	21101-954
9	355	34560-791						
9	415	34560-793						
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel		24560-130	24560-130	24560-130	24560-130	–	24560-130	–
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		24560-155	24560-155	24560-155	24560-155	–	24560-155	–

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

Side panels type H for stainless steel EMC gasket

Order Information

		Side panel type H for stainless steel EMC gasket without handle holes	Side panel type H for stainless steel EMC gasket with handle holes	EMC gasket (stainless steel)	Rear angle	Side panel connection
Height	Depth					
U	mm	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces
3	175	24566-125	24567-125			
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			
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 fastening horizontal rail to side panel		24560-130	24560-130	–	24560-130	–
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		24560-155	24560-155	–	24560-155	–

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

Side panels type H for textile EMC gasket

Order Information

		Side panel type H for textile EMC gasket without handle holes	with handle holes	EMC gasket (textile)	Rear angle	Side panel connection			
Height	Depth	06107001 for high mechanical demands, 19" bracket, tox-cold welded, Al, 2 mm, clear passivated, front anodised	06107001 for high mechanical demands, 19" bracket, tox-cold welded, Al, 2 mm, clear passivated, front anodised, please order front handles separately see page 6.25	04602054 textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0	BZA46573 Al extrusion, etched; for textile EMC gasket	BPA45867 Zn die-cast, incl. fixing material kit, for connecting two by two side panels (on top of each other)			
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						
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 fastening horizontal rail to side panel		24560-130	24560-130	—	24560-130	—			
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		24560-155	24560-155	—	24560-155	—			

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

Side panels type L

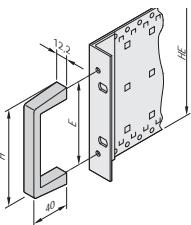
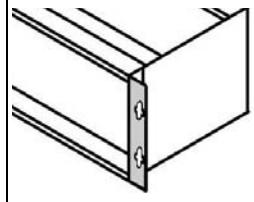
Order Information

Height U	Depth mm	Side panel type L	Front cover	Collar screw with slot for assembly of front cover	Sleeves for assembly of front cover	Side panel connection
		1 piece	PU 100 pieces	PU 100 pieces	PU 4 pieces	
3	175	34561-185				
3	235	34561-187				
3	275 1)	—				
3	277.75 2)	—				
3	295	34561-189	34561-197	21100-565	21100-566	21101-954
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				
6	235	34561-487				
6	275 1)	—				
6	277.75 2)	—				
6	295	34561-489	34561-497	21100-565	21100-566	21101-954
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 fastening horizontal rail to side panel		24560-130	—	—	—	—
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		24560-155	—	—	—	—

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

Front handles, wall-mounting brackets

Order Information

Front handle clear anodised black anodised				Universal front handle  Al extrusion, anodised load-carrying capacity 30 kg	Wall-mounting bracket  Al, 2.5 mm, passivated; bolted to subrack in place of the 19" bracket	PU 1 pair	
Height U	Depth mm	H mm	E mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	PU 1 pair
3	175	102	88.0				24562-197
3	235	102	88.0				24562-297
3	275	102	88.0				24562-497
3	277.75	102	88.0				24562-797
3	295	102	88.0				
3	355	102	88.0				
3	415	102	88.0				
3	475	102	88.0				
4	175	146	133.4				
4	235	146	133.4				
4	295	146	133.4	10501-018	10501-026	10502-057	
4	355	146	133.4				
4	415	146	133.4				
4	475	146	133.4				
6	175	249	235.0				
6	235	249	235.0				
6	275	249	235.0				
6	277.75	249	235.0				
6	295	249	235.0	10501-008	10501-029	10502-065	
6	355	249	235.0				
6	415	249	235.0				
6	475	249	235.0				
6	970	249	235.0				
9	175	249	235.0				
9	235	249	235.0				
9	295	249	235.0	10501-008	10501-029	10502-065	
9	355	249	235.0				
9	415	249	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): 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

Horizontal rails



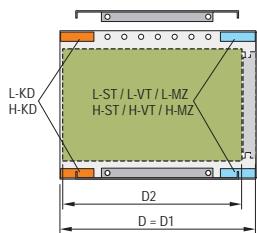
- Aluminium profile, surface anodised, conductive contact surfaces for EMC gaskets
- The horizontal rail is marked with sequential numbering (for sizes > 28 HP) to facilitate positioning of the guide rails
- Horizontal rails are fixed to the side panel using M4 bolts with torx 20 drive
- There are 3 different horizontal rails for different loading levels
 - light, for up to 7.5 kg
 - heavy, for 7.5 kg to 15 kg
 - rugged, for 15 kg to approx. 60 kg

Mounting position of the horizontal rails

PCB as deep as side panel

front

rear

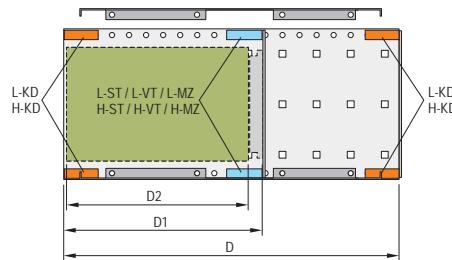


160, 220, 280 mm,

Cabling space behind backplane

front

rear

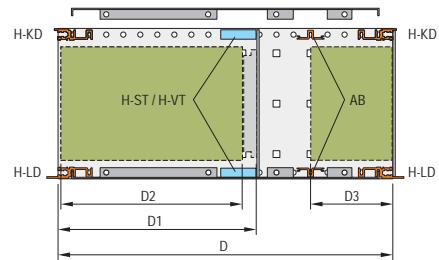


160, 220, 280 mm,

Rear I/O installation
(CompactPCI, VME64x applications)

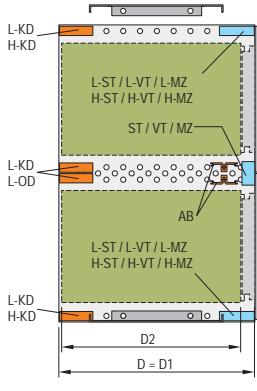
front

rear

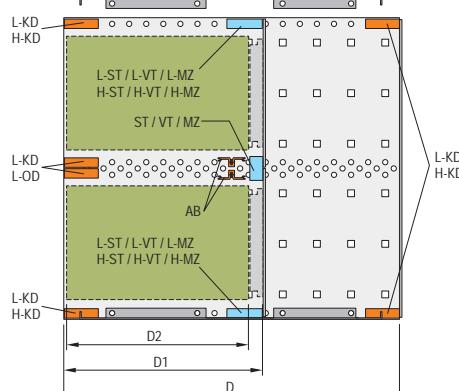


160 mm/80 mm

6 U

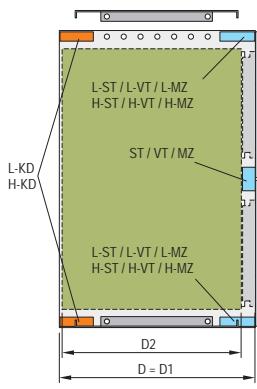


160, 220, 280 mm,

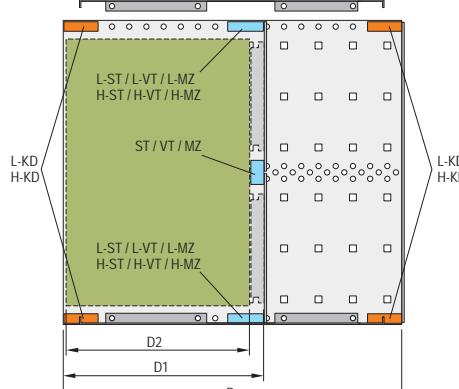


160, 220, 280 mm,

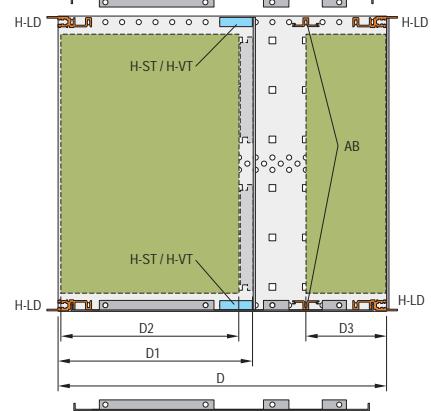
6 U



160, 220, 280 mm,



06112084



160 mm/80 mm

Subracks - **europac PRO** ServicePLUS

Front horizontal rails

Assembly 3 U, 2 x 3 U, 6 U

"light" (L)



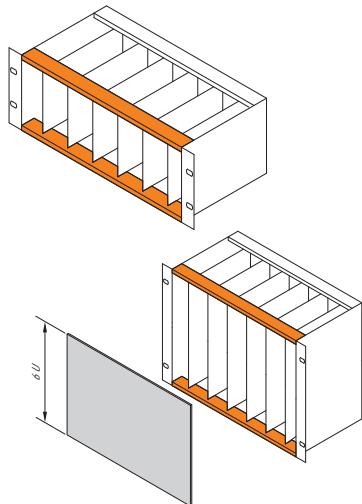
"heavy" (H)



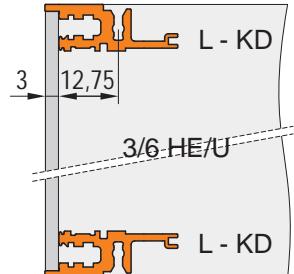
"heavy" (H)



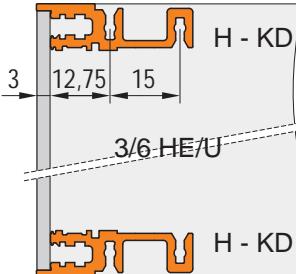
3 U/6 U



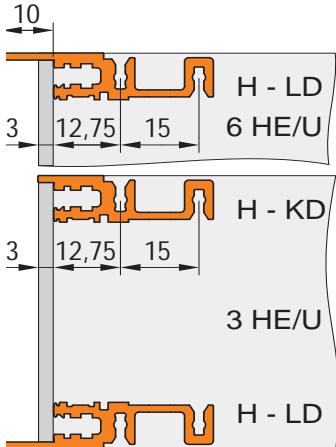
Short lip



Short lip



Long lip



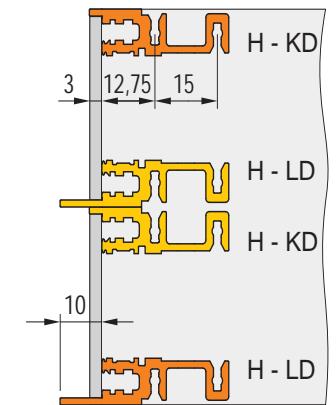
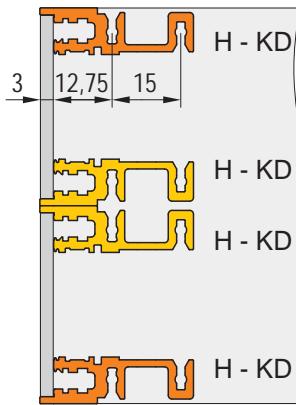
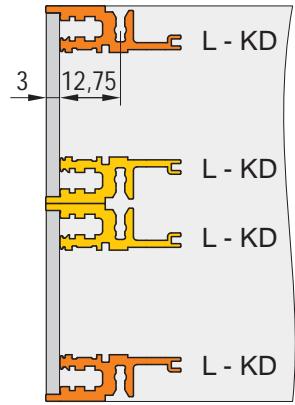
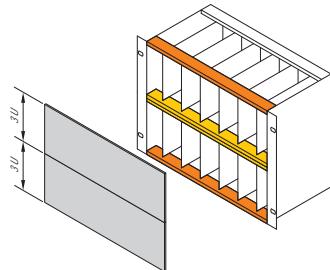
bza44980 bza44974

06105060

06105061

06108063

2 x 3 U



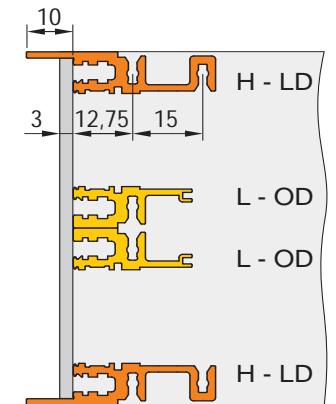
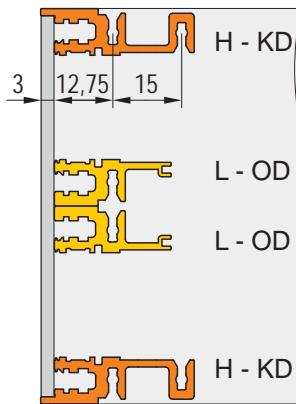
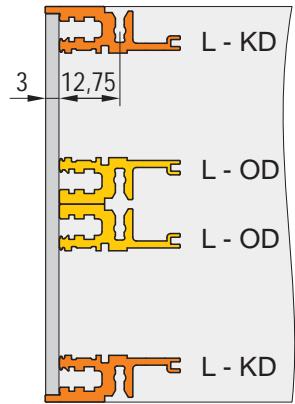
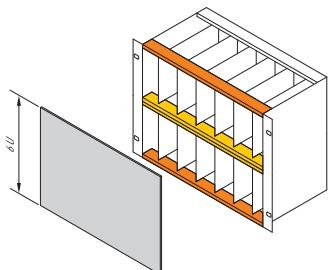
06105062

06105063

06108063

06108064

2 x 3 U, 6 U



06105064

06105065

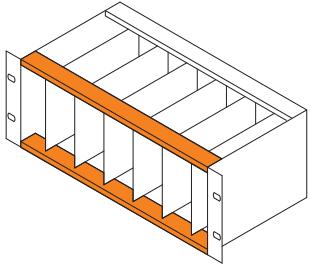
06108065

06108065

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

Front horizontal rails

Order Information

 bza44980		"light" Type L-OD without lip	"light" Type L-KD short lip	"heavy" Type H-KD short lip	With long lip for insertion/ extraction of CompactPCI and VME64x boards "heavy" Type H-LD long lip
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
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		—	—	24560-155	24560-155
Threaded inserts see page		6.33	6.33	6.33	6.33

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

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

Note

- 1000 mm version without M4 thread to front,
without printed markings and without notch for 19"-bracket
- Rugged horizontal rails with 3 fixing holes
see section "Rugged Subracks", page 6.99

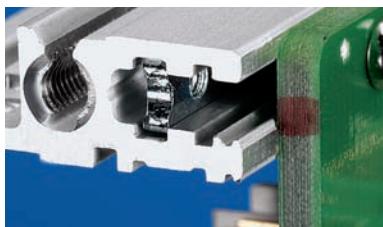
Rear horizontal rails

**Indirect backplane mounting
(with insulation strip)**



04400001

Direct backplane mounting

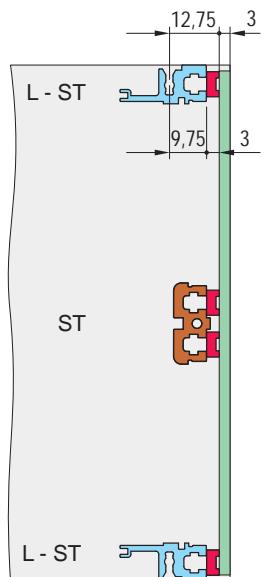


Connector fitting with Z



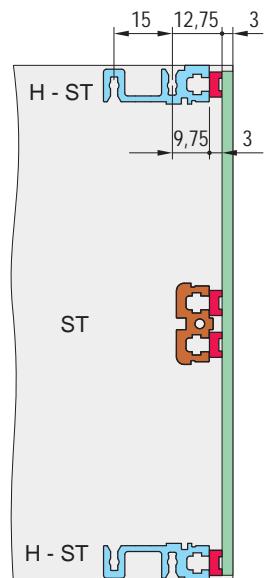
04400003

"light"



06105072

"heavy"



06108066

ST = standard, L = light, H = heavy

VT = depth-offset, L = light, H = heavy

Part number in bold face type: ready for despatch within 2 working days
Part number in normal type: ready for despatch within 10 working days

Rear horizontal rails, top and bottom

Order Information

	For indirect backplane mounting with insulation strip		For direct backplane mounting		For direct fixing of connectors in accordance with EN 60603-2 (DIN 41612)	
	"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
06105074 With HP markings from 28 HP, Al extrusion, anodised finish, conductive surface	06197010 Al extrusion, anodised surface, conductive contact surface, with printed HP markings	06197011 Al extrusion, anodised surface, conductive contact surface, with printed HP markings	BZA45782 Al extrusion, anodised surface, conductive contact surface, with printed HP markings	06197009 Al extrusion, anodised surface, conductive contact surface, with printed HP markings	06197014 Al extrusion, anodised surface, conductive contact surface, with printed HP markings	06197015 Al extrusion, anodised surface, conductive contact surface, with printed HP markings
Usable length HP	Length mm	1 piece (SPQ 10) ¹⁾				
20	106.68	34560-420	34560-520	34560-620	34560-720	34560-820
28	147.32	34560-428	34560-528	34560-628	34560-728	34560-828
40	208.28	34560-440	34560-540	34560-640	34560-740	34560-840
42	218.44	34560-442	34560-542	34560-642	34560-742	34560-842
63	325.12	34560-463	34560-563	34560-663	34560-763	34560-863
84	431.80	34560-484	34560-584	34560-684	34560-784	34560-884
—	1000	34560-401	34560-501	34560-601	34560-701	34560-801
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel	24560-130	24560-130	24560-130	24560-130	24560-130	24560-130
Screw, 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	6.34	6.34	—	—	—	—
Z-rail for connector mounting without insulation strip see page	6.34	6.34	—	—	—	—
Insulation strips see page	6.33	6.33	—	—	—	—
Threaded inserts see page	6.33	6.33	6.33	6.33	6.33	6.33

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

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

Note

- 1000 mm version without M4 thread to front, without printed markings and without notch for 19"-bracket
- Rugged horizontal rails with 3 fixing holes see section "Rugged Subracks", page 6.99

Rear horizontal rails, centre, for 6 U

Order Information

		For indirect backplane mounting with insulation strip	For direct backplane mounting	For direct fixing of connectors in accordance with EN 60603-2 (DIN 41612)
Usable length HP	Length mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾
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 fastening horizontal rail to side panel		24560-130	24560-130	24560-130
Insulation strips see page		6.33	—	—
Threaded inserts see page		6.33	6.33	6.33

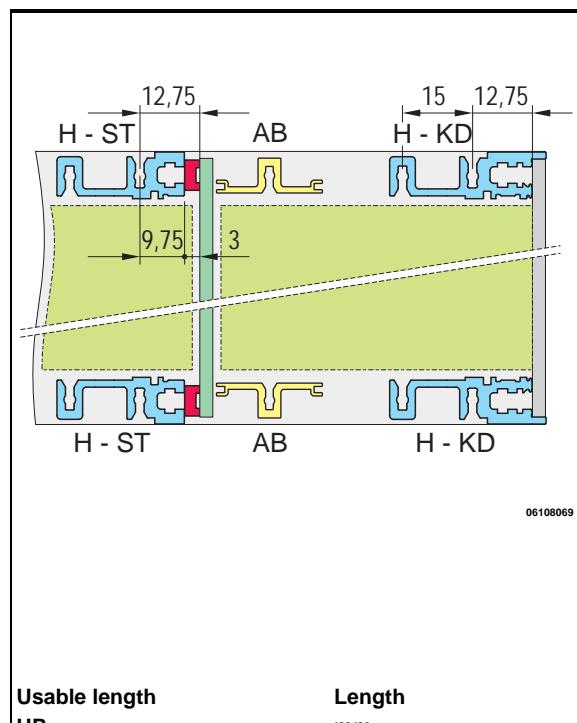
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple
"light": loading capacity up to approx. 7.5 kg; "heavy": loading capacity > 7.5 kg

Note

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

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

Order Information

	<p>For CompactPCI in rear I/O area</p> <p>Type AB</p> <p>Al extrusion, anodised surface, conductive contact surface; horizontal rail type AB (AB = support) is required to fix the 80 mm rear I/O boards; without printed markings</p> <p>1 piece (SPQ 10)¹⁾</p> <p>06108069</p> <p>06197009</p>
Usable length HP	Length mm
20	106.68
28	147.32
40	208.28
42	218.44
63	325.12
84	431.80
-	1000
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel	24560-130

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

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

Note

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

Threaded inserts, perforated strips, insulation strips

Order Information

Usable length HP	Threaded insert			Perforated strip (item 1)		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	106.18	34561-320	—	106.48	30845-189	101.50	24560-820
28	146.82	34561-328	—	147.12	30845-197	144.20	24560-828
40	207.78	34561-340	—	208.08	30845-209	205.12	24560-840
42	217.94	34561-342	—	218.24	30845-211	210.40	24560-842
63	324.62	34561-363	—	324.92	30845-232	316.88	24560-863
84	431.30	34561-384	34561-484	431.60	30845-253	428.64	24560-884
196	1000.26	34565-196	—	1000.56	34565-396	—	—

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

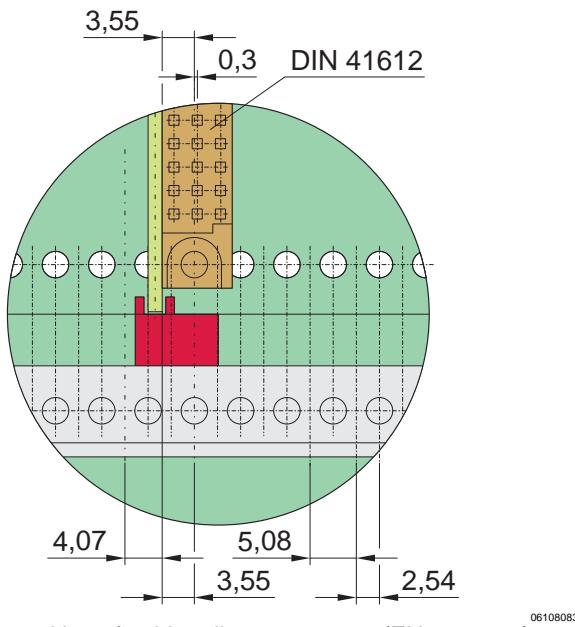
2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

Z-rails, perforated rails

Order Information

Usable length HP	Length mm	Z-rail for connectors DIN EN 60603-2, DIN 41612 item 1	31-pin, DIN 41617	Perforated rail EN 606032, DIN 41612 item 1
		BZA45849	BZA45850	BZA45848
		for connector mounting on ST horizontal rails, please order threaded inserts and screw separately	for connector mounting on ST horizontal rails, please order threaded inserts and screw separately	for connector mounting on VT horizontal rails, please order threaded inserts and screw separately
		1 piece	1 piece	PU 4 pieces
20	101.60	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	426.72	30822-089	30819-808	20822-048
Item 3, torx panhead screw to fix connector to perforated rail, M2.5 x 7, PU 100 pieces		24560-147	24560-147	24560-147
Item 2, torx panhead screw, to fix perforated rails to horizontal rail, M2.5 x 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.

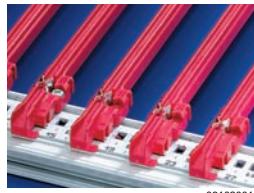
There are groove widths of 2 mm and 2.5 mm.

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

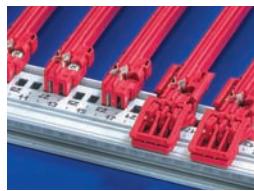
The printed HP markings on the horizontal rail (28 HP and above) allow the rails to be fitted in the correct position easily (position of sub-assembly = "number in viewing window" or in front of the arrow marking on the guide rails).

Applications for guide rails

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



06102001

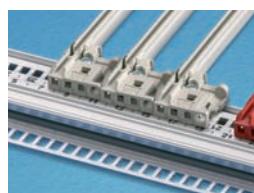


06102002

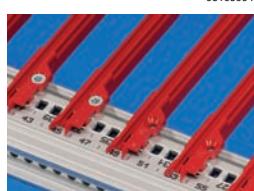


06102005

For plug-in units and frame type plug-in units or
for PCBs without their own front panel
(accessory type or robust version)



06106004



06104009

For CompactPCI or VME64x plug-in units
(type IEEE with coding; frame-type plug-in units cannot be fitted)

For plug-in drive unit modules or PCBs in 4.4" (111.7 mm) height
(type 4.4")



06112022

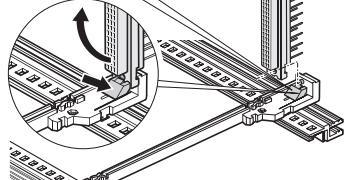
Rugged guide rails to accommodate conduction cooled assembly (CCA)
adaptor

Accessories:

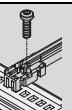
- ESD clip
- Keying/coding pegs
- Board locking

Guide rails for plug-in units and modules, one-piece,
groove width 2 mm and 2.5 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 plug-in units and frame type plug-in units standard type			standard type, with DIN connector fixing  06101501
	 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	06102001	
Board length mm	Groove width mm	Colour 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
1 pair (SPQ 10)¹⁾				

Accessories

 Retention screw, PU 100 pieces; Torque max. 0.2 Nm	24560-141	—	24560-141
ESD clip, PU 50 pieces	24560-255	—	24560-255

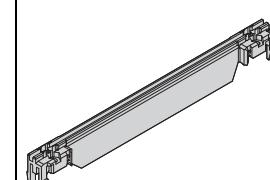
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ);
please order at least the SPQ quantity or a multiple

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

Description of accessories see from page 6.41

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

Order Information

Assembly		accessory type	Guide rails	for heavy modules, Al extrusion, silver, robust version
- can be clipped into Al extruded horizontal rails				
- can be clipped into 1.5 mm thick plates				
Storage temperature from -40 °C ... +130 °C				
				
		up to 280 mm length, PBT, UL 94 V-0; > 280 mm length, multi-piece, end piece PBT, UL 94 V-0, middle section Al extrusion	06102002 PBT UL 94 V-0, red; support beam of guide rails adds to strengthening	06102005 Al extrusion; is screwed to horizontal rail "heavy" with retention screws
Board length mm	Groove width mm	PU 10 pieces ²⁾	1 piece (SPQ 50)	1 piece (SPQ 50)
100	2	red	64560-082	—
160	2	red	64560-005	64560-076
160	2	grey/silver	64560-055	—
220	2	red	64560-006	64560-078
220	2	grey/silver	64560-166	—
280	2	red/silver	64560-080	34562-881
340	2	red/silver	64560-080	34562-882
400	2	red/silver	64560-080	34562-883
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; torque max. 0.2 Nm 	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	—
Coding see page	6.41			—

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

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

Description of accessories see from page 6.41

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

Order Information

Assembly			For CompactPCI, VME64x with coding			For 4.4" PCBs		
			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			
Board length mm	Groove width mm	Colour mm	PU 10 pieces	1 piece (SPQ 50) ¹⁾	PU 10 pieces	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 clips, for alignment pin, PU 50 pieces	24560-256	24560-256	24560-256	24560-256	—	—
Retention screw, PU 100 pieces; torque max. 0.2 Nm	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): 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

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

Description of accessories see from page 6.41

Guide rails, multi-piece, groove width 2 mm

Order Information

PCBs:		For plug-in units and modules standard type		Accessories type		For 4.4" PCBs	
Fixed lengths for 160, 220, 280, 340 mm; length 1000 mm for special dimensions			06106004		06106005		06106006
Mounting: pluggable into horizontal rails		end piece, PBT, UL 94 V-0, middle section Al extrusion		end piece, PBT, UL 94 V-0, middle section Al extrusion		end piece, PBT, UL 94 V-0, middle section Al extrusion	
Storage temperature : End piece -40°C ... +130°C PVC profile 0°C ... +60°C							
Description	Length mm	Groove width 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⁾
End piece, red, 1 pair	2	64560-004	64560-004	64560-008	64560-008	64560-057	64560-057
Al extrusion, for 160 mm board length	95	2	34560-891	34564-891	34560-891	34564-891	34560-891
Al extrusion, for 220 mm board length	155	2	34560-892	34564-892	34560-892	34564-892	34564-892
Al extrusion, for 280 mm board length	215	2	34560-893	34564-893	34560-893	34564-893	34564-893
Al extrusion, for 340 mm board length	275	2	34560-894	—	34560-894	—	34560-894
Al extrusion, for any board length	1000	2	34560-900	—	34560-900	—	34560-900
Plastic extrusion, for any board length	1000	2	—	34564-900	—	34564-900	34564-900
Accessories							
ESD clip, PU 50 pieces		24560-255	24560-255	24560-255	24560-255	—	—
Retention screw, PU 100 pieces; torque max. 0.2 Nm		24560-141	24560-141	24560-141	24560-141	24560-158	24560-158
Board locking, red, PU 10 pieces		—	—	24560-377	24560-377	—	—
Board handle, red, PU 10 pieces		—	—	24560-378	24560-378	—	—
Identification strips for board handle, red, PU 1 sheet = 438 pieces		—	—	60817-228	60817-228	—	—
Coding see page		—	—	see page 6.41		—	—

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

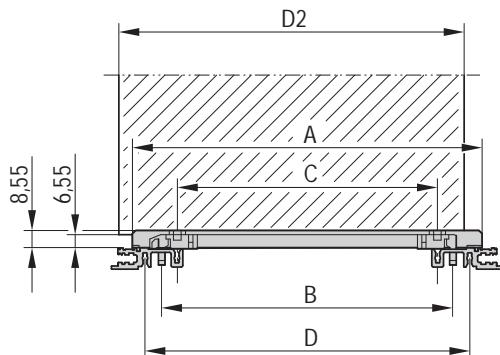
2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

Description of accessories see from page 6.41

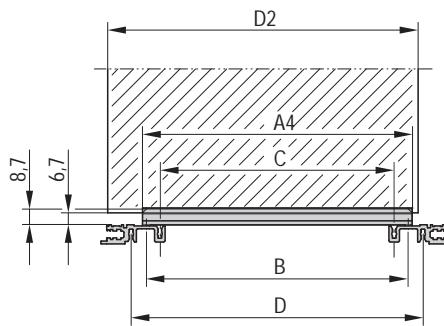
Note

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

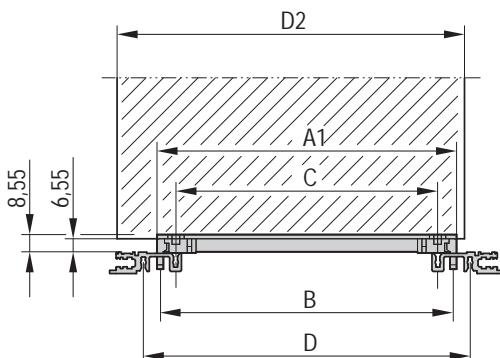
Standard



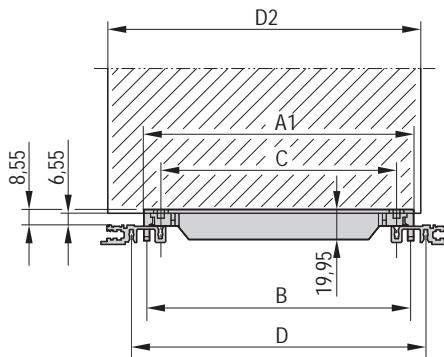
Robust version



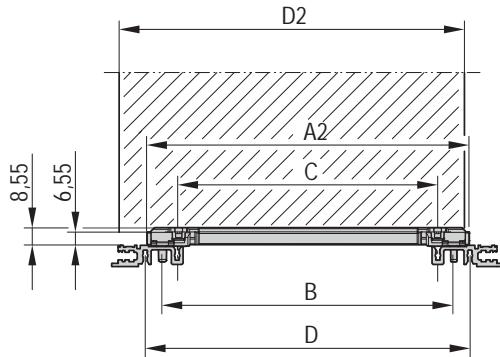
For accessories



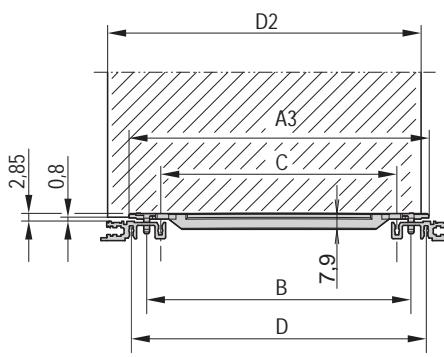
For accessories, strengthened



CompactPCI, VME64x



4.4" (111.7 mm)



Dimensions table

Board length 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

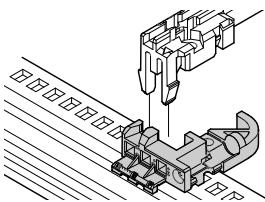
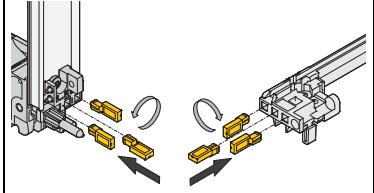
B: Pitch of snap-in fixing

C: Pitch of guide rail retention screws

D: Pitch of horizontal rail retention screws

Guide rail accessories

Order Information

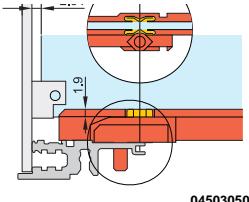
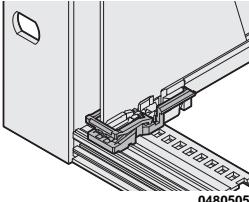
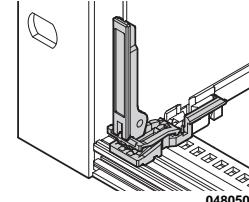
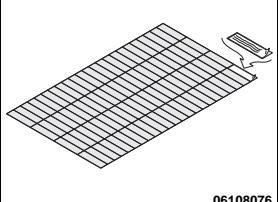
Assembly	Colour	PU 50 pieces	Coding for subracks	
			Keying/coding block for guide rails accessory type	Keying/coding for CompactPCI, VME64x handles to IEEE 1011.10 and IEC 60297-3-103
			 PBT, UL 94 V-0, keying/coding block is clipped into the horizontal rail next to the guide rail; please order keying/coding pegs separately	 Keying/coding peg, PBTP, UL 94 V-0, RAL 7035 The keying/coding pegs prevent plug-in units to be mounted in wrong slots. They are inserted in the chambers of the codable card guides as well as in the insertion/extractor handles IEL or IET (4 possible positions), resulting in 64 codings per card guide; when coding the upper and lower card guide, 4096 codings will result;
above	red	—	34579-232	—
	grey	—	34579-233	20817-501
	silver	24560-256	—	—
below	red	—	34579-234	—
	grey	—	34579-235	20817-501
	silver	24560-256	—	—

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

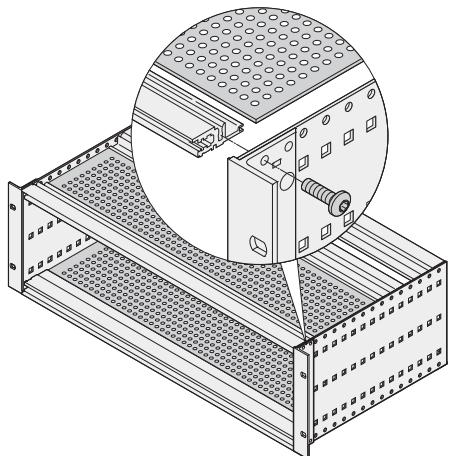
Guide rail accessories

Order Information

Assembly mm	Colour	ESD clips for guide rails	Board locking for PCBs without front panel; for accessory type guide rails	PCB handle for board locking; for accessory type guide rails	Identification strips
		04503050	04805050	04805051	06108076
above/below		 Spring steel, tin-plated, provides conductive contact between board and horizontal rail, on both the solder side and the component side	 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, red, insertion/extraction function with connection to board locking (also slot 1), mounting directly behind front panel (above and below), minimum distance 3 HP	 Polyester film, 31 x 4 mm, self-adhesive, white/matt (1 A4 sheet contains 438 pieces)

Shielding for top and bottom

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

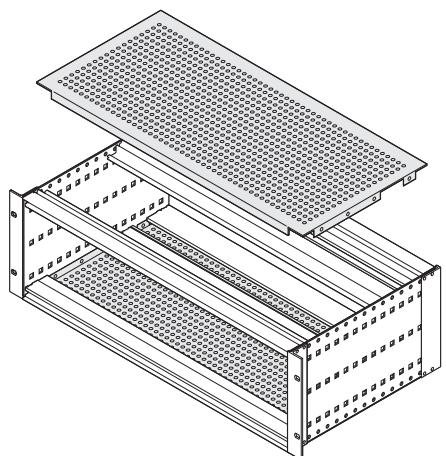


06108077

Cover plates for mechanical protection

- Cover plates are inserted into the grooves of the front and rear horizontal rails, type L "light"

see page 6.43



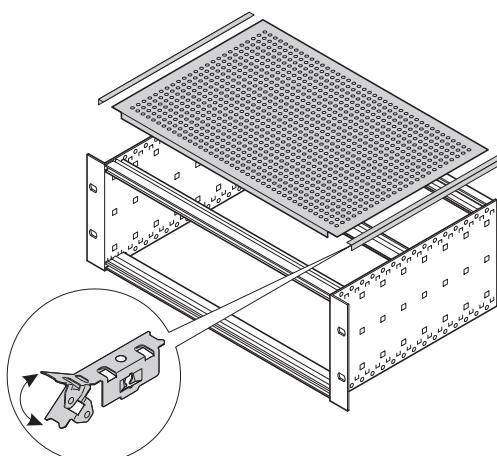
06102084

Cover plates with EMC shielding and mechanical protection

EMC cover plates for top and bottom

- Inserted in the groove of the front and rear horizontal rails; shielding with contact springs, lateral contact by bolting the bracket to the side panel
- Used when standard-depth PCBs (160, 220, 280, ...) are fitted

see page 6.44



06105082

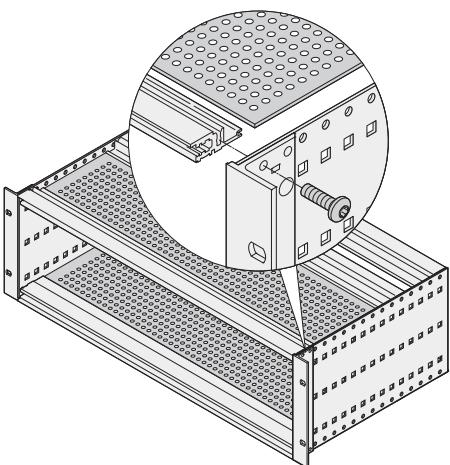
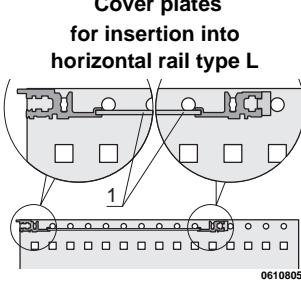
Universal EMC cover plates for top and bottom

- Inserted in the groove of the front and rear horizontal rails; shielding with contact springs, lateral contact by bolting to the side panel with special contact springs
- Used when PCBs with special dimensions are fitted

see page 6.45

Cover plates for mechanical protection
(insertion into horizontal rail type L)

Order Information

 <p>06197010</p>	<p>Cover plates for insertion into horizontal rail type L</p>  <p>06108058</p> <p>Perforated Al plate, 1.2 mm, hole diameter 3.8 mm, Al, untreated, perforation degree 60 %; for insertion into the groove of the light horizontal rails (type L)</p>		
<p>Width Depth Application</p>			
HP	mm		
42	175	160 mm board depth	24561-031
63	175	160 mm board depth	24561-041
84	175	160 mm board depth	24561-051
84	235	220 mm board depth	24561-052

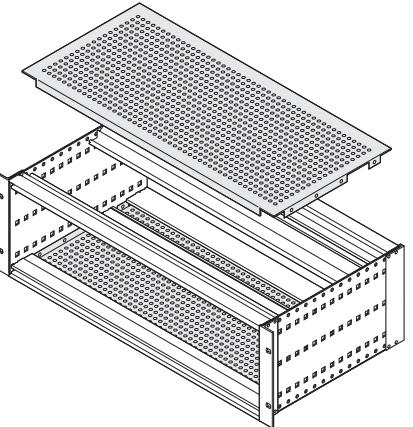
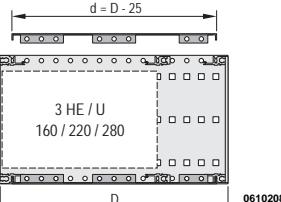
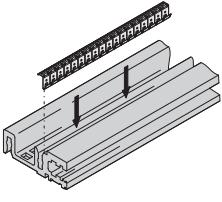
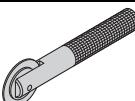
Note

■ Other dimensions on request

EMC cover plates and mechanical protection

- Cover plate for bolting to side panel
- Used when standard-depth PCBs (160, 220, 280, ...) are fitted

Order Information

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

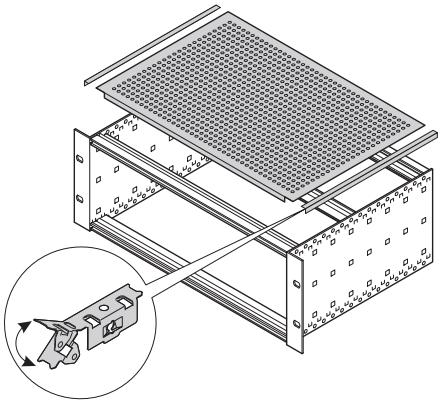
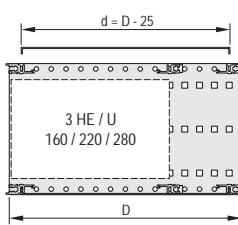
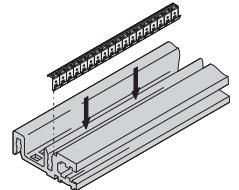
Note

- Cover plates without perforation available on request

Universal EMC cover plates and mechanical protection

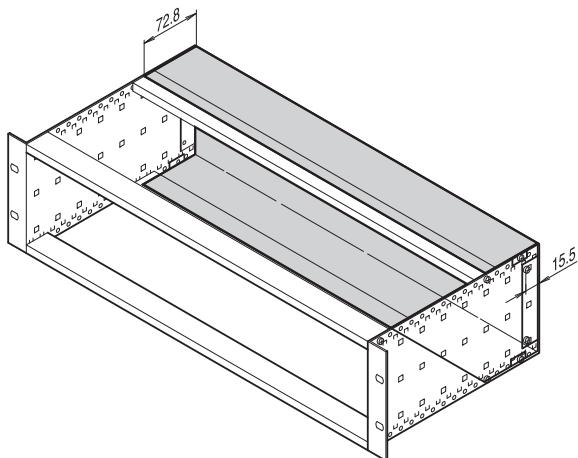
- Used when PCBs with special dimensions are fitted

Order Information

 06105082	Universal cover plate  06108079	Stainless steel EMC gasket, between cover plate and horizontal rail  06106052	
	PU 1 pair 24560-031 24560-032 24560-033 24560-041 24560-042 24560-043 24560-051 24560-052 24560-053 24560-054 24560-055 24560-056	PU 10 pieces 24560-241 24560-243 24560-245	PU 100 pieces – – 24560-246
Width HP	Depth mm	Application	
42	175	160 mm board depth	
42	235	160, 220 mm board depth	
42	295	160, 220, 280 mm board depth	
63	175	160 mm board depth	
63	235	160, 220 mm board depth	
63	295	160, 220, 280 mm board depth	
84	175	160 mm board depth	
84	235	160, 220 mm board depth	
84	295	160, 220, 280 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	
Assembly tool, for EMC gasket, stainless steel (horizontal rails), 1 piece		–	24560-271

Cover/shielding to front and rear

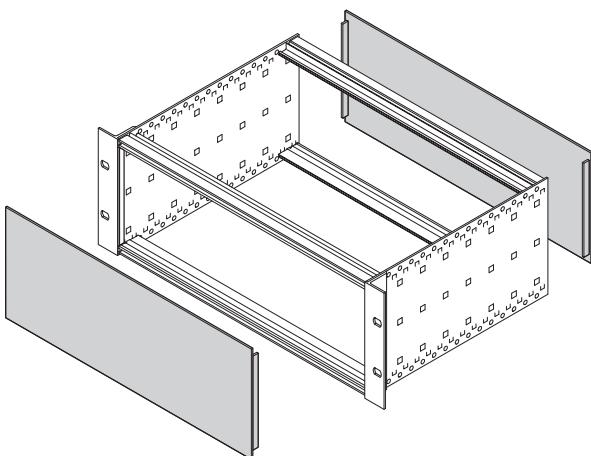
- The front and rear sides of the subrack can be shielded by a hinged front panel or by a fixed front panel and 19" brackets
- The rear can be shielded with a front panel and a corner profile



Rear hood

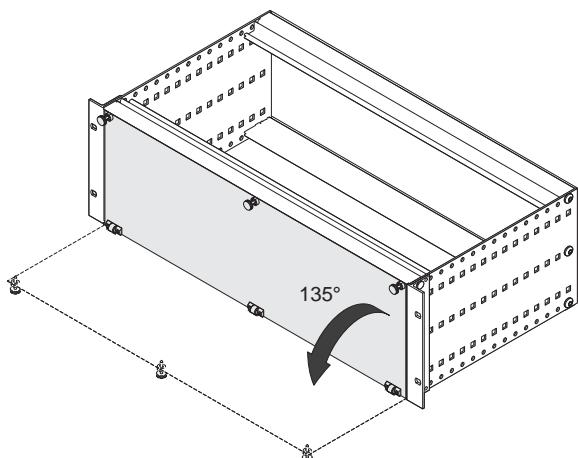
BZA45814

Front panel for front and rear



06112089

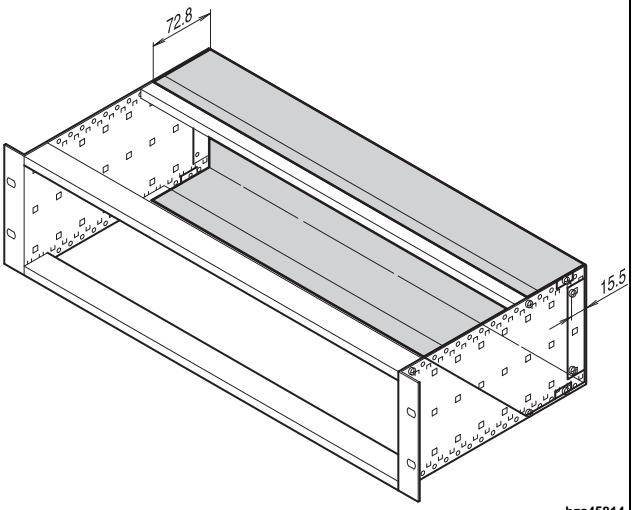
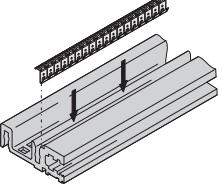
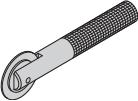
Front panel, hinged/pivoted



06112090

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

Order Information

 bza45814	Rear hood		Stainless steel EMC gasket, between cover plate and horizontal rail	
	<p>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</p>		<p>stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails</p>	06106052
Height	Width	1 piece	PU 10 pieces	PU 100 pieces
U	HP			
3	42	34561-750	24560-241	–
3	84	34561-752	24560-245	24560-246
6	63	34561-763	24560-243	–
6	84	34561-764	24560-245	24560-246
Torx panhead screw, M4 x 6, St, zinc-plated, PU 100 pieces		24560-135	–	
Assembly tool, for EMC gasket, stainless steel (horizontal rails), 1 piece		–		24560-271

Note

- Other dimensions of rear hood available on request

Front/rear panels, unshielded

FRONT PANEL
EXPRESS

Order Information

Height U	Height mm	Width HP	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	Al, 2.5 mm	Al, 2.5 mm	Al, 2.5 mm
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 6.63

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

Front/rear panels shieldable with stainless steel EMC gasket

FRONT PANEL
EXPRESS

Order Information

Height U	Height mm	Width HP	Front panel			
			Front panel for shielding with EMC gasket (stainless steel)	Stainless steel EMC gasket	Front panel	
2	84	84	30846-588	—	PU 10 pieces	PU 100 pieces
3	128.4	2	—	30846-864		
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	21101-705	21101-706
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	—		
4	172.9	63	30846-682	—	21101-713	21101-714
4	172.9	84	30846-683	—		
6	261.8	2	—	30846-865		
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	21101-707	21101-708
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 tool, for stainless steel EMC gasket					24560-270	

■Front panel assembly kits, sleeves, collar screws, quick-release fasteners see page 6.63

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

Front/rear panels shieldable with textile EMC gasket

FRONT PANEL

EXPRESS

Order Information

Height U	Height mm	Width HP	Front panel			
			Front panel for shielding with EMC sealing (textile)	Textile EMC gasket	PU 10 pieces	PU 100 pieces
2	84	84	20848-262	textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0	—	21101-856
3	128.4	2	—	30849-001		
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	21101-853	21101-854
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		
4	172.9	42	20848-269	—	21101-858	—
4	172.9	63	20848-270	—		
4	172.9	84	20848-271	—		
6	261.8	2	—	30849-002		
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	21101-855	21101-856
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 6.63

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

Front panels, hinged and pivoted

Order Information

Height	Width	Front panel, bottom-hinged		Front panel, pivoted
		shielded	unshielded	
				
		Al, 2.5 mm, front anodised, rear iridescent green chromated; hinge, Zn die-cast, nickel-plated; 2 x sleeve, PA; 2 x knurled screws M2.5 x 12.3, St, nickel-plated; 1 x textile EMC gasket	Al, 2.5 mm, anodised, cut edges plain; hinge, Zn die-cast, nickel-plated; 2 x sleeve, PA; 2 knurled screws M2.5 x 12.3, St, nickel-plated	Al, 2.5 mm, front anodised, rear iridescent green chromated; hinge, die-cast zinc, chrome-plated; textile EMC gasket
U	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

Note

- Front panel can be removed in opened position (> 135°)

Shielding is required between the following components of a subrack

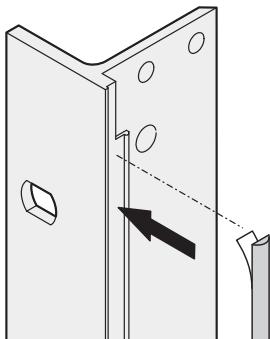
- Front panel/rear panel and horizontal rail, see page 6.53
- Front panel and 19" bracket/corner profile or in case of depth-offset installation, see page 6.53
- Cover plate/horizontal rail, see page 6.42
- Cover plate/side panel, see from page 6.42
- Horizontal rail/horizontal rail in combined mounting (3 U + 3 U and 6 U), see page 6.57
- Shielding for backplane and side panel see page 6.53

EMC shielding concepts

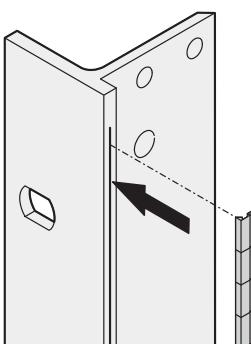
- Shielding concepts in accordance with IEEE and IEC
- Shielding effectiveness has been determined in various series of measurements in accordance with IEC 61587-3 and can be found online together with the relevant standard product
- The combined use of stainless steel and textile EMC gaskets is functionally possible without any problems

EMC shielding concept with EMC textile gaskets

- The seal is affixed to the left-hand side of the subrack (viewed from front) or to the front panel profile, respectively
- An EMC gasket with CuNi coating assures a long-term high level of shielding, typically 40 dB at 2 GHz
- Temperature-resistant adhesive layer is protected by a removable film
- Rear shielding is obtained using front panels or a rear hood
- Temperature range -40° C ... +70° C
- **Note:** rear hood and corner profile cannot be used simultaneously



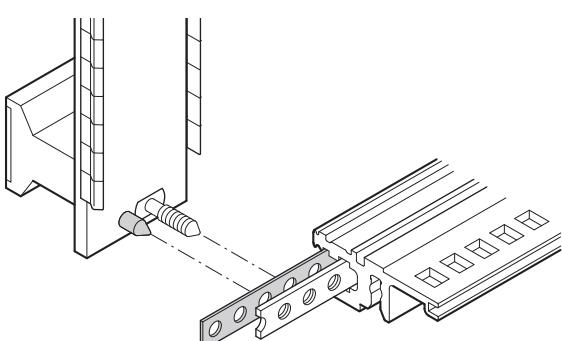
06108073



06108074

EMC shielding concept with stainless steel EMC gaskets)

- Symmetrical arrangement of EMC gaskets on the left and right hand sides of subrack and front panel
- Shielding: typically 40 dB at 2 GHz
- Can be used for temperatures above +70° C
- **Note:** rear hood and corner profile cannot be used simultaneously



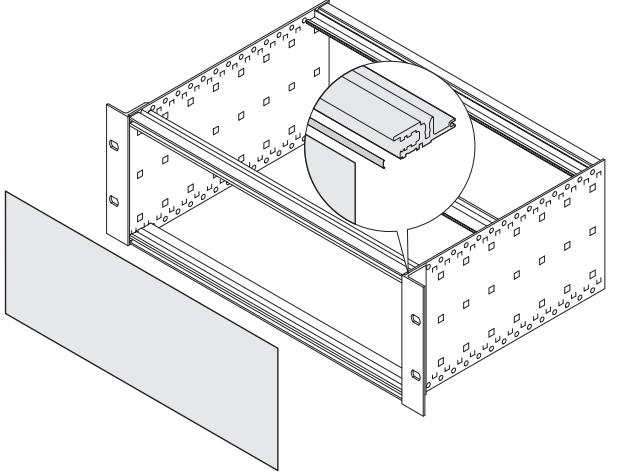
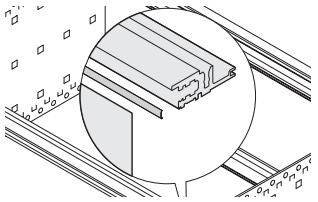
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Front panel shielding concept

- Front panels are available for textile or stainless steel EMC gasket options
- Alignment pins are pressed-in in the front panel to position the gaskets securely and to compress them evenly
- An alignment pin positions the perforated strip in the horizontal rail
- Alignment pin and perforated strip provide an optimal positioning of the shielded assemblies; the front panels are not forced sideways by the shielding elements (Schroff patent)

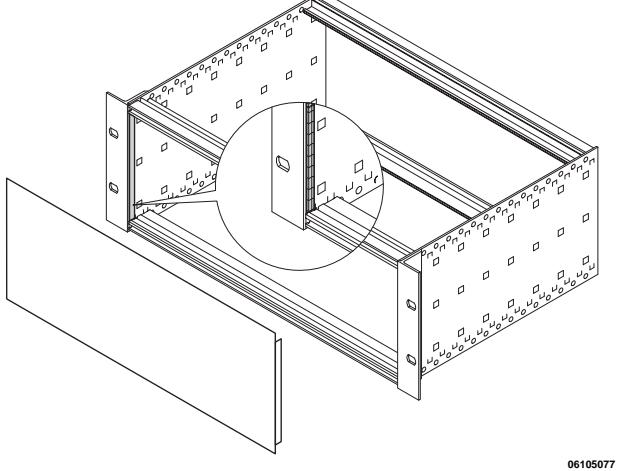
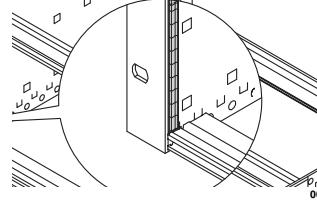
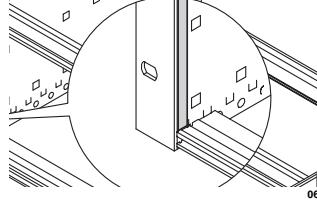
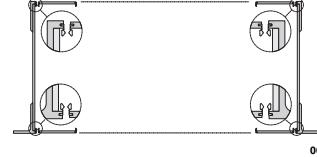
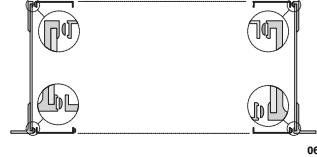
EMC gaskets between front/rear panel and horizontal rail

Order Information

 Width HP	Depth mm	Stainless steel EMC gasket between front panel/rear panel and horizontal rail	
		 06102053	stainless steel; for front and rear horizontal rails (type VT)
28	131.8	24560-229	—
42	202.9	24560-231	—
63	304.5	24560-233	—
84	416.6	24560-235	24560-236

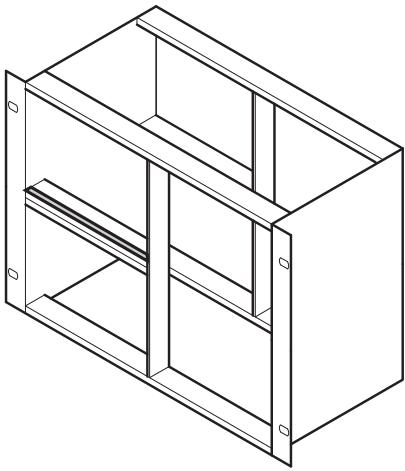
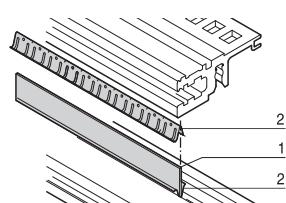
EMC gaskets between front panel and 19" bracket/corner profile

Order Information

 Height U	Depth mm	Stainless steel EMC gasket between front panel/rear panel and 19" bracket/corner profile		Textile EMC gasket between front panel/rear panel and 19" bracket/corner profile	
		 06105077	 06102056	 06108070	 06108054
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 tool, for stainless steel EMC gasket		24560-270		—	

EMC gaskets between horizontal rail and horizontal rail

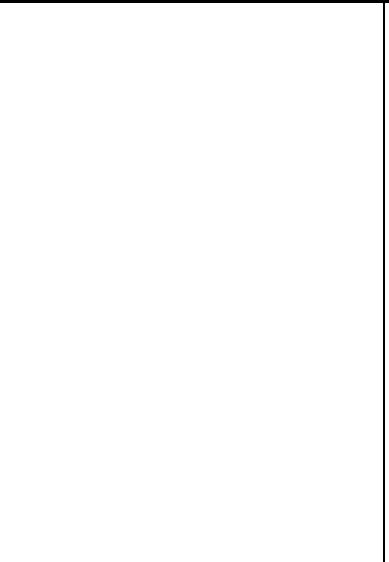
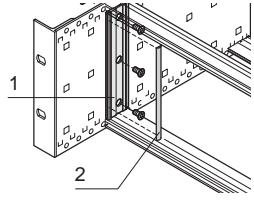
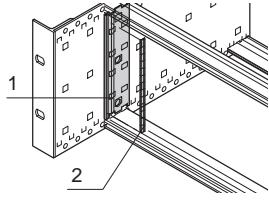
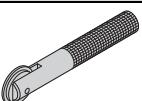
Order Information

 <p>bpa46548</p>	Stainless steel EMC gasket between horizontal rail and horizontal rail	
		bza45877
	<p>Item 1: cover strip, Al, 1 mm, item 2: 2 x EMC seals (stainless steel); for shielding of 2 horizontal rails positioned directly one above the other if assembly area is divided vertically</p>	
	PU 1 kit	
	20	24562-520
	28	24562-528
	40	24562-540
Width HP	42	24562-542
	63	24562-563
	84	24562-584

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

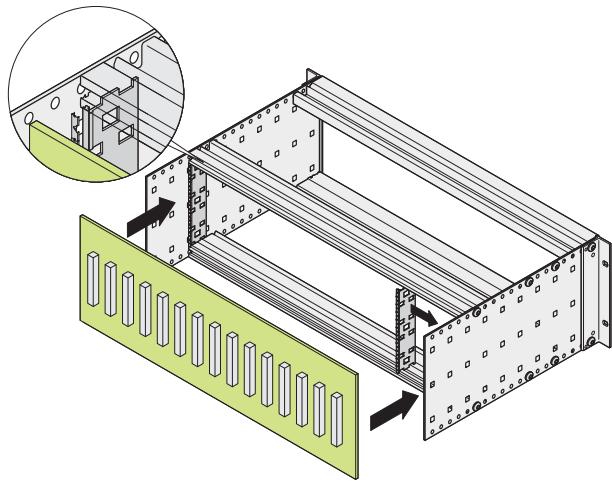
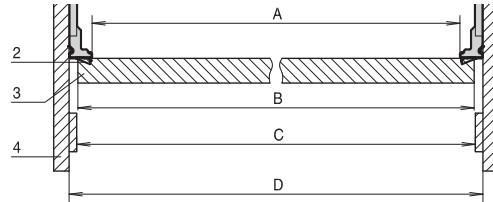
EMC gaskets between front panel and side panel (depth-offset installation)

Order Information

	Stainless steel EMC gasket between front panel and side panel (depth-offset installation)		 <p>06102058</p>
		bpa45884	
	<p>Item 1: 2 x support profiles, Al extrusion; item 2: 2 x stainless steel EMC gasket; fixing material kit for vertical EMC shielding between depth-offset shielded front panels and side panel</p>		<p>Item 1: 2 x support profiles, Al extrusion; item 2: 1 x EMC textile gasket; fixing material kit for vertical EMC shielding between depth-offset shielded front panels and side panel</p>
Height U	Depth mm	PU 1 kit	PU 1 kit
3	97.5	24562-199	24560-180
4	142.5	24562-299	24560-280
6	187.5	24562-499	24560-480
		24560-270	—

EMC gaskets between backplane and side panel

Order Information

 <p>06108078</p>	<p>Stainless steel EMC gasket between backplane and side panel (depth-offset installation)</p>  <p>bpa45916</p> <p>2 x support profile, Al extrusion, 2 x EMC gasket (stainless steel) Fixing materials kit and user manual; for vertical EMC shielding between shielded backplane and side panel;</p> <p>dimensions (84 HP): A = 425.8 mm, B < 429.9 mm, C = 429.8 mm, D = 431.8 mm</p> <p>PU 1 kit</p> <table border="1"> <tr> <td>24561-199</td> </tr> <tr> <td>24561-499</td> </tr> </table>	24561-199	24561-499
24561-199			
24561-499			
<p>Height U</p> <table border="1"> <tr> <td>3</td> </tr> <tr> <td>6</td> </tr> </table>	3	6	
3			
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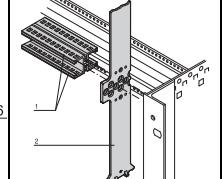
- With an appropriate design the backplane can be used as shielding rear panel; for that purpose a rear horizontal rail (type L-VT or H-VT) for depth-offset installation must be used to ensure the horizontal contact
- For vertical contact the support profile can be fixed to the europacPRO side panel (depth grid 30 mm)

Special interior mounting parts

- Combined mounting: 3 U + 3 U and 6 U, see page 6.57
- Horizontal board mounting, see page 6.58
- Mounting plates, see page 6.59
- Central locking for PCBs, see page 6.60
- Divider plates, see page 6.60
- Air baffles, see page 6.61
- Telescopic slides, see page 6.62
- Fixing parts (bolts, nuts, assembly tools), see page 6.63

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

Order Information

Width pitch T1:T2 HP	bza42182	Combined mounting: horizontal and vertical subdivision (incl. front panel for stainless steel EMC gasket)	Alternative front panels for combined mounting		Splitting extrusion for combined mounting item 2  bpa45857
			unshielded front panel, 6 U, 2 HP item 6	front panel for textile EMC gasket, 6 U, 2 HP item 6	
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 countersunk screw M4 x 14, zinc-plated, PU 100 pieces to fix splitting extrusion/vertical rail		–	–	–	24560-145
Panhead screw M2.5 x 10, St, zinc-plated, PU 100 pieces to fix horizontal rail/splitting extrusion		–	–	–	24560-179
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated, PU 100 pieces		–	21101-101	21101-101	–
Pozidrive/slotted collar screw M2.5, black, zinc-plated, PU 100 pieces		–	21101-102	21101-102	–
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	–

2) The following guide rails cannot be used: type "accessory", type "accessory, strengthened" and type "for 4.4" PCB"

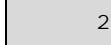
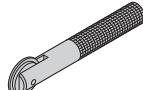
- Subdivision of the 6 U assembly area into:
 - 2 x 3 U
 - 1 x 6 U
- Designed to accommodate euroboards (100 mm high) and double euroboards (233.35 mm high)

Note

- Please order EMC gasketing kit for horizontal rails separately, see page 6.54
- Please order perforated strips for horizontal rails separately, see page 6.33
- Please order rear centre horizontal rail separately, see page 6.31

Horizontal board mounting in 3 or 4 U subrack

Order Information

Horizontal board mounting in 3 or 4 U subrack			
Height U	Usable height h HP	Mounting variants	
3	20	 	PU 1 kit
3	20	 	PU 1 kit
4	28	 	1 piece
Assembly tool, for stainless steel EMC gasket			24564-117
			24564-109
			34564-108
			24564-118
			24564-109
			34564-109
			24564-217
			24564-209
			34564-208
			24560-270
			—

* For direct backplane mounting

Note

- Please order front frame for EMC shielding separately

Mounting plates

Order Information

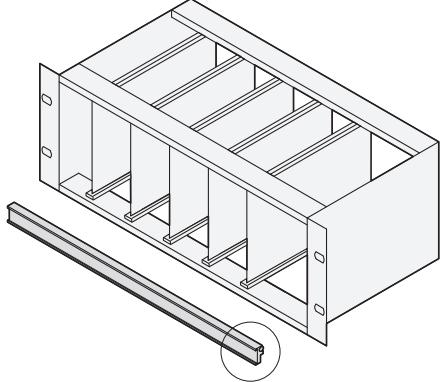
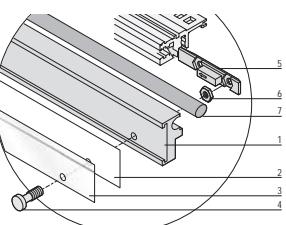
Width W HP	W mm	Board length mm	Mounting plate can be used in combination with cover plate	Mounting plate for use without cover plate	Mounting plate Fixing strip for partial widths
			06102501	bza45819	06102501
28	146.88	160	34563-001	34562-745	30840-021
28	146.88	220	34563-009	34562-749	30840-033
28	146.88	280	—	34562-753	30840-045
28	146.88	340	—	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	280	—	34562-754	30840-045
42	217.99	340	—	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	280	—	34562-755	30840-045
63	324.67	340	—	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	280	—	34562-756	30840-045
84	431.35	340	—	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; square nut M4, St, zinc-plated, 10 pieces)			24560-184	24560-184	—
Assembly kit for fixing strips for partial width mounting plates Torx screw M2.5 x 5, St, zinc-plated, PU 100 pieces			—	—	24560-146

Note

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

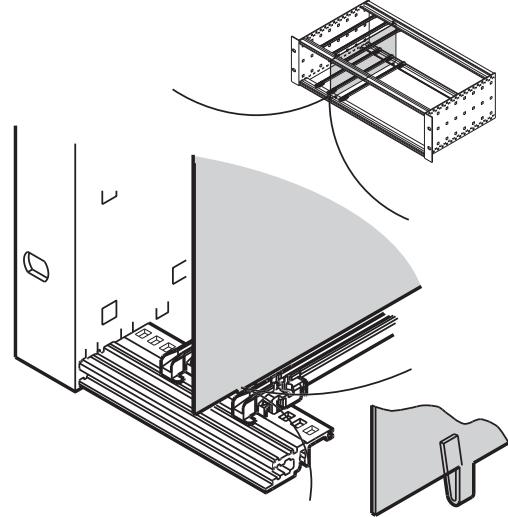
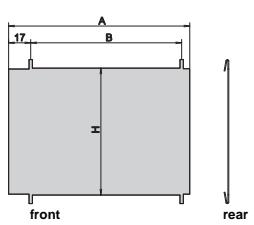
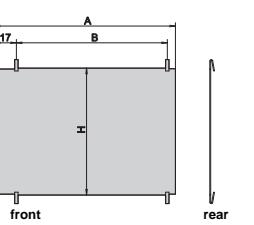
Central locking

Order Information

	Central locking for PCBs without front panels	
	 Item 1: central rail, Al, anodised; item 2: ID cardboard, 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; central locking allows joint locking of PCBs and serves as identification strip; can be fitted to front and rear horizontal rails, suitable for 84 HP width	
Width HP	Length mm	06197010
84	426.0	24560-167
1 piece		

Divider plate

Order Information

	Divider plate		
	Mounting position when stainless steel EMC gasket is used		
Height U	Depth mm	A mm	B mm
3	160	158.3	135.0
3	220	218.3	195.0
6	160	158.3	135.0
6	220	218.3	195.0
bpa45912			
Mounting position when textile EMC gasket is used			
			
			
bpa45911			06105078
Stainless steel, 1 mm, is mounted by clipping onto horizontal rail, space requirement on component side 2 mm; mounting direction varies with shielding design (EMC stainless steel or textile gasket); retrofitting the divider plate in an already-assembled subrack/case will first require dismantling of the horizontal rails; where front panels are unshielded, both mounting directions are possible			
PU 10 pieces			
34562-761			
34562-762			
34562-763			
34562-764			

Air baffles for slots

Order Information

Depth mm	Width HP	Height U	Air baffle without front panel		Air baffle with front panel	
			1 piece	06108085	Front panel with lateral groove for stainless steel EMC gasket	U front panel for textile EMC gasket
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 stainless steel EMC gasket, 1 piece			—		24560-270	—

Note

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

Simple telescopic slide for assembly of subracks in cabinets

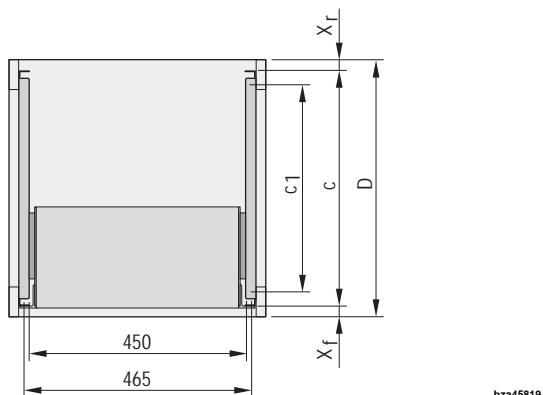


06101006

- 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 note:
No protection against extraction, no stop at full extension

Order Information

Telescopic slides with guiding profile for fitting in cabinets



bza45819

Description	Depth D	x _f	x _r	C	c1	Part no.
	mm	mm	mm	mm	mm	
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
NOVASTAR	500	33	60	407	350	24562-460
NOVASTAR	600	33	60	507	450	24562-461
NOVASTAR	800	33	60	707	650	24562-474
Lab rack	250	0	0	250	162	24562-446

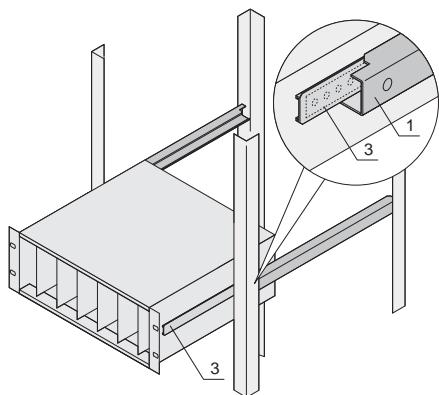
x_f, x_r: Distance of 19" plane to cabinet edge (front, rear)

c: Distance of 19" planes from each other

c1: Fixing dimension of guiding profile on 19" panel/slide mounts

Order Information

Telescopic slides with adaptor rail for subracks



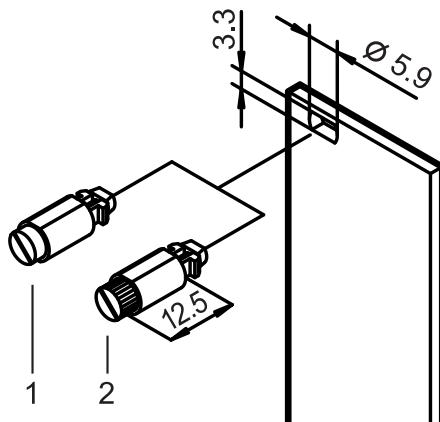
bza45819

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

Assembly parts

- Quick-release fasteners
- Sleeves
- Screws
- Cage nuts
- Tools

Quick-release fasteners



06702062

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

Delivery comprises

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

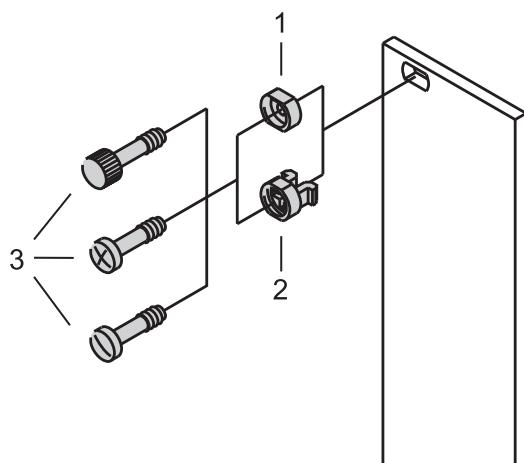
Order Information

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

Note

Quick-release fasteners: mounting without threaded inserts

Sleeves



06702061

Order Information

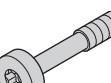
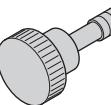
Item	Description	Qty/PU	Part no.
2	Plastic sleeve, PA, grey	100	21100-464
2	Plastic sleeve, PA, black	100	21100-591
1	Metal sleeve, brass, nickel-plated	10	21100-659
1	Metal sleeve, brass, nickel-plated	100	21100-660
1	Metal sleeve, brass, black	100	21100-886
1	Metal sleeve, stainless steel	10	21100-661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

Note

- Metal sleeves must be pressed-in in front panels
- Sleeve does not fit in 2 HP wide front panels

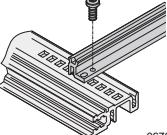
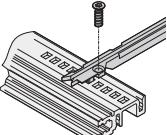
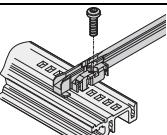
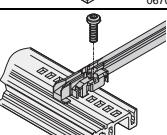
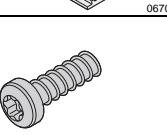
Collar screws

Order Information

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

Torx screws, self-forming

Order Information

Description	Application	Material	Dimension	Qty/PU	Part no.
 06707058	Torx panhead screw, self-forming For extra-robust Al guide rails; torque max. 0.2 Nm	St, zinc flake coating, black	2.5 x 7.3	100	24560-157
 06707058	Torx countersunk screw, self-forming For 4.4" board height, guide rail on horizontal rail, europacPRO, ratiopacPRO; torque max. 0.2 Nm	St, zinc-plated	2.5 x 7.7	100	24560-158
 06707058	Torx panhead screw, self-forming For plastic guide rail on horizontal rail; for panel bracket on horizontal rail; torque max. 0.2 Nm	St, zinc-plated	2.5 x 9.3	100	24560-141
 06707058	Torx panhead screw, self-locking For plastic guide rails on horizontal rails	St, zinc-plated	2.5 x 9.3	100	21500-039
 06707058	Torx panhead screw For 6 U support member, backplane mounting, centre horizontal rail	St, zinc-plated	2.5 x 10	100	24560-179

Subracks - **europacPRO** ServicePLUS

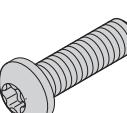
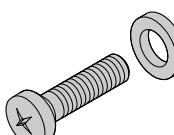
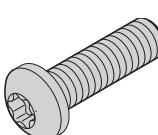
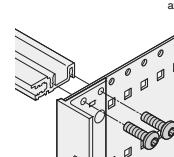
Countersunk screws

Order Information

Description	Application	Material	Dimension	Qty/PU	Part no.
 Torx screw <small>AZA46585</small>	For support profiles europacPRO, ratiopacPRO	St, zinc-plated	M4 x 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 x 14	100	24560-145

Torx panhead screws

Order Information

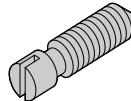
Description	Application	Material	Dimension	Qty/PU	Part no.
 Torx panhead screw <small>AZA45940</small>	For Z-rails and connector assembly	St, nickel-plated	M2.5 x 7	100	24560-147
	For perforated rails	St, nickel-plated	M2.5 x 10	100	24560-148
	For backplane mounting	St, nickel-plated	M2.5 x 12	100	24560-161
		St, nickel-plated	M2.5 x 14	100	24560-162
 <small>AZA45178</small>	Washer	Plastic, PA	2.8 x 6.3 x 2	100	21101-964
 <small>AZA45940</small>	Screw + plastic washer (PA)	St, nickel-plated	M2.5 x 12	100	21100-777
 <small>AZA45940</small>	To bolt on support bracket, rear hood, corner profile on side panel, lengthening bracket and connecting bracket	St, zinc-plated	M4 x 6	100	24560-135
	To bolt-on cover plate or mounting plate, with GND/earthing function	St, zinc-plated	M4 x 6	100	24560-151
	To bolt-on cover plate or mounting plate, with GND/earthing function, self-forming thread	St, zinc-plated	M4 x 6	100	21101-884
 <small>06707058</small>	For horizontal rail on side panel if guide rails are bolted to slot 1	St, zinc-plated	M4 x 10	100	24560-155
	For horizontal rail on side panel, with GND/earthing function	St, zinc-plated	M4 x 14	10	24560-131
	For horizontal rail on side panel, with GND/earthing function	St, zinc-plated	M4 x 14	100	24560-130

Grub screws

Order Information

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

06702053

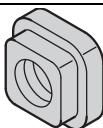


Square nuts

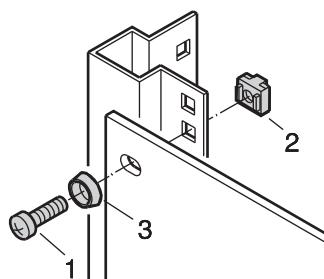
Order Information

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

AZA45921



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)

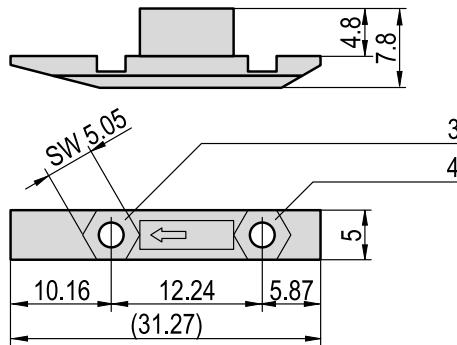
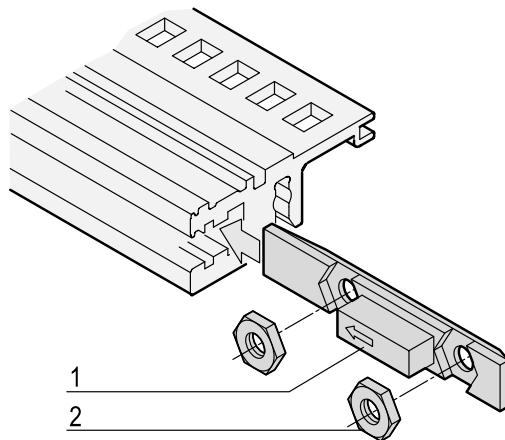
Item	Qty	Description
1	1	Pozidrive screw M6 x 16, zinc-plated
2	1	Plastic washer, ABS, black
3	1	Cage nut M6, zinc-plated

Order Information

Description	Part no.
PU = 8 x screw, washer, nut	21100-435
PU = 50 each of M6 screw, washer and cage nut	21101-809
PU = 100 each of M6 screw, washer and cage nut	21101-810

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

Slide, to accomodate 2 nuts



06702060

- 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

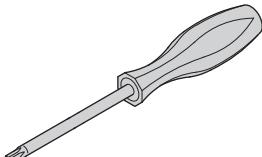
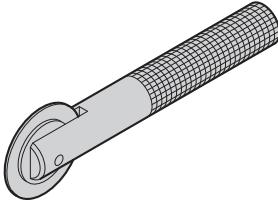
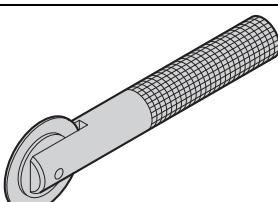
- Nuts used in item 3 suitable for:
 - hinged front panels, 84 HP
 - front or rear panels, 84 HP
- Nuts used in item 4 suitable for:
 - hinged front panels
- Nuts used in item 3 and 4 suitable for:
 - two front panels



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

Assembly tools

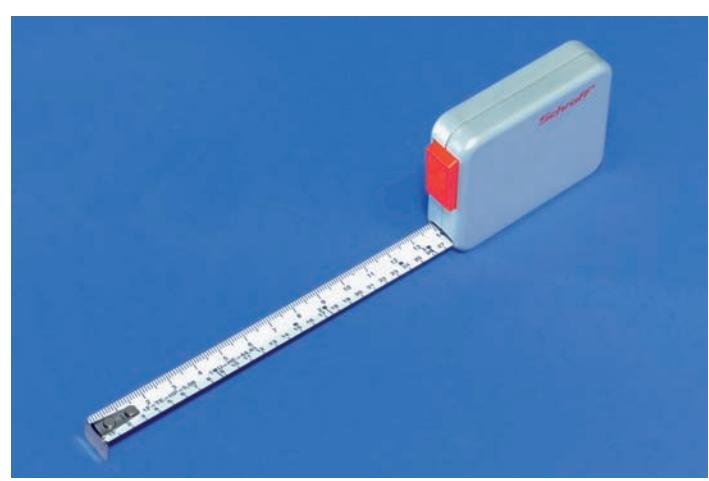
Order Information

Description	Application	Dimension	Qty/PU	Part no.
	T 8 torx	T8	1	64560-026
Torx screwdriver				
	T 20 torx	T20	1	64560-027
	Exclusively to fix stainless steel EMC gaskets in horizontal rails	–	1	24560-271
AZA45925				
	To fix stainless steel EMC gaskets on front panels with lateral slots	–	1	24560-270
aza45938				
				
aza45937				

Note

- Assembly tool to insert keying/coding pegs in guide rails is available on request

Tape measure



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

Order Information

Description	Qty/PU piece	Part no.
Tape measure	1	89009-001



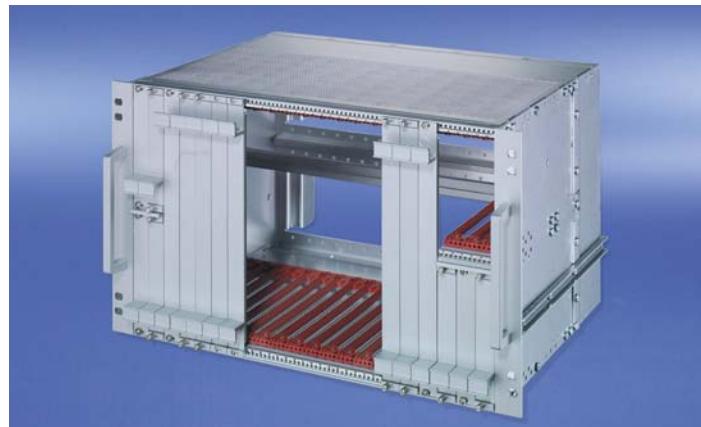
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Application examples

Application: Transportation/defense sectors

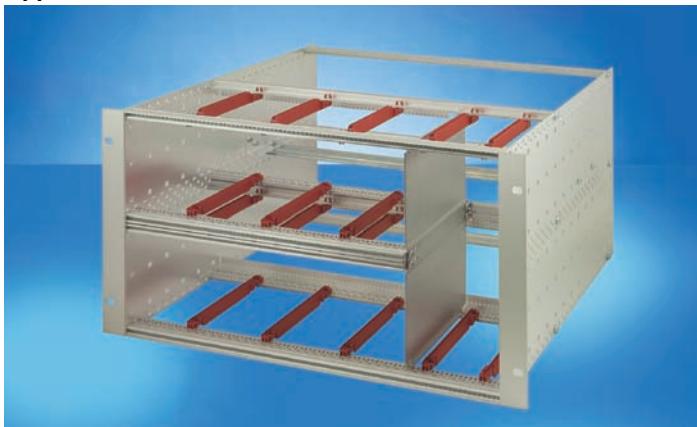


- Mounting frame to accomodate a 36 HP wide railway subrack, frame from stainless steel



- Robust assembly by double bolt-on fixing
- Lateral ducting in cabinet
- Combined mounting 6 U+ 2 x 3 U

Application: Measurement, control and instrumentation sectors



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



- Subrack with additional telescopic fan unit
- Adaptation at bottom and top integrated into the side panel

Application: Telecoms sectors



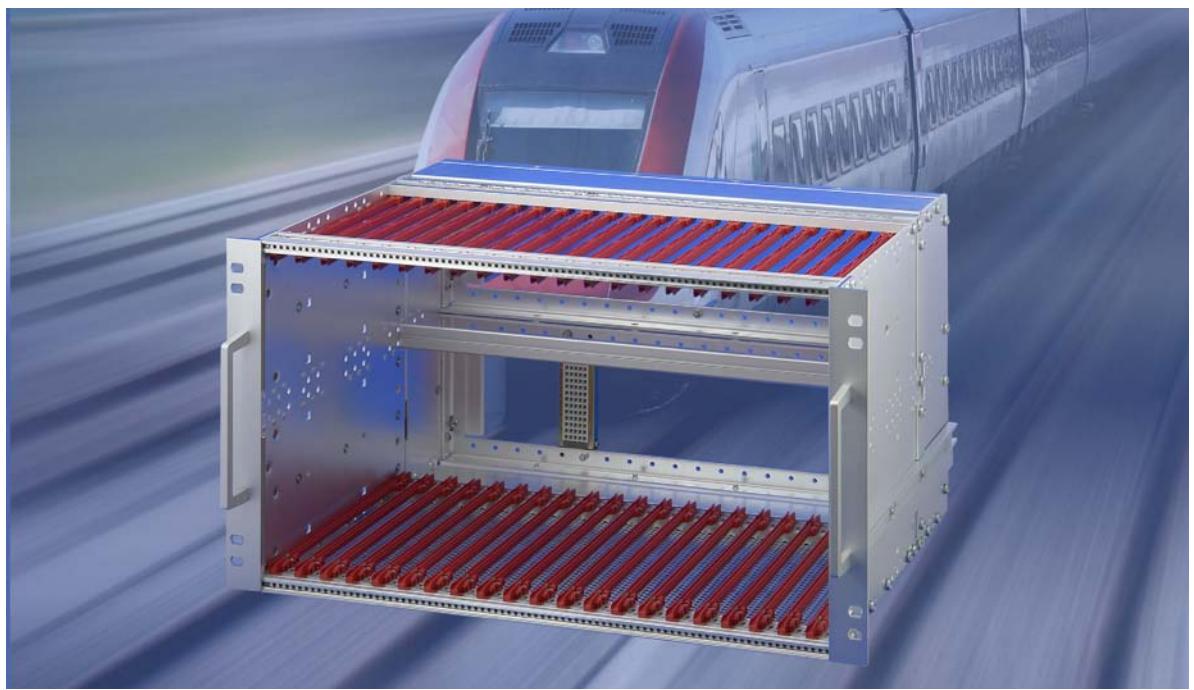
- Shielded subrack for special applications with mounting plate, cover and base plate
- Mounting plate for heavy assemblies



- Subrack with plastic cable ducting for fibre optic cables
- Terminal 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

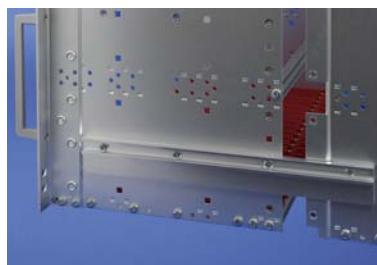
Subracks - for railway applications



F_2015161_06104008



06108013



06108014



06108015

An alignment pin to NFF standard allows the easy installation of the subracks

Lateral support bars to NFF standard facilitate insertion of subrack into the (cabinet) frame

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



06108016



06108017



06108015

The double 19" screwing position adds to additionally safety (NFF standard)

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

The rear brackets have two functions:

- push-in aid
- transport protection for the connectors

The removable rear hood allows a fast cabling between backplane and connector



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

19" subrack for mobile rail applications

- Shock and vibration resistance to IEC 61587-1, EN 50155, NF F 61-005 / NF F 60-002, BN 411002 and BN 411003
- Versions for CompactPCI applications
- Best suited for high mechanical demands



BN 411002, 411003 subracks

- Height 3 U and 6 U
- Width 84 HP
- Unshielded and shielded versions



BN 411002-003
subracks
unshielded 6.73
shielded 6.74



EN 50155 subrack

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

EN 50155 subracks
unshielded 6.75
shielded 6.76
shielded, for
CompactPCI 6.77



SNCF subrack

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



SNCF subracks
unshielded 6.78
shielded 6.79
shielded, for
CompactPCI 6.80

Accessories

Guide rails	6.81
Cover plates	6.82
General	
accessories in	
europacPRO	
section	6.17

ServicePLUS from page 6.84

- 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



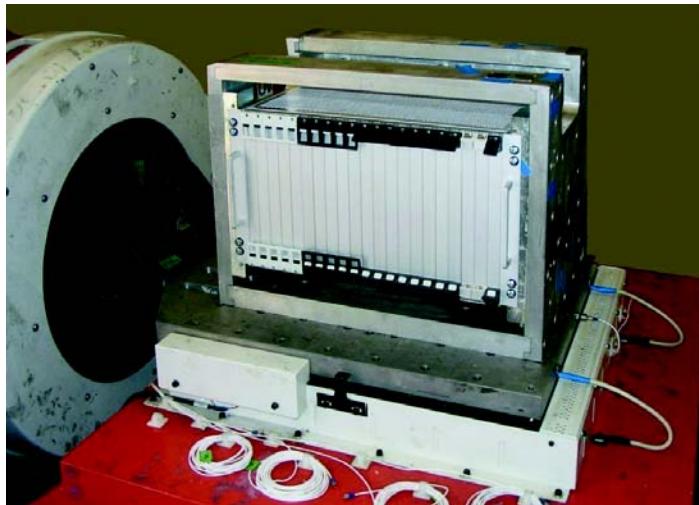
30407004

Subrack for mobile rail applications



Solid mechanical construction

Electronics for mobile applications require robust mechanical construction that can withstand extreme environmental conditions. Our enclosure solutions protect the housed electronics thanks to their high mechanical strength and thus are an important element for secure and trouble-free operation of the entire system. 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 applications e.g. by suitable material thicknesses and fixing elements. Tested with typical loads, they offer the best conditions for secure and reliable functioning 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

A large amount of general information on our railway systems solutions can be found at www.schroff.co.uk/railway/ and in our "Railway Systems" brochure.

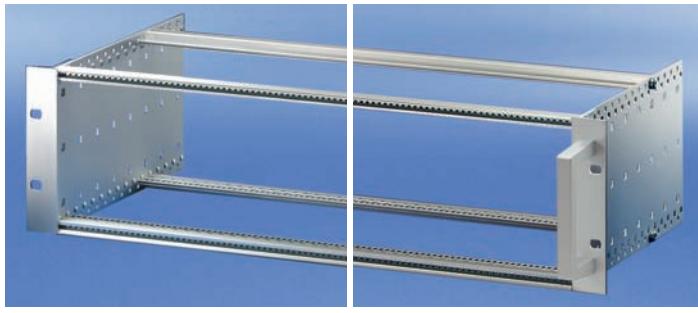


TÜV test report



Subracks - **europac PRO** for railway applications

Kit, unshielded, 'heavy',
for backplane mounting



Without front handle

06111003
With front handle

- Subrack with side panel type H ("heavy"),
19" bracket is firmly connected to side panel
(tox-cold welded)
- Rear horizontal rail for backplane mounting with insulation strip
- Tested to German Railway Standards BN 411002, BN 411003
- Versions with/without front handles

NEW

Delivery comprises (Kit)

Item	Qty	Description	
		3 U	6 U
1	2	2	Side panel type H, Al, 2 mm, passivated, with 19" support bracket (tox-cold welded) for textile EMC gasket
2a	2	2	Front horizontal rail (H-KD)
2b	2	2	Rear horizontal rail (H-ST)
2c	-	1	Rear horizontal rail centre (H-ST)
3	4	6	Threaded inserts, front and rear (pre-fitted)
4	2	4	Insulation strip (pre-fitted)
5	1	1	Fixing material kit, user manual
6	2	2	Front handle (on version with front handle only)

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no. with front handle	Part no. without front handle
3	84	175	175	24567-161	24563-161
3	84	235	175/235	24567-162	24563-162
3	84	295	175/235/295	24567-163	24563-163
3	84	355	175/235/295/355	24567-164	24563-164
6	84	175	175	24567-461	24563-461
6	84	235	175/235	24567-462	24563-462
6	84	295	175/235/295	24567-463	24563-463
6	84	355	175/235/295/355	24567-464	24563-464

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
--	-----------

Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU pieces	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

Torx panhead screw , for extra bolting of the guide rails,
2.5 x 9.3 zinc-plated. PU 100 pieces 24560-141

Note

- Perforated rails, cover plates and assembly kit from page 6.34
- Textile EMC gaskets see page 6.21
- Further accessories from page 6.17
- ServicePLUS configuration from page 6.84

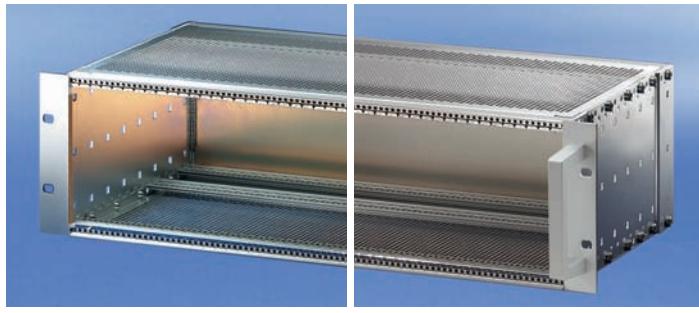


For further information www.schroff.biz/oneclick
oneClick search code = Part no.



ServicePLUS see page 6.84

Kit, shielded, "heavy", for backplane mounting



Without front handle

06102008

With front handle

06111001



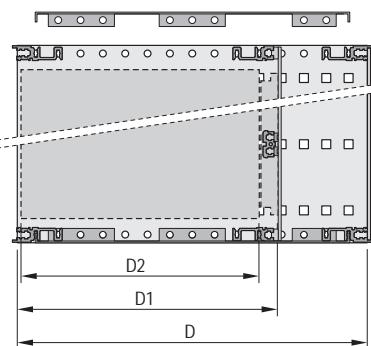
- Subrack with side panel type H ("heavy"), 19" bracket is firmly connected to side panel (tox-cold welded)
- Horizontal rail rear for backplane mounting with insulating strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz (in accordance with VG 95373, part 15 or IEC 61587, part 3), under the condition that the front is closed with shielded front panels
- Tested to German Railway Standards BN 411002, BN 411003
- Versions with/without front handles

NEW

Delivery comprises (Kit)

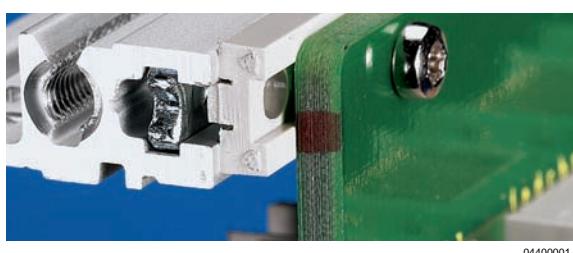
Item	Qty	3 U	6 U	Description
1	2	2	2	Side panel type H, Al, 2 mm, passivated, with 19" support bracket (tox-cold welded); for textile EMC gasket
2	2	2	2	Rear corner profile for textile EMC gasket
3	2	2	2	Front horizontal rail (H-KD)
3 a	2	2	2	Rear horizontal rail (H-KD)
3 b	2	2	2	Rear horizontal rail (H-ST)
3 c	-	1	1	Rear horizontal rail centre (H-ST)
4	6	8	8	Threaded insert (pre-fitted)
5	2	2	2	Perforated strip (pre-mounted)
6	2	4	4	Insulation strip (pre-fitted)
7	2	2	2	EMC cover plate
8	1	1	1	EMC gasketing material (pre-fitted)
9	1	1	1	EMC rear panel
10	1	1	1	Fixing material kit, user manual
11	2	2	2	Front handle (on version with front handle only)

6 U



06111058

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



04400001

Rear horizontal rail for backplane mounting with insulation strip

06108060

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no. with front handle	Part no. without front handle
3	84	235	175/235	24567-172	24563-172
3	84	295	175/235/295	24567-173	24563-173
3	84	355	175/235/295	24567-174	24563-174
6	84	235	175/235	24567-472	24563-472
6	84	295	175/235/295	24567-473	24563-473
6	84	355	175/235/295	24567-474	24563-474

Accessories

19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	21100-435
--	-----------

Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU pieces	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

- Perforated rail for connectors see page 6.34
- Further accessories from page 6.17
- ServicePLUS configuration from page 6.84



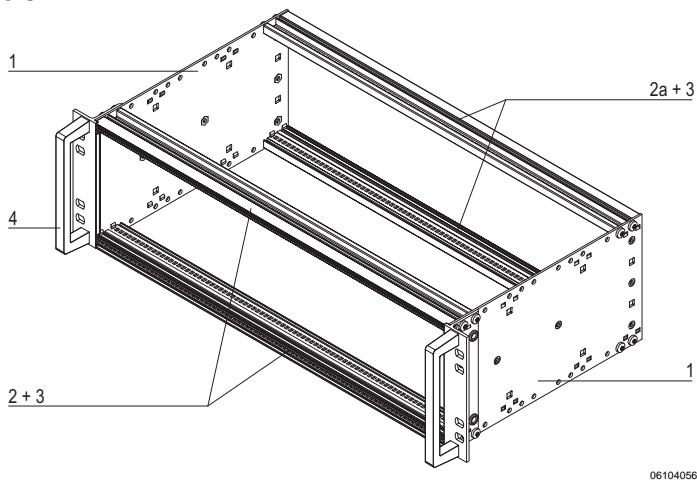
ServicePLUS see page 6.84

Subracks - **europac PRO** for railway applications

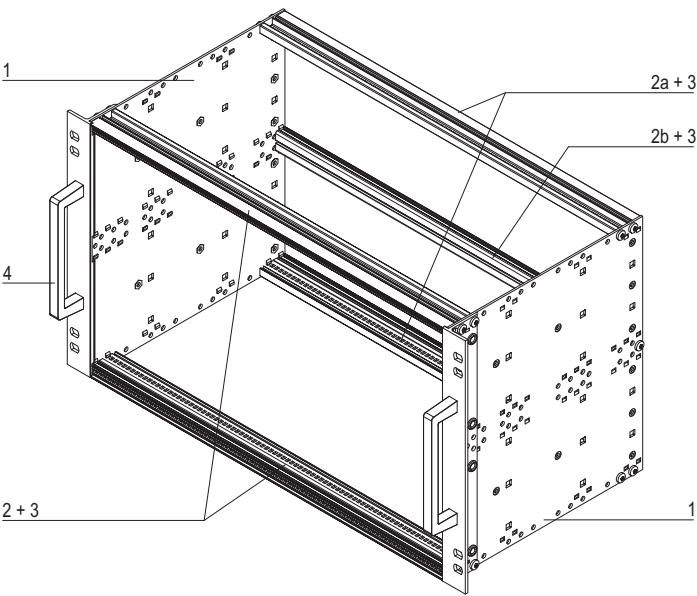
Kit, EN 50155, unshielded



3 U



6 U



ServicePLUS see page 6.84

- Subrack in robust "heavy" version, 19" bracket is firmly connected to side panel (tox-cold welded)
- For mobile railway applications
- Tested to EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for 220 mm board depth

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

Side panel type H with 19" support bracket (tox-cold welded); prepared for EMC textile gasket

Front horizontal rail (H-KD)

Rear horizontal rail (H-VT)

Rear centre horizontal rail (VT)

Threaded inserts

Handles

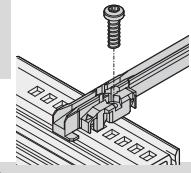
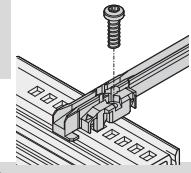
Assembly kit with self-locking screws

User manual

Order Information

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

Accessories

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.36		24560-353
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		21500-039
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
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		24566-109

Note

- Test reports online
- ServicePLUS configuration see from page 6.84
- Further accessories see from page 6.17



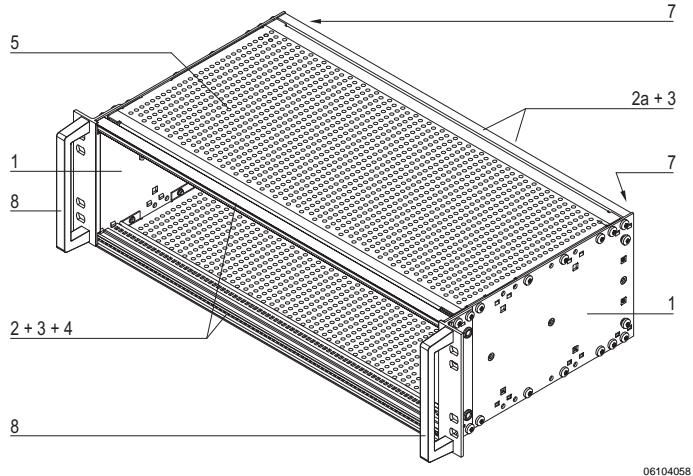
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Kit, EN 50155, shielded



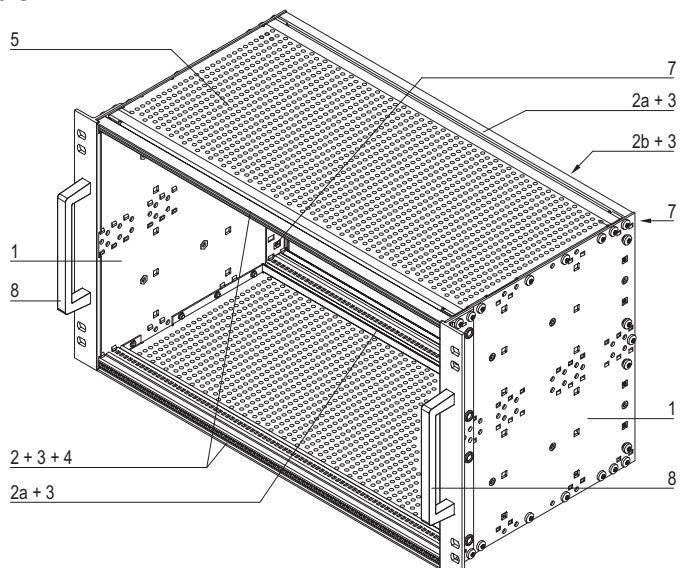
06104006

3 U



06104058

6 U



06104059



ServicePLUS see page 6.84

- Subrack in robust "heavy" version, 19" bracket is firmly connected to side panel (tox-cold welded)
- For mobile railway applications
- Tested to EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for 220 mm board depth

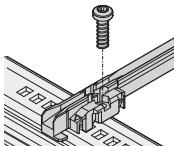
Delivery comprises (kit)

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	2	2
6	1	1
7	1	2
8	2	2
9	1	1
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

Accessories

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.36		24560-353
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		21500-039
ESD clip for guide rails PU 50 pieces		24560-255
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		24566-109

Note

- Test reports online
- ServicePLUS configuration see from page 6.84
- Further accessories see from page 6.17



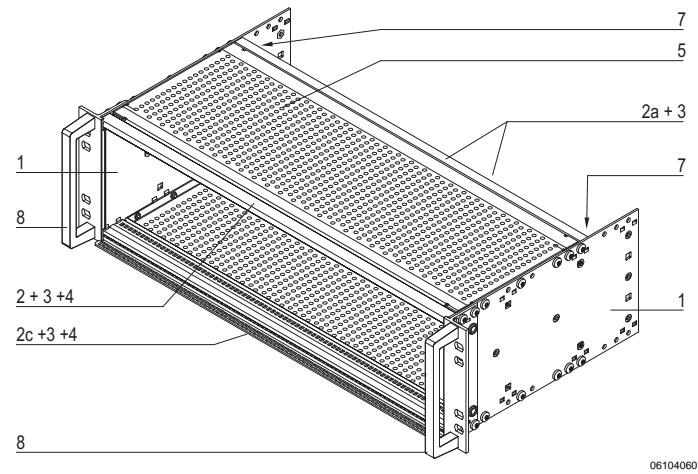
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Subracks - **europacPRO** for railway applications

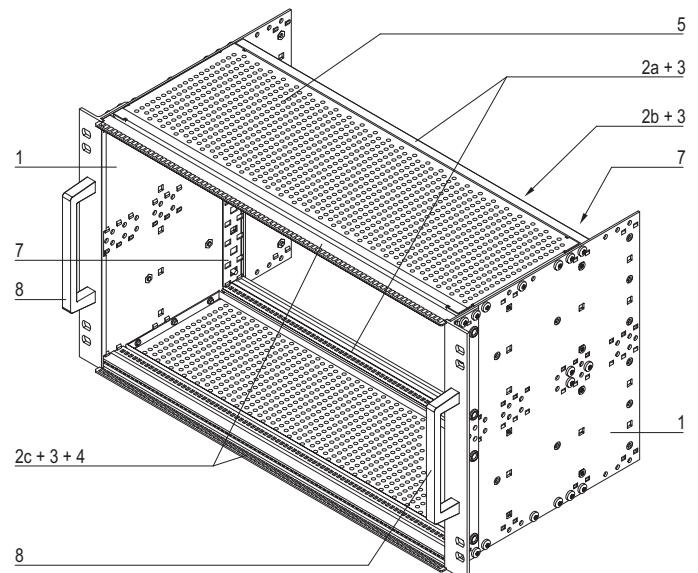
Kit, EN 50155, shielded, for CompactPCI applications



3 U



6 U



ServicePLUS see page 6.84

- Subrack in robust "heavy" version, 19" bracket is firmly connected to side panel (tox-cold welded)
- For mobile railway applications
- Tested to EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for 160 mm board depth
- Subrack in accordance with IEEE 1101.10

Delivery comprises (kit)

Item	Qty	3 U	6 U	Description
1	2	2		Side panel type H with 19" support bracket (tox-cold welded); for 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		Backplane kit – EMC shielding material
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	21500-081
6	84	235	21500-082

Accessories

19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit	24566-109
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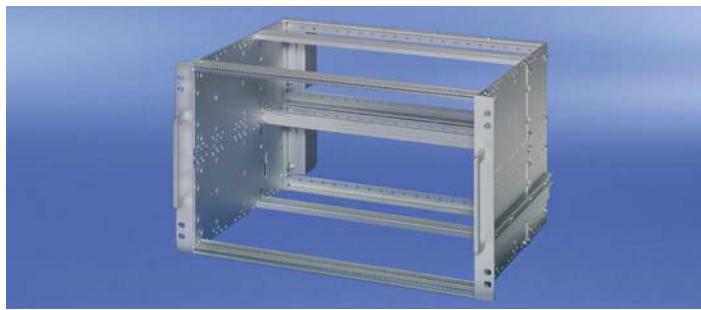
Note

- Please order guide rails and ESD clips separately, see page 6.81
- Test reports online
- ServicePLUS configuration see from page 6.84
- Further accessories see from page 6.17



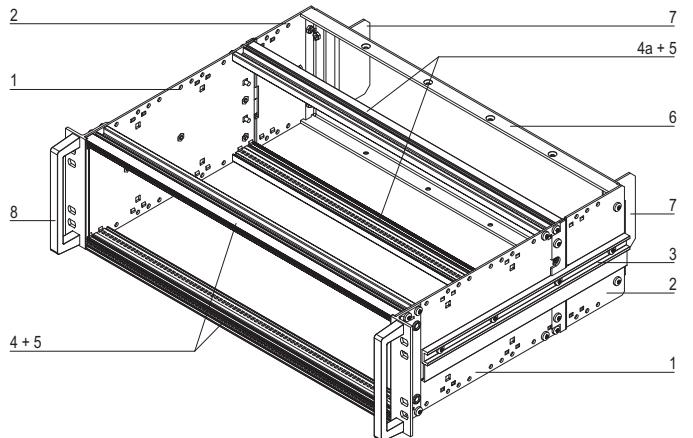
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Kit, SNCF, unshielded



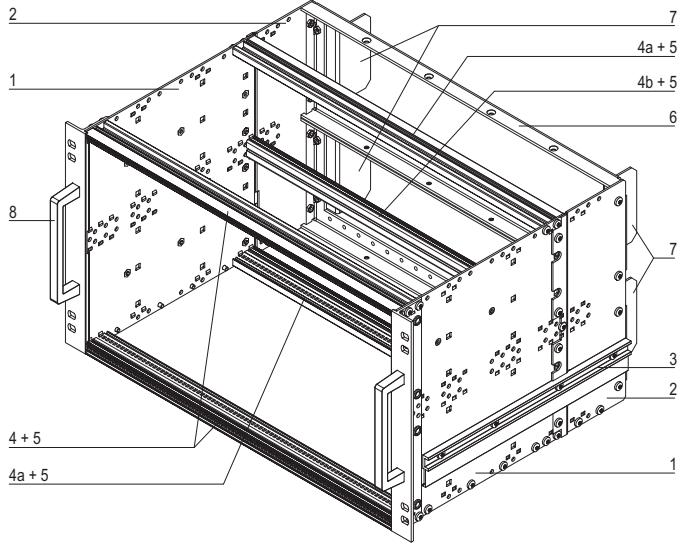
06104002

3 U



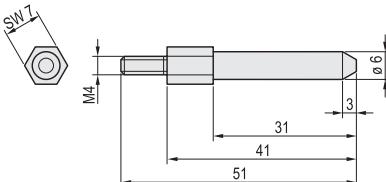
06104050

6 U



06104051

Coding peg



06104062

ServicePLUS see page 6.84



- Subrack, robust "heavy" version, 19" bracket is firmly connected to side panel (tox-cold welded)



- 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 HP and 21 HP, 320 mm deep, for 220 mm board depth

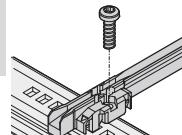
Delivery comprises (kit)

Item	Qty	Description	
	3 U	6 U	
1	2	2	Side panel type H with 19" support bracket (tox-cold welded); prepared for textile EMC gasket
2	2	2	Side panel extension
3	2	2	Ducting external
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

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

Accessories

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.36		24560-353
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		21500-039
ESD clip for guide rails PU 50 pieces		24560-255
Coding peg for rear frame, St, white zinc-plated, 1 piece		60895-018
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		24566-109

Note

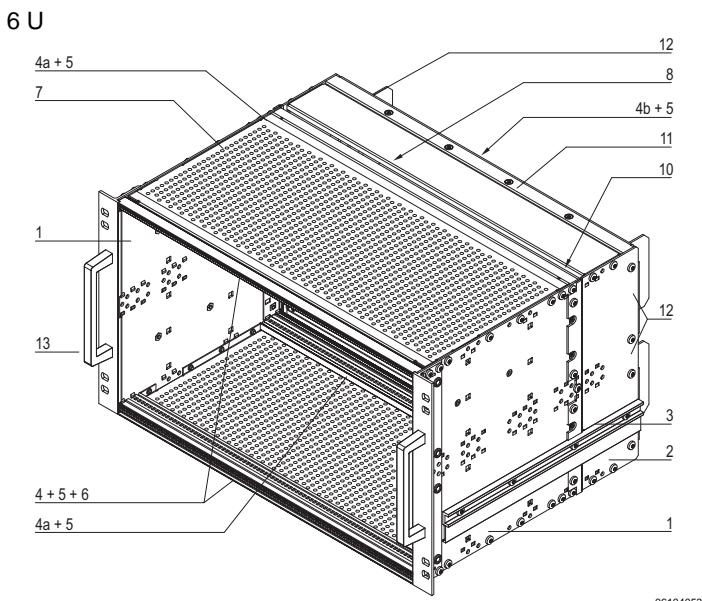
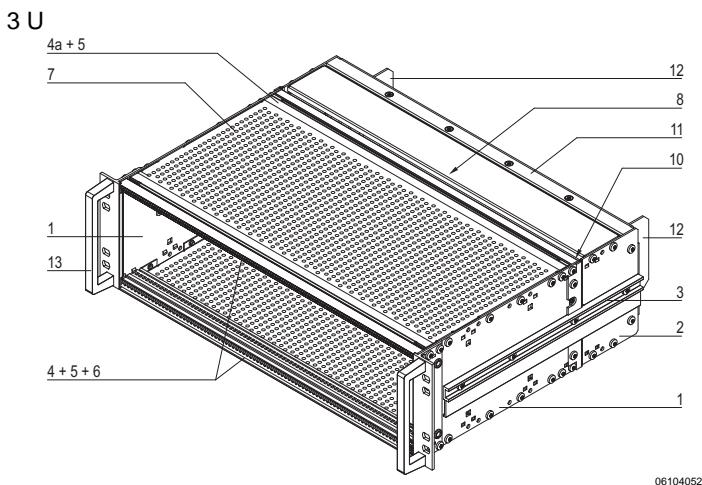
- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Receptacle/mounting frame for subracks, stainless steel, 9 T or 21 T on request
- Test reports online
- Cover plates for bolting on to side panel see page 6.82
- ServicePLUS configuration see from page 6.84
- Further accessories see from page 6.17



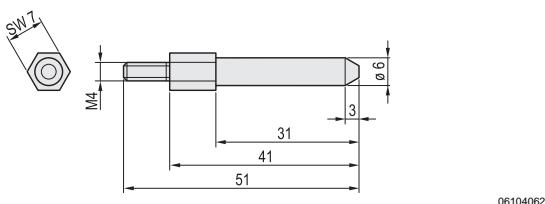
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

Subracks - **europacPRO** for railway applications

Kit, SNCF, shielded



Coding peg



ServicePLUS see page 6.84

- Subrack, robust "heavy" version, 19" bracket is firmly fixed to side panel (tox-cold welded)



- 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 220 mm board depth

Delivery comprises (kit)

Item	Qty	Description	
		3 U	6 U
1	2	2	Side panel type H with 19" support bracket (tox-cold welded); for textile EMC gasket
2	2	2	Side panel extension
3	2	2	Ducting external
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 strip
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	Backplane kit – EMC shielding material
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

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

Accessories

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.36		24560-353
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		21500-039
ESD clip for guide rails PU 50 pieces		24560-255
Coding peg for rear frame, St, white zinc-plated, 1 piece		60895-018
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		24566-109

Note

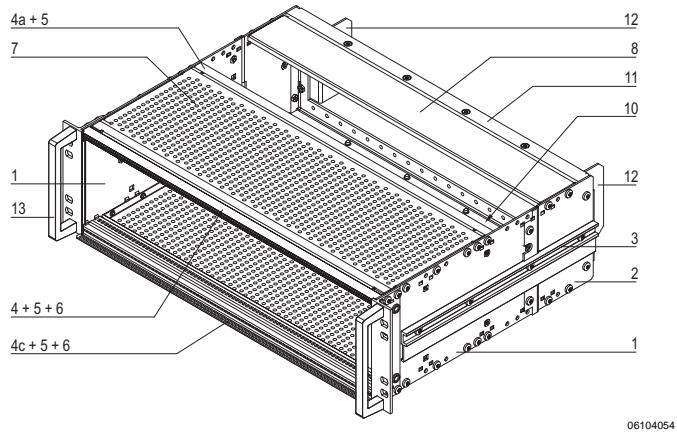
- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Receptacle/mounting frame for subracks, stainless steel, 9 T or 21 T on request
- Test reports online
- ServicePLUS configuration see from page 6.84
- Further accessories see from page 6.17

Subracks - **europac PRO** for railway applications

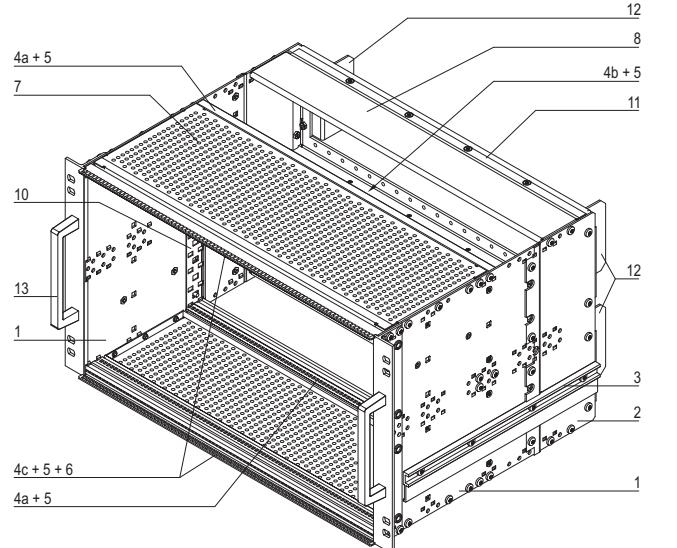
Kit, SNCF, shielded,
for CompactPCI applications



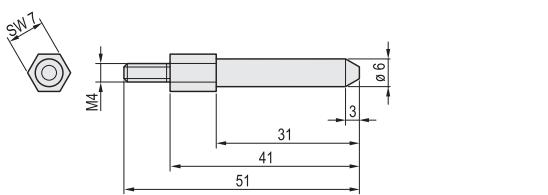
3 U



6 U



Coding peg



ServicePLUS see page 6.84

- Subrack, robust "heavy" version, 19" bracket is firmly fixed to side panel (tox-cold welded)
- 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 HP and 21 HP, 320 mm deep, for 160 mm board depth
- CompactPCI subrack conforming to 1101.10



Delivery comprises (kit)

Item	Qty	3 U	6 U	Description
1	2	2	2	Side panel type H with 19" support bracket (tox-cold welded); for textile EMC gasket
2	2	2	2	Side panel extension
3	2	2	2	Ducting external
4	1	-	1	Front horizontal rail (H-KD)
4 a	2	2	2	Rear horizontal rail (H-VT)
4 b	-	1	1	Rear centre horizontal rail (VT)
4 c	1	2	2	Front horizontal rail (H-LD)
5	4	6	6	Threaded inserts
6	2	2	2	Perforated strip
7	2	2	2	EMC cover plate, 175 T
8	2	2	2	Rear cover plate, 55 T
9	1	1	1	EMC gasketing kit
10	1	2	2	Backplane kit – EMC shielding material
11	1	2	2	Rear frame, 3 U, 21 T
12	2	4	4	Protective bracket SNCF
13	2	2	2	Handles
14	1	1	1	Assembly kit with self-locking screws
15	1	1	1	User manual

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

Accessories

Coding peg for rear frame, St, white zinc-plated, 1 piece	60895-018
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit	24566-109

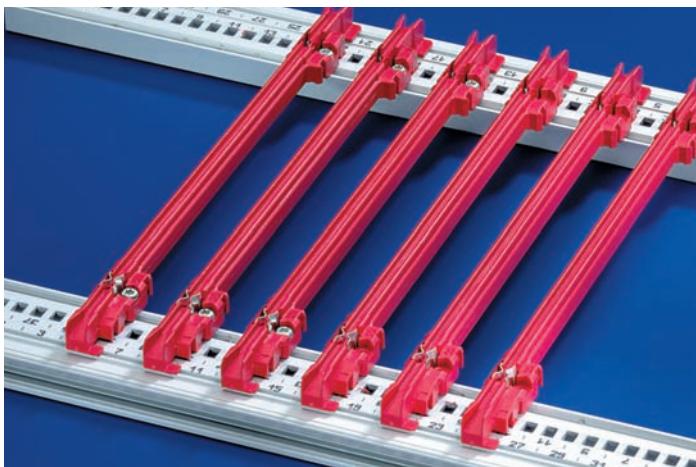
Note

- Please order guide rails and ESD clips separately, see page 6.81
- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Receptacle/mounting frame for subracks, stainless steel, 9 T or 21 T on request
- Test reports online
- ServicePLUS configuration see from page 6.84
- Further accessories see from page 6.17



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

Guide rails



06102001

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

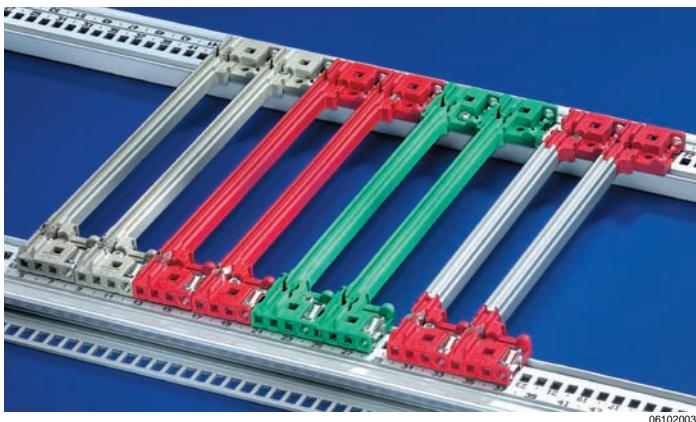
Order Information

Description	Depth mm	Qty/PU	Part no.
Guide rails, accessories, 160 mm deep	160	10	24560-351
Guide rails, 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



06102003

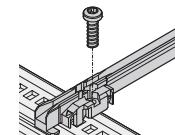
- The guide rails conform to IEC 60297-3-100 and IEEE 1101.10/11, are 4 HP wide and can be fitted with keying/coding pegs
- Material PBT UL 94 V-0, groove width 2 mm, for board thickness 1.6 mm
- Colour:
 - red (CPU board)
 - grey (periphery board)
 - green (CompactPCI power supply unit, 0.1" offset)

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

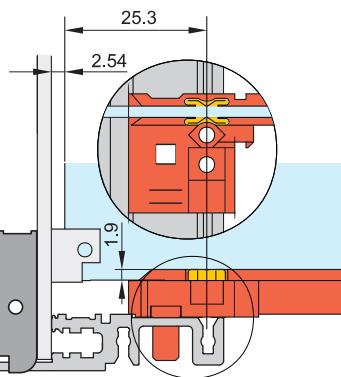
Panhead screw with Torx

M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces



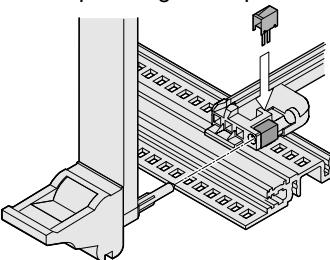
21500-039

Guide rails on horizontal rail type H



04505050

ESD clip for alignment pin



06103052

ESD clip for guide rails

PU 50 pieces 24560-255

ESD clip for alignment pin of CPCI/VME64x handle

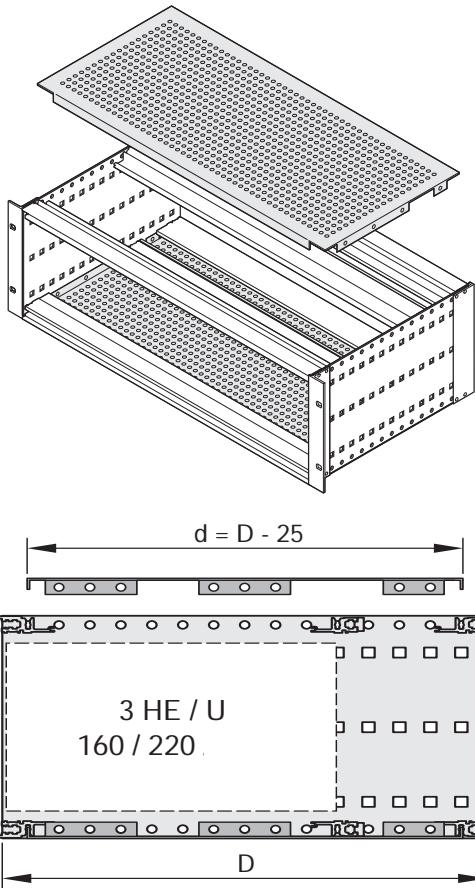
PU 50 pieces 24560-256

Coding peg

PC, UL 94 V-0, RAL 7035, PU 100 pieces 20817-501

- More guide rails see page 6.36
- For inserter/extractor handle type IEL/IET for CompactPCI or VME64x applications see Subracks/Plug-in units section, page 7.18

Cover plate for screw-fixing onto side panel



Side view for 175 mm and 235 mm depths

- Suitable for use with all horizontal rails
- Cover plate for mounting of 160 mm, 220 mm or 280 mm deep PCBs
- Lateral notch to mount the horizontal rails in depths of 160 mm or 220 mm
- Shielding by optional EMC stainless steel contact strips 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 M4 x 6 pentaform bolts, St, zinc-plated

Order Information

06102084

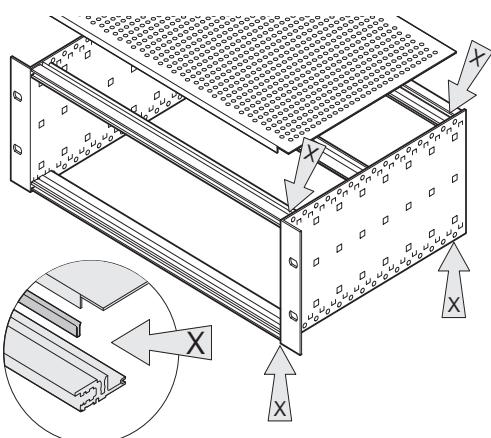
Width HP	Depth D mm	Application	Part no.
84	55	—	21500-038
84	175	160	21500-048
84	235	160, 220	21500-037
36	55	—	21500-123
36	175	160	21500-124
36	220	160, 220	21500-122

Note

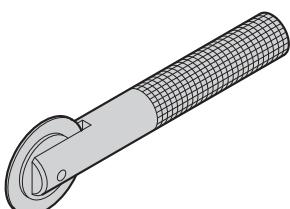
- 4 stainless steel EMC gaskets are necessary per subrack, see page 6.82

06102082

EMC gasket (stainless steel) between cover plate and horizontal rail



Assembly tool



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 pieces	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 mounting of
EMC sealing, St, stainless, in horizontal rails,
1 piece 24560-271

Note

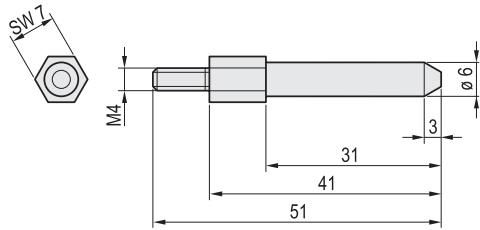
- When a rear hood is used, the stainless steel EMC gasket ensures the conductive connection between horizontal rail and rear hood



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

aza45938

Coding peg for rear frame (NFF standard)



Order Information

Description	Qty/PU	Part no.
Coding peg, 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 		Stainless steel EMC gasket, between cover plate and horizontal rail
	<p>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</p>	<p>1 piece</p> <p>bza45819</p>	
Height	Width		PU 10 pieces
U	HP		
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 panhead screw, M4 x 6, St, zinc-plated, PU 100 pieces		24560-135	—
Assembly tool, For EMC gasket, stainless steel (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. 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 despatch 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

Subracks – for railway applications ServicePLUS

Application examples



Application: Subrack receptacle/mounting frame

06108006



Application: Automatic train control system

06108020



Application: Signalling control systems

41108002



Application: Mobile telephony system

41108001



Application: Control system

Csee_DSCN2296

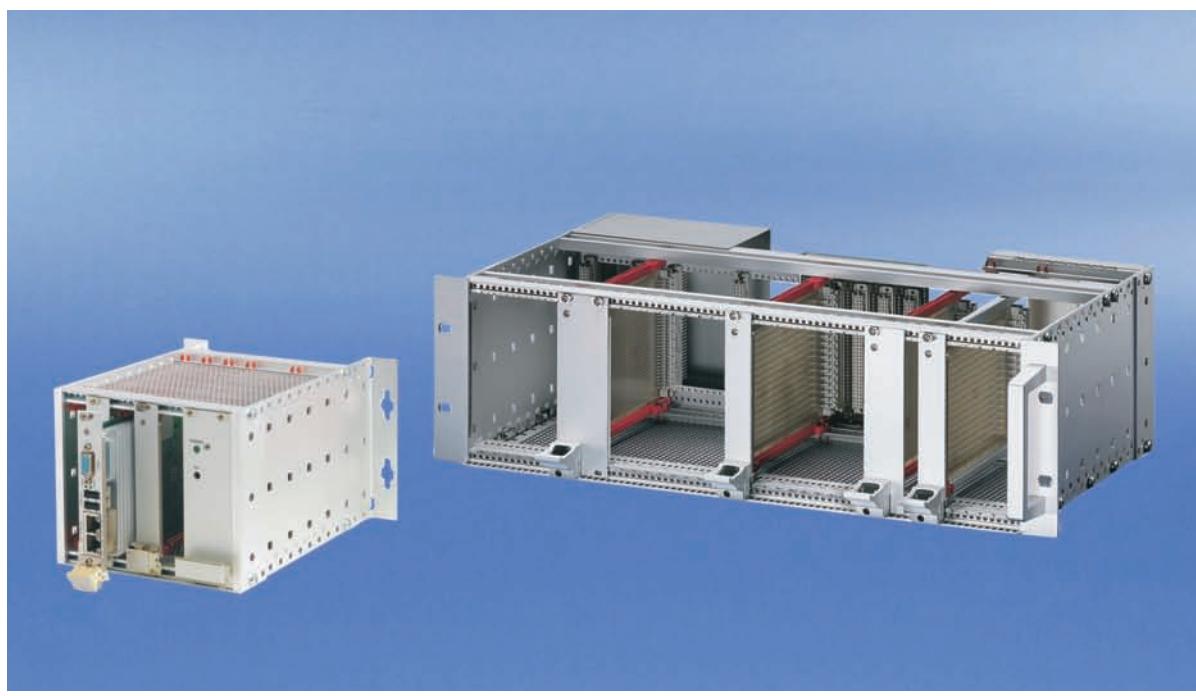


Application: Train control system

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

Subracks – for industrial applications



06112008

We package your euroboards - even for applications in harsh industrial environments

- A wide range in different dimensions, with finishes for the most diverse applications
- In accordance with the IEC 60297-3-101 and IEEE 1101.1 standards
- Tested to IEC 61587, VG 95373 T15, EN 50155, BN 411002, NF F 67-012, NF F 60-002
- Delivered as a kit in space-saving package or individually assembled and fitted to your specifications

Applications



06112009

Subracks for mounting on mounting plate incl.
connection field



06112010

Subracks with special adaptation



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

Subrack for industrial applications

- Accommodates electronic boards in industrial applications
- Mounting frame for power distribution modules (connectors, RCD switches, ...)
- Bracket for panel mounting



Subrack for mounting on a mounting plate

- Height 3 U, width 28 HP, depth 205 mm
- For mounting on mounting plate
- For direct mounting of backplanes or to fit DIN plugs, DIN 41612/EN 60603-2

Subrack for wall mounting . 6.88



Module support

- Height 3 U, width 84 HP, depth 115 mm
- Power distribution modules to mount on lipped horizontal rail in accordance with DIN 43880

Module support 6.89



Bracket for mounting subracks in a panel

- Bracket widths 42 and 84 HP

Bracket for panel mounting 6.90



Accessories

- Accessories (e.g. lipped rail adaptor, horizontal rails)

Accessories ... 6.91

ServicePLUS from page 6.16 / 6.84

- 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

ServicePLUS ... 6.16
Application examples 6.85

europacPRO 6.6
Subracks for mobile railway applications .. 6.70
europacPRO for rugged applications .. 6.92

europacPRO subrack,
unshielded

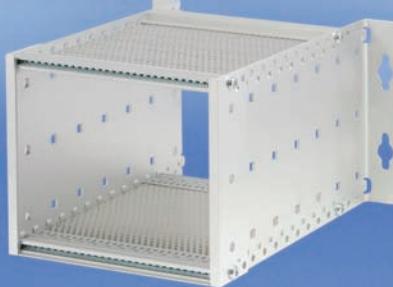
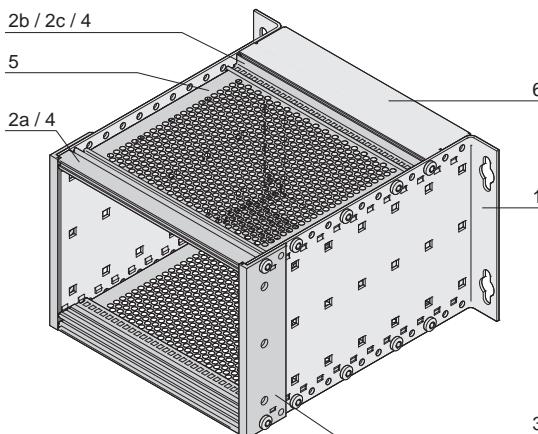
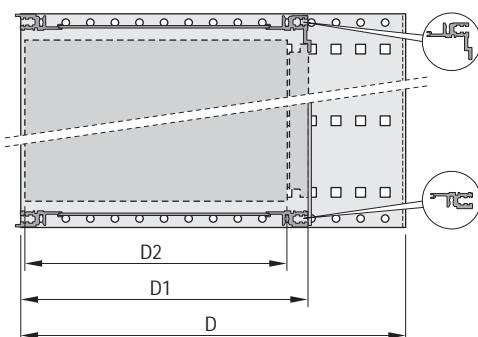


Illustration shows subrack without rear hood

06112001



06112050



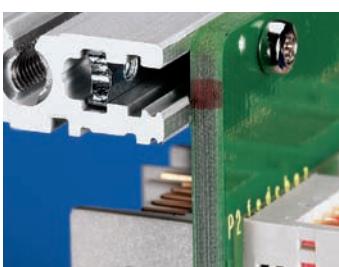
06112051

Connector/backplane mounting;
D=overall depth, D1=insertion depth,
D2=board depth = D1 - 15 mm



Horizontal rail to rear for
connector mounting

04400003



Horizontal rail to rear for direct
backplane mounting

04400002

- Subrack to mount on the wall or on mounting plate
- For mounting of euroboards to IEC 60297-3-101 in size 3 U, 160 mm deep
- Versions
 - For connector mounting (DIN 41612, EN 60602-3), with/without rear panel
 - For backplane mounting, with/without rear hood

NEW

Delivery comprises

Item	Qty	Description
1	2	Side panel, 3 U, Al, 2 mm with integrated wall-mounting bracket
2a	2	Front horizontal rail (L-KD)
2b	2	Rear horizontal rail (L-RC) for backplane mounting
2c	2	Rear horizontal rail (L-MZ) for connector mounting
3	2	Rear angle
4	2/4	Threaded insert, St, zinc-plated
5	2	Cover plate, pushed in
6	1	Rear hood, Al, 1 mm (only for version with rear hood)
7	1	Fixing materials kit, user manual

Order Information

Description	Height U	Width HP	Depth D mm	Depth D1 mm	Part no.	
					28	205
With rear panel, for connector mounting	3	28	205	175	24563-110	
Without rear panel, for connector mounting	3	28	205	175	24563-109	
With rear panel, for direct backplane fixing	3	28	205	175	24563-108	
Without rear panel, for direct backplane fixing	3	28	205	175	24563-107	

Accessories

Guide rails, accessories, 160 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces	24560-351
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Front panels

Page 7.5

Front panel with handle

Page 7.16

Note

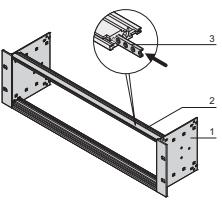
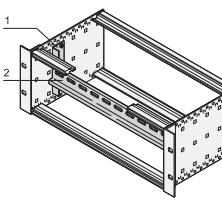
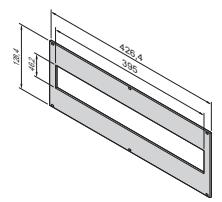
- EMC version on request



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

19" module support, support rail to DIN 43880, hood

Order Information

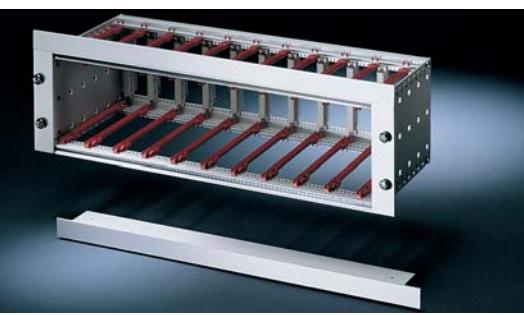
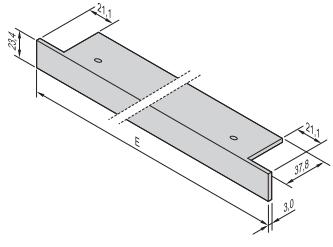
19" module support			
	to accommodate power distribution modules	Support rails to DIN 43880	Front panel for 19" module support
 01494031	<p>to accommodate power distribution modules</p>  <p>3 U, 84 HP, 115.5 mm deep; 2 side panels Al, 2 mm; 2 horizontal rails with short lip (L-KD), Al extrusion, surface anodised, contact surfaces conductive; 2 threaded inserts, St, zinc-plated; GND/earthing kit; fixing material kit;</p> <p>Please order support rail separately</p> <p>PU 1 kit</p>	<p>Support rails to DIN 43880</p>  <p>2 adaptor brackets, Al, 2 mm; support rail, St, zinc-plated, (35/7.5 mm); for width 84 HP (430.5 mm); Mounted in module support or subrack on the side panel</p> <p>PU 1 kit</p>	<p>Front panel for 19" module support</p>  <p>3 U, 84 HP, Al, 2.5 mm, front anodised, rear iridescent green chromated; GND/earth connection 6.3 mm FASTON; (cut-out 395 mm x 46.2 mm); two blanking plates, plastic, polyester, colour similar to RAL 7035; to cover unused module slots</p> <p>1 piece</p>
	24563-100	24565-100	24563-096
			24564-100

Accessories

- Power distribution modules see page 3.34

Bracket for panel mounting

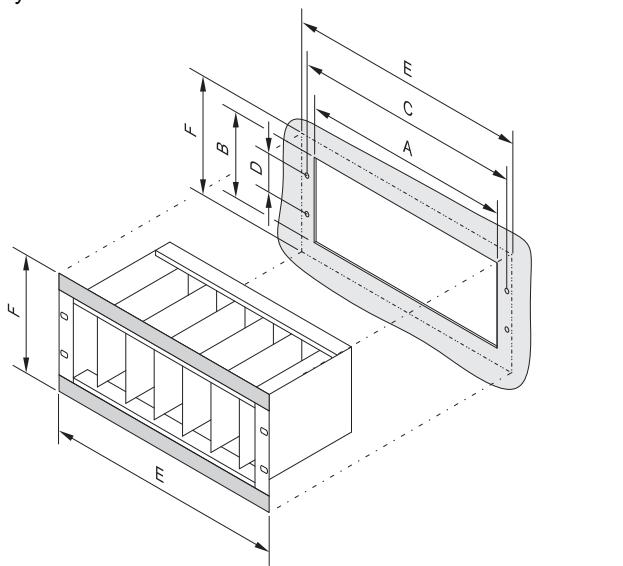
Order Information

	Bracket (mounting angle)  Al extrusion, anodised; serves as front visual cover of subrack at top and bottom when fitted into a panel; screwed in from the front with the horizontal rail; 2 brackets and 4 screws are required per subrack 06105067
06197021	
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



06105066

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

Adaptor for horizontal rail mounting



04812021

- For mounting e.g. small subracks, small wall mounted cases, frame type plug-in units or PSUs on a horizontal rail with lip
- Adaptor is bolted to the desired product and can then be clipped to the lipped horizontal rail (DIN 43880)

Delivery comprises

Item	Qty	Description
1	1	Adaptor, Al extrusion, length 160 mm
1	1	Assembly kit

Order Information

Description	Part no.
Adaptor for horizontal rail mounting	11000-002



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

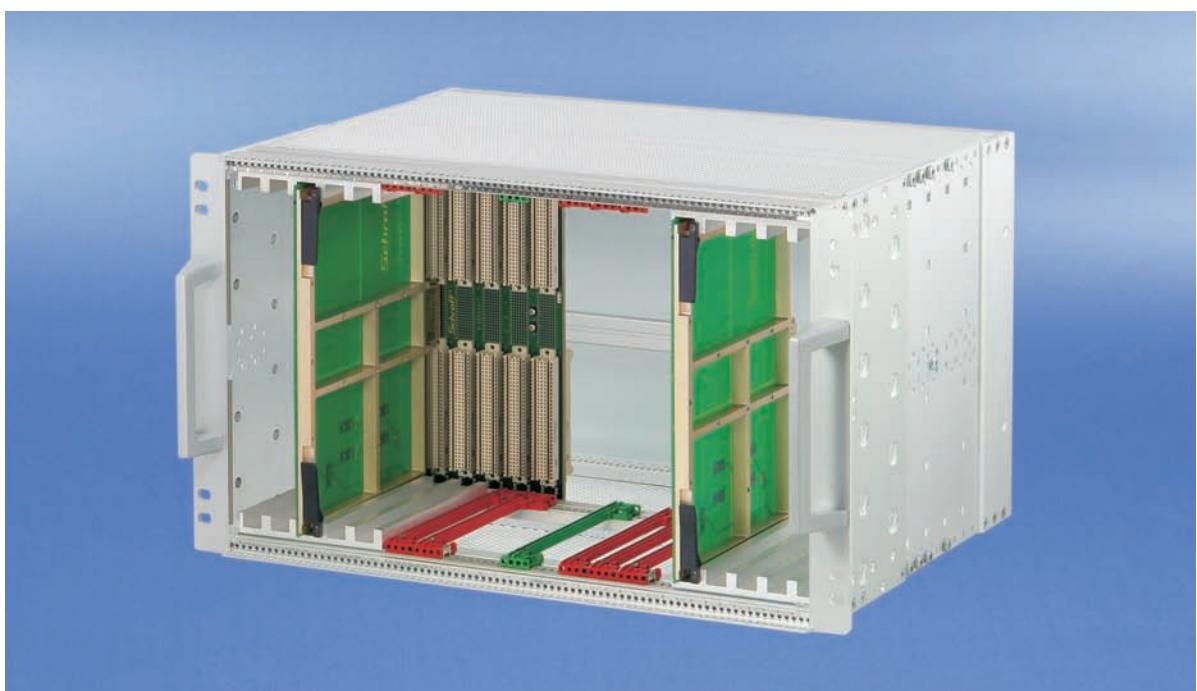


11395007

Example: Lipped horizontal rail adaptor for 19" PSU

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

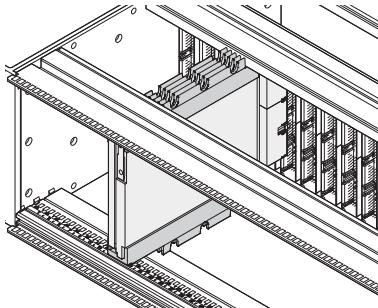
Subracks - **europac PRO** rugged



06112020



06112004
 "rugged" horizontal rail with 3 hole fixing for increased stability (+60 % compared to 2 hole fixing of "heavy" horizontal rail)



06112052
 Special adaptor rails allow conducted cooled assemblies to be fitted



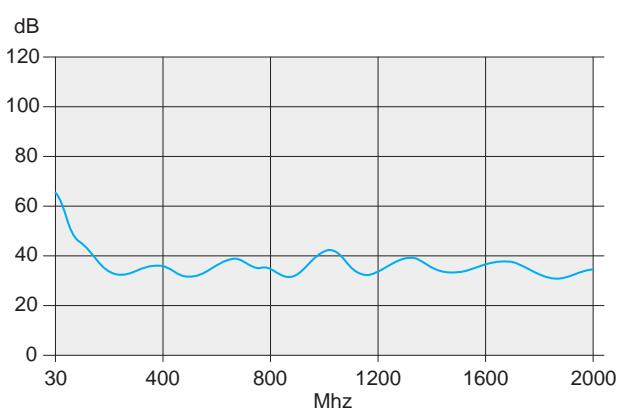
Y-axis_001a1
 Shock and vibration resistant in all three axial directions

Standards/Approvals

- Internal and external dimensions in accordance with:
 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

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



EMC curve

06108081



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

19" subracks

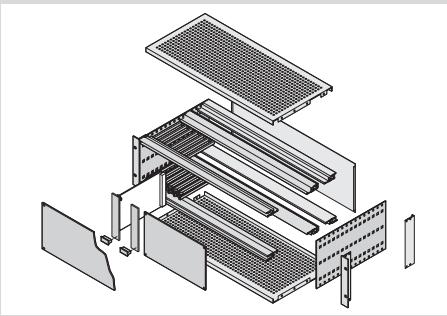
- Shock and vibration resistant up to 25 g
- Kits or individually configured subracks
- A product and accessory platform for the most different customers' requirements and applications
- Suitable for CompactPCI and VMEbus insertion and extractor handles
- EMC shielding can easily be retrofitted
- 3D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

Kits 6.94



ServicePLUS individual configuration

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

Individual configuration .. 6.97



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

ServicePLUS ... 6.95
Application examples 6.69

europacPRO ... 6.6

Subracks for mobile railway applications ... 6.70

europacPRO for industrial applications ... 6.86

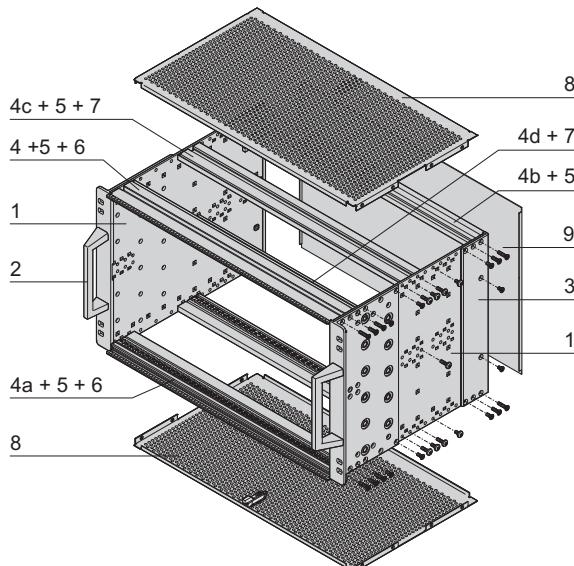
Subracks - **europac PRO** rugged

Kit, rugged, shielded,
for backplane mounting

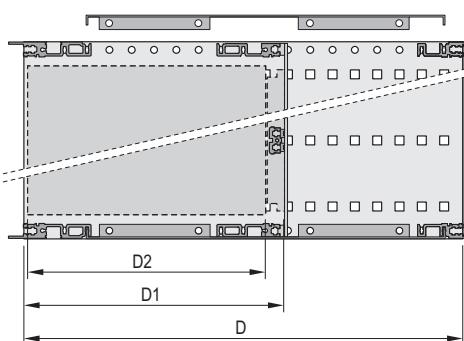


Illustration shows 3 U subrack

06112017



6 U



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

06112055



04400001

Rear horizontal rail for backplane mounting with insulation strip

- 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), on condition that the front is closed with sealed front panels
- Shock and vibration resistant to 25 g

NEW

Delivery comprises (Kit)

Item	Qty	Description
	3 U	6 U
1	2	2
2	2	2
3	2	2
4	1	-
4a	1	2
4b	2	2
4c	2	2
4d	-	1
5	6	8
6	2	2
7	2	4
8	2	2
9	1	1
10	1	1

Order Information

Height U	Width HP	Depth D mm	Depth D1 mm	Part no.
3	84	295	175	24567-149
6	84	295	175	24567-449

Accessories

Guide rails, accessories, 160 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces	24560-351
Torx panhead screw 2.5 x 9.3, zinc-plated, PU 100 pieces; torque max. 0.2 Nm	24560-141
ESD clip for guide rails PU 50 pieces	24560-255
Guide rail accessories for heavy PCBs, extra strong Al extrusion, groove width 2 mm, 160 mm deep, 1 piece (SPQ 10)	34562-881
Torx pan head screw 2.5 x 7.3, zinc flake coating, black, 100 pieces; torque max. 0.2 Nm	24560-157
Adaptor to accomodate conduction cooled assemblies (CCA) for VPX applications, 160 mm deep, PU 1 pair; includes fixing material kit	24566-004
Adaptor to accomodate conduction cooled assemblies (CCA) for CompactPCI applications, 160 mm deep, PU 1 pair; includes fixing material kit	24566-005
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit	24566-109

Note

- 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: www.schroff.co.uk/configuration



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.

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- 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



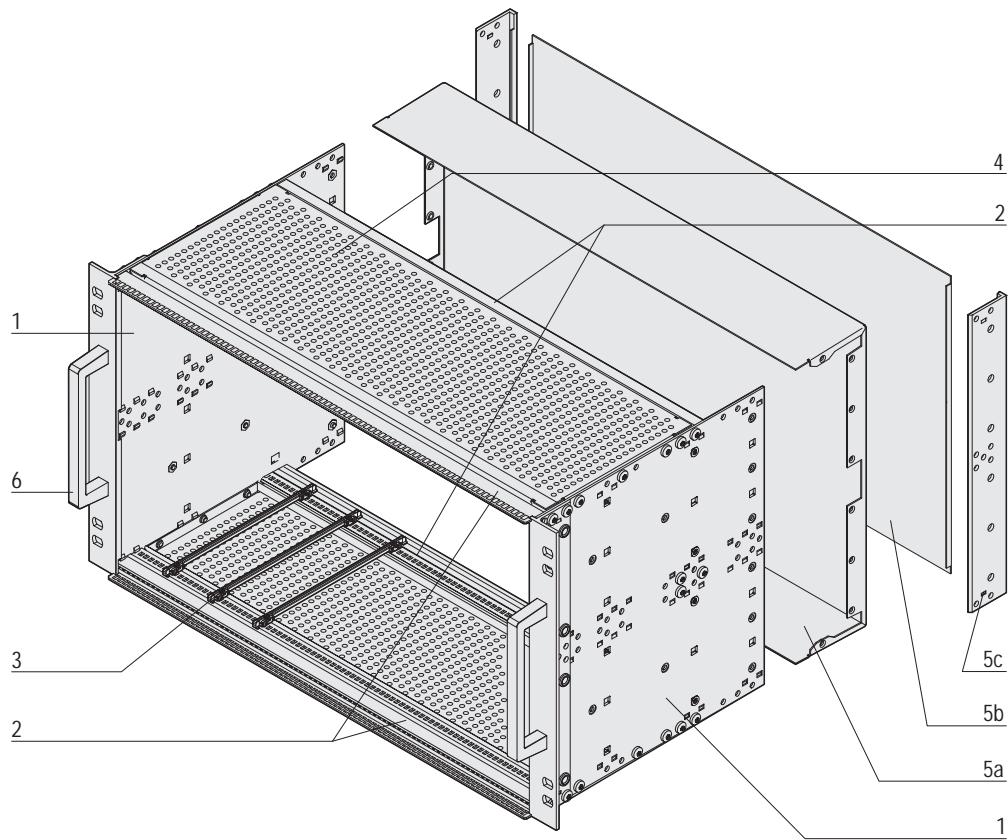
academy

Knowledge transfer and partnership

Knowledge. Sharing. Partnerships.

- Seminars, CAD drawings, test reports, user reports

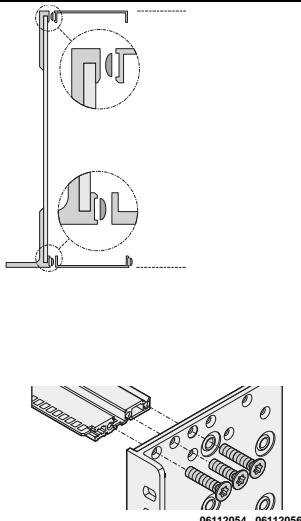
Overview of individual components for shielded or unshielded subracks



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
Height U	Depth mm	PU 1 pair	PU 10 pieces	PU 1 pair	PU 1 kit
3	175	24568-145	21101-853	24566-199	24566-010
3	235	24568-147			
3	275	24568-143			
3	277.75	24568-144			
3	295	24568-149			
3	355	24568-151			
6	175	24568-445	21101-855	24566-499	24566-010
6	235	24568-447			
6	275	24568-443			
6	277.75	24568-444			
6	295	24568-449			
6	355	24568-451			

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

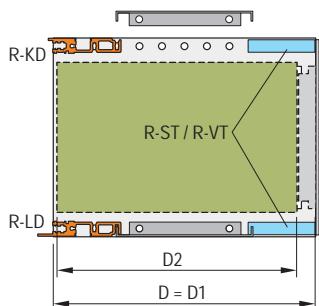


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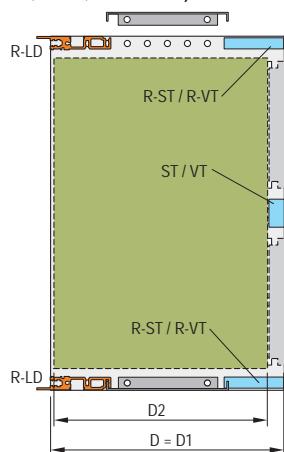
Subracks - **europac PRO** rugged ServicePLUS

Mounting position of horizontal rail/central rails

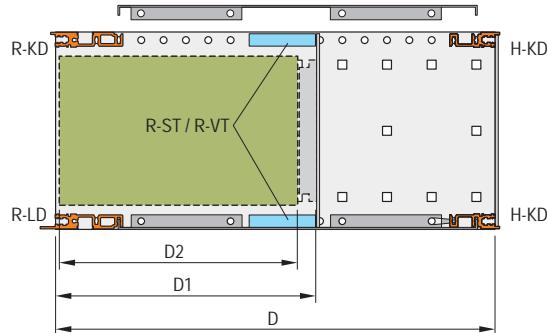
3 U (board depth 160, 220, 280 mm)



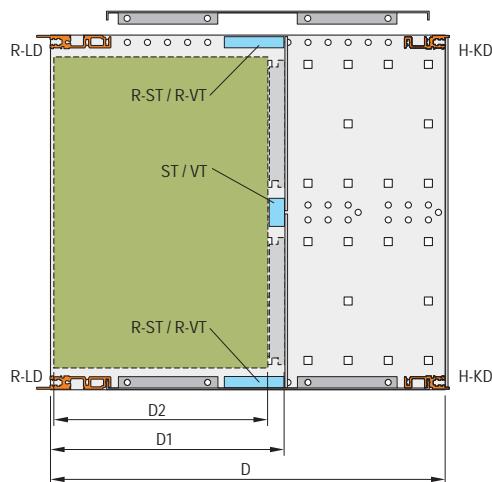
6 U (board depth 160, 220, 280 mm)



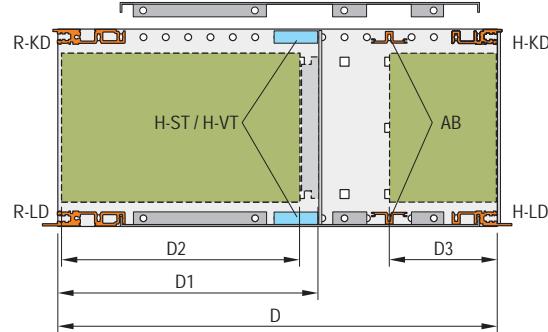
3 U (board depth 160, 220, 280 mm)



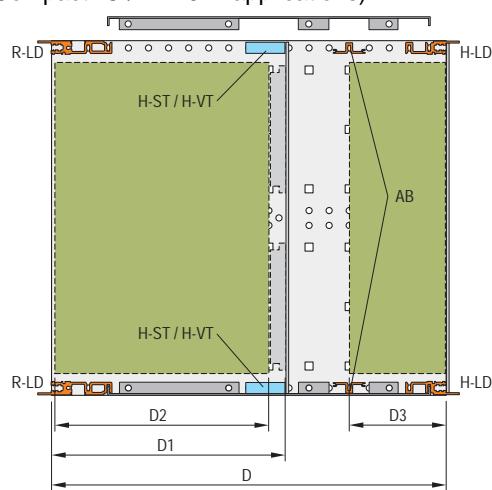
6 U (board depth 160, 220, 280 mm)



3 U (for CompactPCI/VME64x applications)



6 U (for CompactPCI/VME64x applications)



Horizontal rails

R-ST



06112070

R-VT



06112071

H-ST



06112072

H-VT



06112073

ST



06112074

VT



06112075

Front horizontal rails

Order Information

		With long lip for insertion/extraction of CompactPCI and VME64x boards	With long lip for insertion/extraction of CompactPCI and VME64x boards	With short lip	With short lip
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	34566-320	34560-320	34566-220	34560-220
28	147.32	34566-328	34560-328	34566-228	34560-228
40	208.28	34566-340	34560-340	34566-240	34560-240
42	218.44	34566-342	34560-342	34566-242	34560-242
63	325.12	34566-363	34560-363	34566-263	34560-263
84	431.80	34566-384	34560-384	34566-284	34560-284
—	1000	34566-301	34560-301	34566-201	34560-201
Cover strips to cover the horizontal rail perforations Al, untreated, 0.8 mm, length 431.5 mm, 1 piece (SPQ 10)		34566-184	—	34566-184	—
Threaded inserts see page		6.104	6.104	6.104	6.104
Fixing material kits see page		6.103	6.103	6.103	6.103

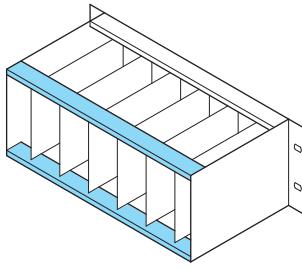
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple
"heavy" load > 7.5 kg; "rugged" load > 15 kg;

Note

- 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

	For indirect backplane fixing with insulation strip		For direct backplane fixing		For direct fixing of connectors in accordance with EN 60603-2 (DIN 41612)	
	"rugged" Type R-ST Standard	"heavy" Type H-ST standard	"rugged" Type R-VT recessed installation	"heavy" Type H-VT recessed installation	"heavy" Type H-MZ with Z-rail	
06105074		 06112005	 06197011	 06112006	 06197013	 06197015
With HP markings from 28 HP, Al extrusion, anodised finish, conductive contact surface	Al extrusion, anodised finish, conductive contact surface, with HP markings	Al extrusion, anodised finish, conductive contact surface, with HP markings	Al extrusion, anodised finish, conductive contact surface, with HP markings	Al extrusion, anodised finish, conductive contact surface, with HP markings	Al extrusion, anodised finish, conductive contact surface, with HP markings	
Usable length HP	Length mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾			
20	106.68	34566-520	34560-520	34566-720	34560-720	34560-920
28	147.32	34566-528	34560-528	34566-728	34560-728	34560-928
40	208.28	34566-540	34560-540	34566-740	34560-740	34560-940
42	218.44	34566-542	34560-542	34566-742	34560-742	34560-942
63	325.12	34566-563	34560-563	34566-763	34560-763	34560-963
84	431.80	34566-584	34560-584	34566-784	34560-784	34560-984
—	1000	34566-501	34560-501	34566-701	34560-701	—
Insulation strips see page	6.104	6.104	—	—	—	—
Threaded inserts see page	6.104	6.104	6.104	6.104	6.104	6.104
Fixing material kits see page	6.103	6.103	6.103	6.103	6.103	6.103

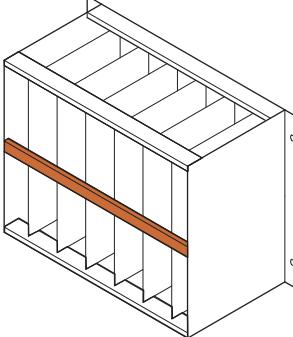
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple
"heavy" load > 7.5 kg; "rugged" load > 15 kg;

Note

- 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, centre, for 6 U

Order Information

 06108090	For indirect backplane fixing with insulation strip	For direct backplane fixing	For direct fixing of connectors in accordance with EN 60603-2 (DIN 41612)
	 06197016 Type ST	 06197017 Type VT	 06197018 Type MZ
	 06197016 Al extrusion, finish anodised, conductive contact surface; without markings	 06197017 Al extrusion, finish anodised, conductive contact surface; without markings	 06197018 Al extrusion, finish anodised, conductive contact surface; without markings
Usable length HP	Length mm	1 piece (SPQ 10)¹⁾	1 piece (SPQ 10)¹⁾
20	106.68	34561-020	34561-120
28	147.32	34561-028	34561-128
40	208.28	34561-040	34561-140
42	218.44	34561-042	34561-142
63	325.12	34561-063	34561-163
84	431.80	34561-084	34561-184
—	1000	34561-001	34561-101
Insulation strips see page		6.104	—
Threaded inserts see page		6.104	6.104
Fixing material kits see page		6.103	6.103

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;

Note

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

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

Order Information

<p>06108069</p>	<p>For CompactPCI in rear I/O area</p> <p>06108009</p> <p>Type AB</p> <p>06197019</p> <p>Al extrusion, finish anodised, conductive contact surface; horizontal rail type AB (AB = support) is required to fix the guide rails for the 80 mm rear I/O boards; without markings</p>
<p>Usable length HP</p>	<p>Length mm</p> <p>1 piece (SPQ 10)¹⁾</p>
20	106.68
28	147.32
40	208.28
42	218.44
63	325.12
84	431.80
—	1000
Fixing material kits see page	6.103

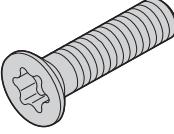
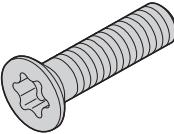
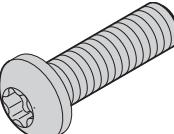
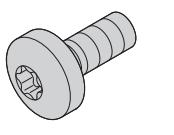
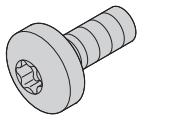
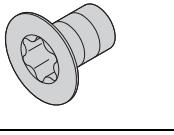
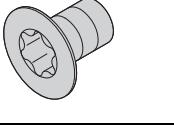
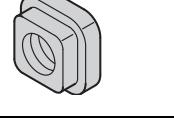
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple
"heavy" load > 7.5 kg; "rugged" load > 15 kg;

Note

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

Subracks - **europac PRO** rugged ServicePLUS

Screws overview

	Description	Material	Dimension	Qty/PU	Part no.
	Countersunk screw, with thread locking compound Application: Rugged side panel to horizontal rail; for area of tox-cold welded brackets and corner profiles <u>except when guide rail is fitted to slot 1</u>	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 guide rail is fitted to slot 1</u>	Stainless steel	M4 x 14	100	24566-101
06712051					
	Panhead screw, with thread locking compound Application: Rugged side panel to horizontal rail; <u>not</u> for area of tox-cold welded brackets and corner profiles <u>except when guide rail is fitted to slot 1</u>	Stainless steel	M4 x 14	100	24566-102
az445940					
	Panhead screw, with thread locking compound Application: Rugged side panel to horizontal rail; <u>not</u> for area of tox-cold welded brackets and corner profiles <u>if guide rail is fitted to slot 1</u>	Stainless steel	M4 x 10	100	24566-103
06712053					
	Panhead screw, with thread locking compound Application: Rugged side panel to cover plate, <u>not</u> for area of tox-cold welded brackets and corner profiles	Stainless steel	M4 x 8	100	24566-104
06712053					
	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
06708053					
	Square nut Application: Rugged side panel to corner profile; in EMC-shielded subracks and to increase robustness	Zinc-plated steel	M4	100	24560-140
AZA45921					

Note

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



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oneClick search code = Part no.

Subracks - **europac PRO** rugged

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	106.18	34561-320	—	106.48	30845-189	101.50	24560-820
28	146.82	34561-328	—	147.12	30845-197	144.20	24560-828
40	207.78	34561-340	—	208.08	30845-209	205.12	24560-840
42	217.94	34561-342	—	218.24	30845-211	210.40	24560-842
63	324.62	34561-363	—	324.92	30845-232	316.88	24560-863
84	431.30	34561-384	34561-484	431.60	30845-253	428.64	24560-884
196	1000.26	34565-196	—	1000.26	34565-396	—	—

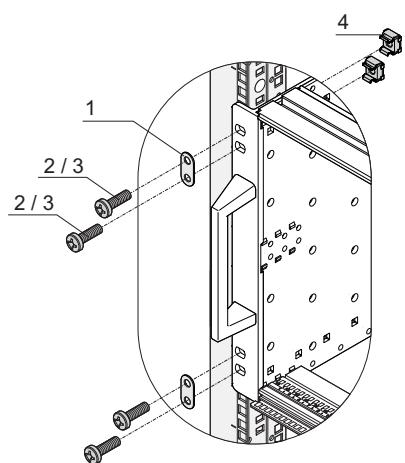
Accessories

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

19" dual fixing materials kit



■ For fixing a subrack with dual fixing holes to 19" mounting brackets (e.g. rugged and railroad subracks)

Delivery comprises

Item	Qty	Description
1	4	Double washer, stainless steel
2	8	M6 x 16 (Torx 30 drive)
3	8	M6 x 16 (Pozidrive)
4	8	Cage nut KM6
1	4	User manual

Order Information

Description	Part no.
19" dual fixing materials kit	24566-109

Adaptor to accommodate conduction cooled assemblies (CCA)

Order Information

Adaptor to accomodate conduction cooled assemblies (CCA) in subracks		
 06112022		
Board length mm	VPX PU 1 pair	CompactPCI PU 1 pair
160	24566-004	24566-005

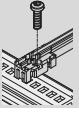
2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

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			For plug-in units and frame type plug-in units "Standard"
Board length	Groove width	Colour	
mm	mm	mm	
			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
			PU 10 pieces ²⁾
70	2	red	—
70	2	grey	—
160	2	red	24560-351
220	2	red	24560-353
280	2	red	24560-379
340	2	red	24560-380
160	2.5	red	—
220	2.5	red	—
			1 piece (SPQ 50) ¹⁾
34579-230			
34579-231			
64560-001			
64560-002			
—			
—			
64560-096			
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

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

Description of accessories see from page 6.107

Guide rails for heavy assemblies, CompactPCI, VME64x

Order Information

Assembly Plastic guide rails - 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 heavy modules, Al extrusion, silver, robust version  06102005 Al extrusion; is screwed to horizontal rail "heavy" or "rugged" with retention screws	For CompactPCI, VME64x with coding In accordance with IEEE 1101.10 and IEC 60297-3-103  06106001 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	Offset 0.1" for power supply units in accordance with IEEE 1101.10 and IEC 60297-3-103  06106002 PBT, UL 94 V-0, for installation of power supplies in CompactPCI systems or plug-in units with SMD placement
Board length mm Groove width mm Colour mm	1 piece (SPQ 1)¹⁾	PU 10 pieces²⁾	PU 10 pieces²⁾
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

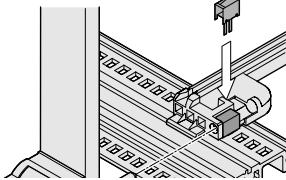
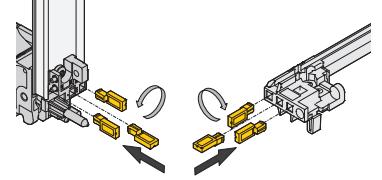
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

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

Description of accessories see from page 6.107

Guide rail accessories

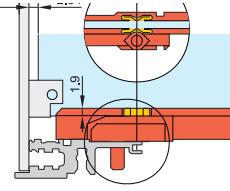
Order Information

	<p>ESD clips, CompactPCI/VME 64 alignment pin for guide rails</p>  <p>06103052</p> <p>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</p>	<p>Coding for plug-in components</p> <p>Keying/coding for CompactPCI, VME64x handles to IEEE 1011.10 and IEC 60297-3-103</p>  <p>04612052</p> <p>Keying/coding peg, PBTP, UL 94 V-0, RAL 7035: The keying/coding pegs prevent plug-in units to be mounted in wrong slots. They are inserted in the chambers of the codable card guides as well as in the insertion/extraction handles IEL or IET (4 possible positions), resulting in 64 codings per card guide; when coding the upper and lower card guide, 4096 codings will result;</p>
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

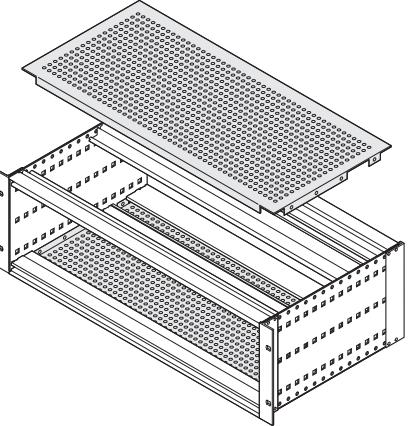
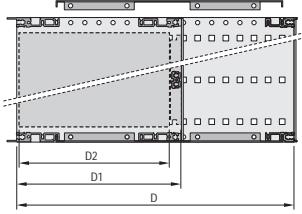
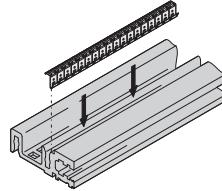
Guide rail accessories

Order Information

	<p>ESD clip for guide rails</p>  <p>04503050</p> <p>Spring steel, tin-plated, ensures conductive contact between board and horizontal rail, on both the solder side and the component side</p>
Assembly	<p>Colour</p> <p>silver</p> <p>PU 50 pieces</p>
above/below	24560-255

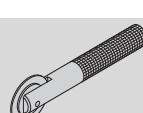
Cover plates for bolting to rugged side panel

Order Information

 06197010	Cover plate for bolting to side panel  06112054	Stainless steel EMC gasket, between cover plate and horizontal rail  06106052
	<p>Perforated Al plate, 1.2 mm, hole diameter 4.0 mm, passivated, perforation ratio 58 %, incl. retention screws;</p> <p>4 stainless steel EMC contact strips per subrack are required for shielding, please order separately</p>	<p>PU 1 pair</p> <p>PU 10 pieces</p> <p>PU 100 pieces</p>

Width HP	Depth D mm	Application			
84	175	160 mm board depth (D2)	24568-004	24560-245	24560-246
84	235	220 mm board depth (D2)	24568-008		
84	295	280 mm board depth (D2)	24568-012		
84	275	160 mm board depth (D2) CompactPCI, 80 mm rear I/O	24568-032		
84	277.75	160 mm board depth (D2) CompactPCI, 80 mm rear I/O	24568-036		
84	295	160 mm board depth (D2), approx. 120 mm clearance behind backplane	24568-016		
84	355	220 mm board depth (D2), approx. 120 mm clearance behind backplane	24568-020		

Accessories

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

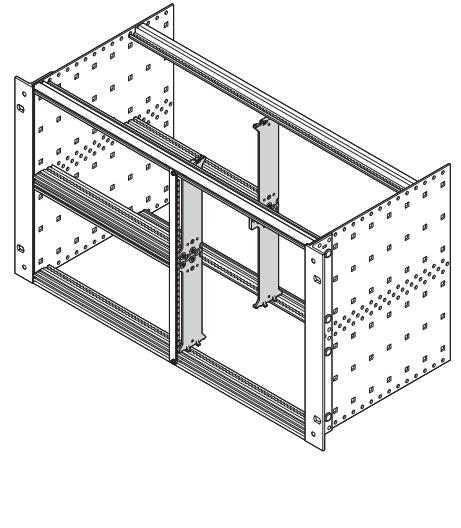
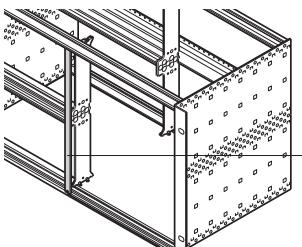


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Subracks - **europac PRO** rugged ServicePLUS

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

Order Information

 <p>Height U 6</p> <p>06112076</p>	<p>Rugged struts for combined mounting</p>  <p>6 U, die-cast zinc; fixing material kit</p> <p>06112077</p>	<p>Front panel for textile EMC gasket, 6 U, 2 HP Item 6</p>  <p>Al, 2.5 mm, U-profile with notch, 6 U, 2 HP</p> <p>bpa46550</p>
	<p>PU 2 pieces</p> <p>24566-400</p>	<p>1 piece (SPQ 5)¹⁾</p> <p>30849-140</p>

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

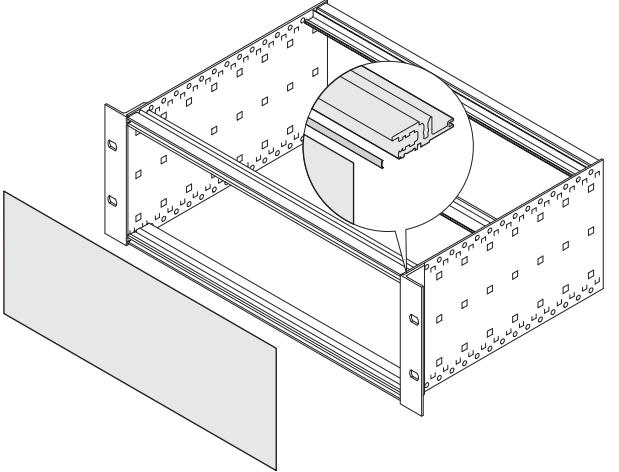
Note

- Rugged horizontal rails in various lengths, see page 6.99

Subracks - **europac PRO** rugged ServicePLUS

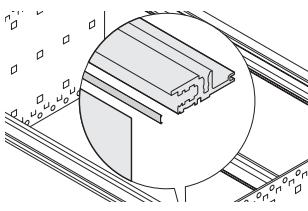
EMC gaskets between front/rear panel and horizontal rail

Order Information



06102053

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



06102053

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

Width

HP

Depth

mm

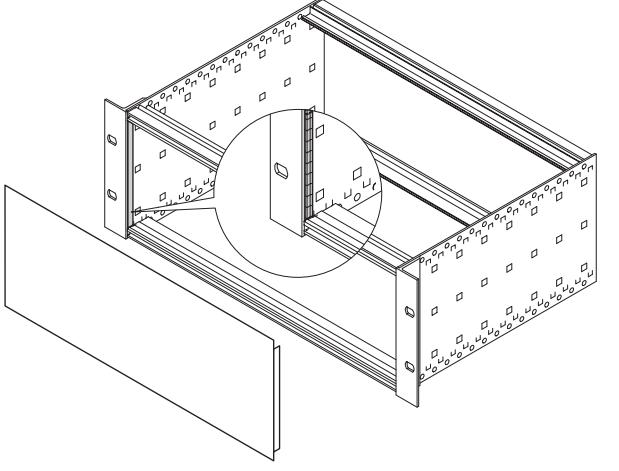
PU 10 pieces

PU 100 pieces

28	131.8	24560-229	—
42	202.9	24560-231	—
63	304.5	24560-233	—
84	416.6	24560-235	24560-236

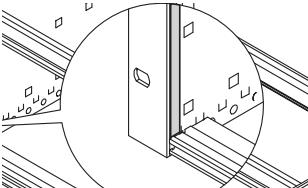
EMC gaskets between front panel and 19" bracket/corner profile

Order Information

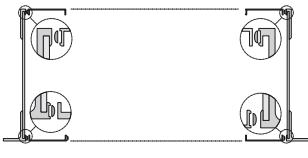


06105077

**Textile EMC gasket
between front panel/rear panel and 19" bracket/corner profile**



06102056



06108054

textile gasket,
core: foam,
sleeve: textile cladding with CuNi coating,
UL 94 V-0C

Height

U

Depth

mm

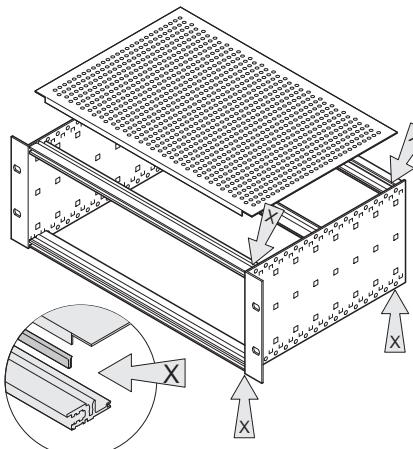
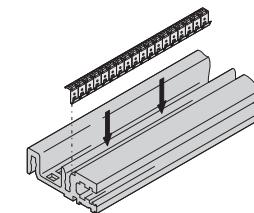
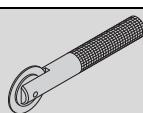
PU 10 pieces

PU 100 pieces

3	97.5	21101-853	21101-854
6	232.5	21101-855	21101-856

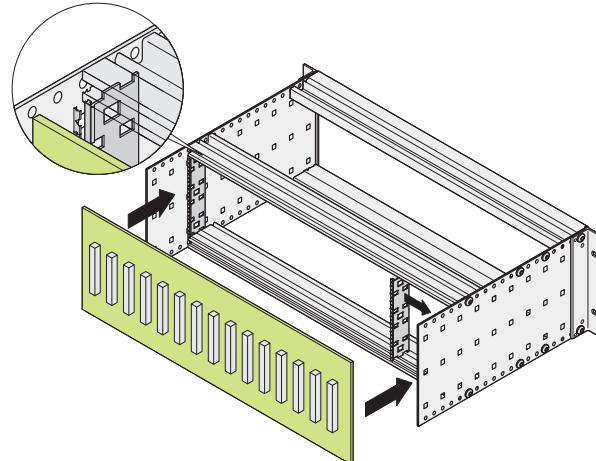
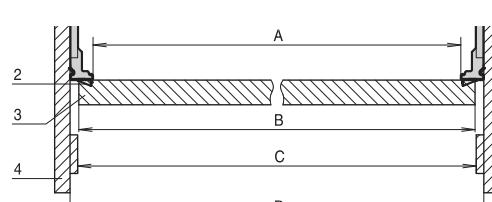
EMC gasket between horizontal rail and cover plate

Order Information

 Width HP		Stainless steel EMC gasket, between cover plate and horizontal rail	
42		 stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails	
84		06106052	
Assembly tool, to fit EMC gasket, stainless steel, for horizontal rails, 1 piece		24560-241 24560-245 24560-271	
Width HP	Depth mm	PU 10 pieces	PU 100 pieces
42	202.9	24560-241	—
84	416.6	24560-245	24560-246
		24560-271	

EMC gasket between backplane and side panel

Order Information

 Height U		Stainless steel EMC gasket between backplane and side panel (depth-offset installation)	
3		 PU 1 kit	
6		24561-199 24561-499	
Torx countersunk screw M4 x 7, St, zinc-plated, PU 100 pieces		24566-105	
Square nut M4, St, zinc-plated, PU 100 piece		24560-140	

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)

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***



Standards/certifications

- Exterior dimensions in accordance with: IEC 60297-3-100, 101, 105
- Ingress protection IP 20 in accordance with IEC 60529
- EMC testing in accordance with VG 95373 part 15 or IEC 61587



Handles can be bolted on from front



High stability with aluminium profile side panel



Mounting plate for fitting heavy components

Top cover and base plate in 3 versions



Plain



Perforated



For standardised board mounting



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

The ideal solution for electronic devices in the most compact dimensions

- Aluminium or steel (AlZn coated) designs
- For standardised 19" board mounting or for installation of non-standardised components
- EMC shielding upgradable
- Mounting service and customized machining with ServicePLUS



19" complete chassis

- 2 materials
 - Steel plate (AlZn coated)
 - Aluminium
- 3 top cover versions
 - Top cover/base plate, solid
 - Top cover/base plate, perforated (aluminium version)
 - Top cover/base plate for standardised PCBs (aluminium version)

19" complete chassis (St) 6.114
19" complete chassis (Al) 6.115



19" chassis, individually configured from separate parts

- For non-standardised assemblies with mounting plate
- For standardised board assembly
- Customised solutions

19" chassis for non-standardised assembly 6.120
19" chassis for standardised assembly 6.122



ServicePLUS from page 6.118

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

www.schroff.biz/ServicePLUS

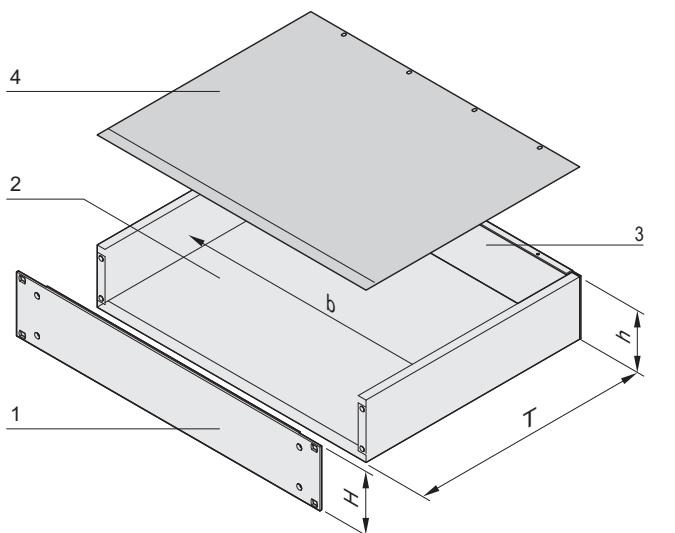
**FRONT PANEL
EXPRESS**

ServicePLUS .. 6.118

Application examples 6.127

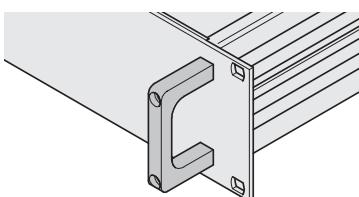
19" chassis - **multipacPRO**

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



h = clear height (overall) (H - 3.0 mm)

b = clear installation width = 447 mm



Front handle



ServicePLUS see page 6.118

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

Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, Al extrusion, 3 mm; in 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

Accessories

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

EMC sealing to close the gap at the front between case and front panel, 2 saw tooth gaskets, stainless steel, PU 1 piece 20860-132

Note

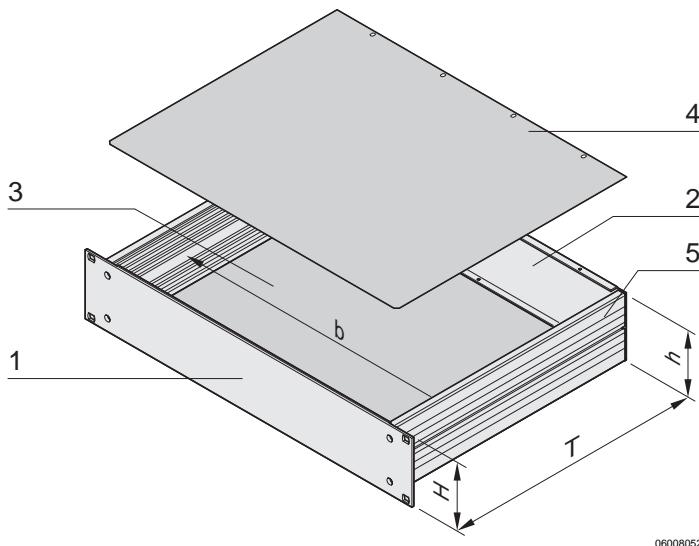
- Further versions with steel front panel (pizza box) available on request
- Telescopic slides cannot be used
- No special EMC version available
- Standardised internal mounting kits cannot be used



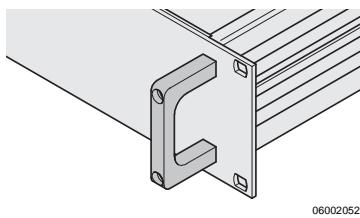
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

19" chassis - ***multipacPRO***

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



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



Front handle



ServicePLUS see page 6.118

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

Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, Al extrusion, 3 mm; in 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Rear panel, Al, 2 mm, etched
3	1	Base plate, plain, Al, 1 mm
4	1	Cover plate, plain, Al, 1 mm
5	2	Side panel, Al extrusion, raw; with grooves for threaded insert (2 x 7); 5 U, two-piece, 3+2 U
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; seal, stainless steel, for front panel/cover plate, 1 kit 20860-130

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

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

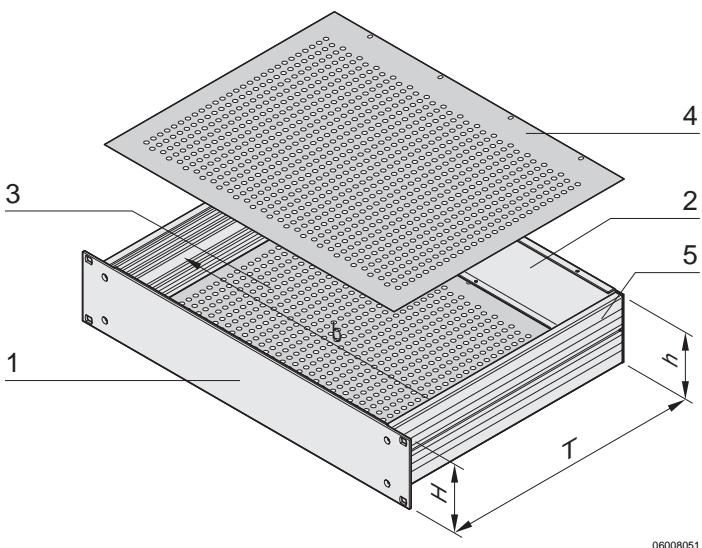
Front handles incl. assembly kit for 4 U, Al extrusion, anodised, PU 2 pieces 20860-259

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

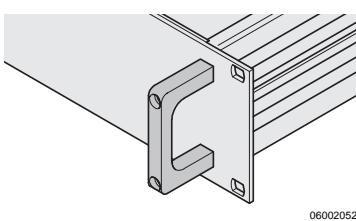
Note

- Threaded inserts to push into the side panel see page 6.121
- Telescopic slides to mount into cabinet see page 6.125

19" complete chassis from aluminium with perforated top cover and base plate



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



Front handle

06002052



ServicePLUS see page 6.118

- Complete chassis from aluminium
- Detachable rear panel for easy machining
- In the 1 U version 19" and ATX power supplies can be assembled 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

Delivery comprises (kit)

Item	Qty	Description
1	1	Front panel, Al extrusion, 3 mm; in 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Rear panel, Al, 2 mm, etched
3	1	Base plate, perforated, Al, 1 mm
4	1	Cover plate, perforated, Al, 1 mm
5	2	Side panel, Al extrusion, raw; with grooves for threaded insert (2 x 7); 5 U, two-piece, 3+2 U
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; seal, stainless steel, for front panel/cover plate, 1 kit 20860-130

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

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

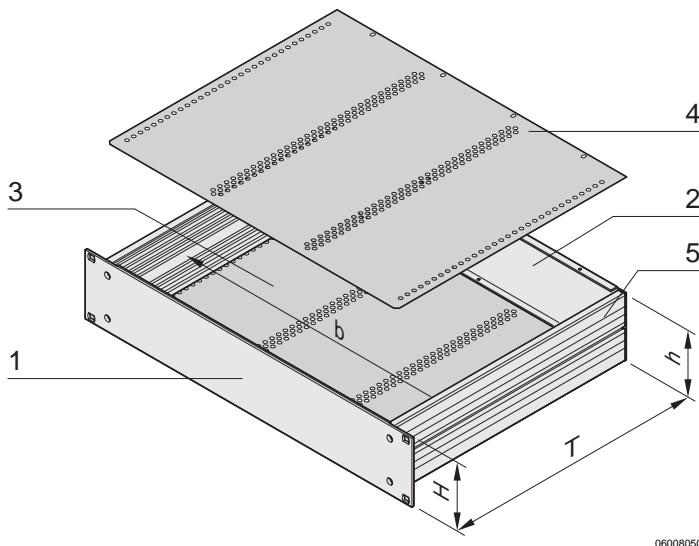
- Threaded inserts to push into the side panel see page 6.121
- Telescopic slides to mount into cabinet see page 6.125



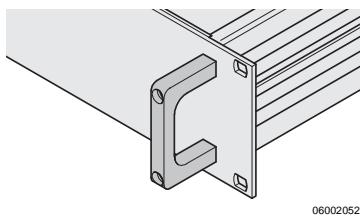
For further information www.schroff.biz/oneclick
oneClick search code = Part no.

19" chassis - **multipacPRO**

19" complete chassis from aluminium,
for assembly of euroboards



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



Front handle



ServicePLUS see page 6.118

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

Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel Al extrusion, 3 mm; in 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Rear panel, Al, 2 mm, etched
3	1	Base plate, Al, 1 mm; with drilled holes for horizontal mounting of euroboards
4	1	Cover plate, Al, 1 mm; with drilled holes for horizontal mounting of euroboards
5	2	Side panel, Al extrusion, raw; with grooves for threaded insert (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 PU 1 kit			20860-130
Front handles for 1 U PU 2 pieces			20860-256
Front handles for 2 U PU 2 pieces			20860-257
Euroboard mounting kit for EN 60603 connector for 1 U PU 1 kit			20860-115
Euroboard mounting kit for EN 60603 connector for 2 U PU 1 kit			20860-117
Euroboard mounting kit for insulated backplane mounting for 1 U PU 1 kit			20860-116
Euroboard mounting kit for insulated backplane mounting for 2 U PU 1 kit			20860-118

Note

- Threaded inserts to push into the side panel see page 6.121
- Guide rails see page 6.124
- Telescopic slides to mount into cabinet see page 6.125



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



configuration

Components can be varied and combined freely

Simple. Fast. For the product you want.

- Configuration tables from page 6.119
- Online configuration: www.schroff.co.uk/configuration



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

FRONTPLATTEN EXPRESS



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

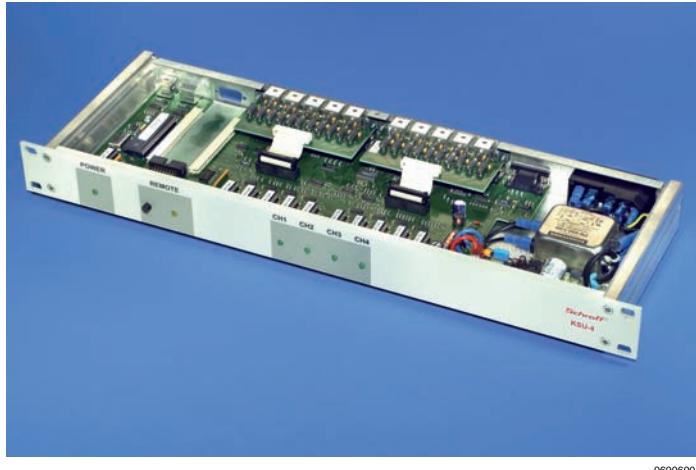
Knowledge transfer and partnership

Knowledge. Sharing. Partnerships.

- Seminars, CAD drawings, test reports, user reports

How to configure 19" aluminium chassis

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

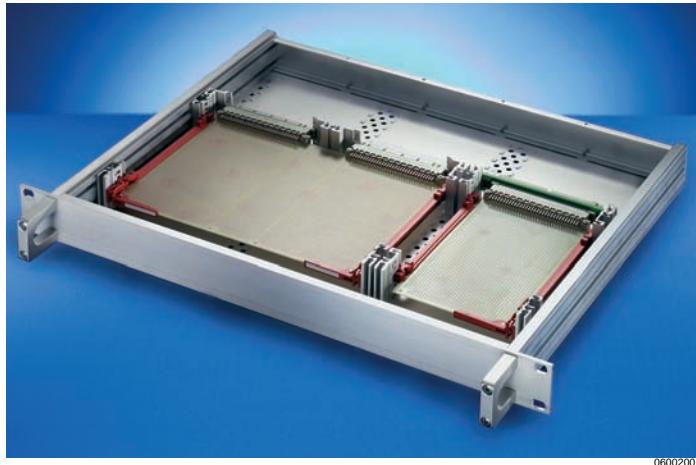


For non-standardised assemblies (1 ... 5 U)

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

Note

- Non-standardised assemblies see from page 6.120



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

- Top cover/base plate for horizontal board mounting
- Internal connector or backplane fitting
- Front handles
- EMC gasketing kit
- Telescopic slide

Note

- Standardised assemblies from page 6.122

Individual components 19" chassis for non-standardised assemblies

■ Please select:

- Height and depth of basic kit (1 ... 5 U, item 1+2+5)
- Mounting plate
- Top cover/base plate (item 3+4)
- Front handles
- EMC gasketing kit
- Telescopic slides

■ In accordance with IEC 60297-3-105

Order Information

				Basic kit	Mounting plate	Top cover/base plate		
Height U	Height mm	Width HP	Depth mm	PU 1 kit	Depth mm	1 piece	plain	perforated
1	43.7	84	220	20860-201	150	20860-107	30860-501	30860-510
1	43.7	84	280	20860-202	210	20860-108	30860-502	30860-511
1	43.7	84	340	20860-203	270	20860-109	30860-503	30860-512
2	88.1	84	220	20860-210	150	20860-107	30860-501	30860-510
2	88.1	84	280	20860-211	210	20860-108	30860-502	30860-511
2	88.1	84	340	20860-212	270	20860-109	30860-503	30860-512
3	132.6	84	280	20860-219	210	20860-108	30860-502	30860-511
3	132.6	84	340	20860-220	270	20860-109	30860-503	30860-512
3	132.6	84	400	20860-221	330	20860-110	30860-504	30860-513
3	132.6	84	460	20860-222	390	20860-111	30860-505	30860-514
4	177.0	84	280	20860-228	210	20860-108	30860-502	30860-511
4	177.0	84	340	20860-229	270	20860-109	30860-503	30860-512
4	177.0	84	400	20860-230	330	20860-110	30860-504	30860-513
4	177.0	84	460	20860-231	390	20860-111	30860-505	30860-514
5	221.5	84	460	20860-240	390	20860-111	30860-505	30860-514

Individual components 19" chassis for non-standardised assemblies

Order Information

				Front handles	Threaded insert M3 for extruded side panel	EMC gasketing kit Shielding upgrade of approx. 30 dB	Assembly kit for telescopic slides
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				
1	43.7	84	280	20860-256			
1	43.7	84	340				
2	88.1	84	220				
2	88.1	84	280	20860-257			
2	88.1	84	340				
3	132.6	84	280				
3	132.6	84	340	20860-258			
3	132.6	84	400				
3	132.6	84	460				
4	177.0	84	280				
4	177.0	84	340	20860-259			
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 6.125

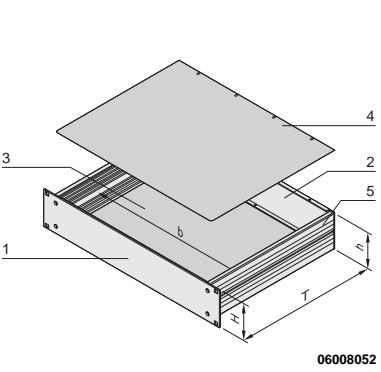
Individual components 19" chassis for standardised 19" assemblies

■ Please select

- Height and depth of basic kit (1, 2 U, items 1+2+5)
- Top cover/base plate for horizontal board mounting (items 3+4)
- Internal mounting for connector or backplane
- Front handles
- EMC gasketing kit
- Telescopic slides

■ In accordance with IEC 60297-3-100, 101, 105

Order Information

 <p>h = clear height (overall) (H - 8.1 mm) b = clear installation width = 403 mm</p>				Basic kit	Top cover/base plate	Mounting of euroboards for EN 60603 connectors	for insulated backplane assembly
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

Individual components 19" chassis for standardised 19" assemblies

Order Information

				Front handles	Threaded insert M3 for extruded side panel	EMC gasketing kit for shielding upgrade of approx. 30 dB	Assembly kit for fixing on telescopic slides
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				
1	43.7	84	280	20860-256			
1	43.7	84	340				
2	88.1	84	220				
2	88.1	84	280	20860-257		20860-130	20860-131
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 6.125

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

Order Information

Assembly
- can be clipped into horizontal rails in Al extrusion
- can be clipped into 1.5 mm thick plate

Storage temperature
from -40 °C ... +130 °C

**Guide rails
"Accessories"**



06102002

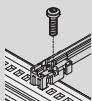
up to 280 mm length, PBT, UL 94 V-0;
> 280 mm length, multi-piece, end piece PBT, UL 94 V-0,
middle section Al extrusion

Board length mm	Groove width mm	Colour mm
--------------------	--------------------	--------------

PU 10 pieces ²⁾

160	2	red	24560-373
220	2	red	24560-374
280	2	red	24560-375
340	2	red	24560-376

Retention screw,
PU 100 pieces

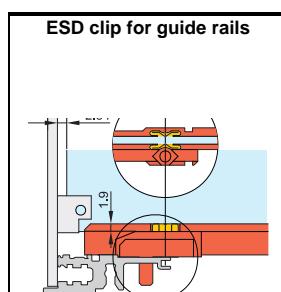


24560-141

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

Guide rail accessories

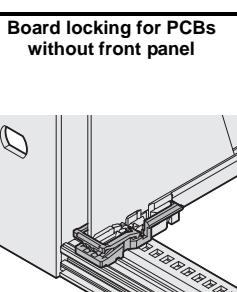
Order Information



04503050
Spring steel, tin-plated, ensures conductive contact between board and horizontal rail, on both the solder side and the component side

PU 50 pieces

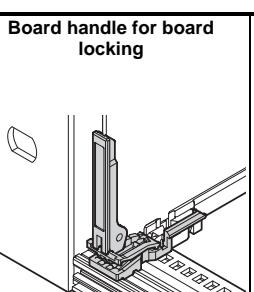
24560-255



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

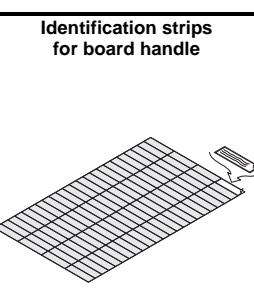
24560-377



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

24560-378

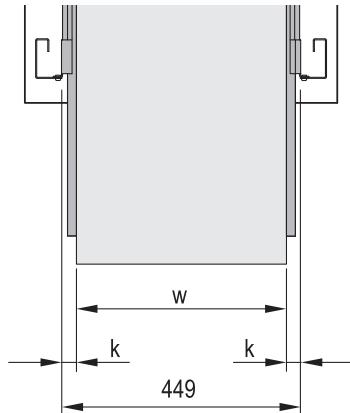


06108076
Polyester film, 31 x 4 mm, self-adhesive, white/matt (1 A4 sheet contains 438 pieces)
PBT, UL 94 V-0

1 piece

60817-228

Universal 1 U telescopic slide



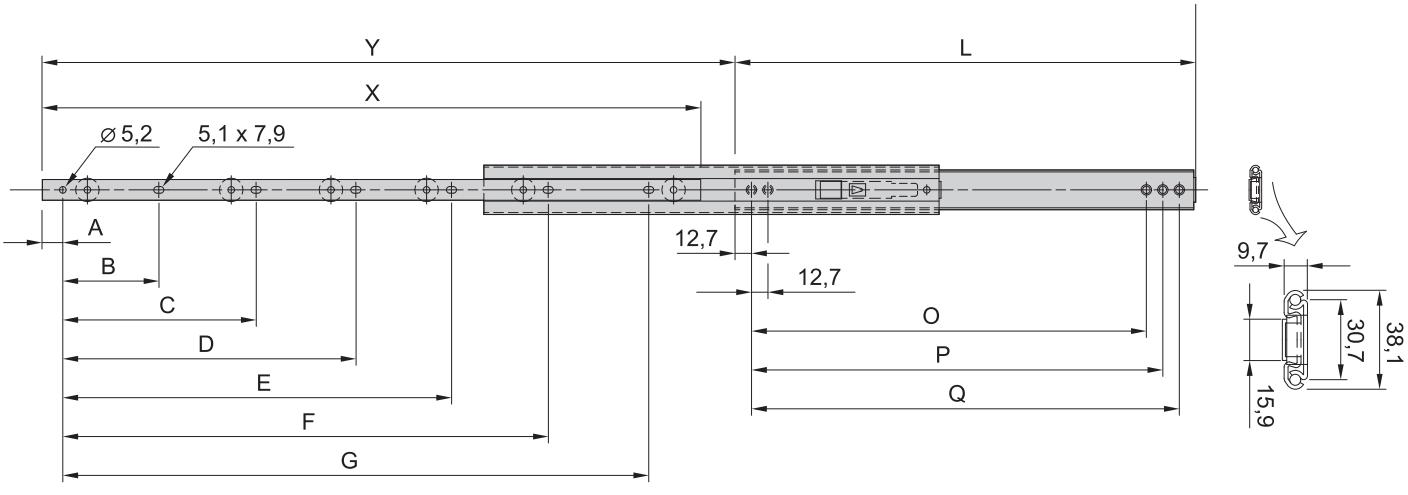
00505011

k = rail width, w = max. installation width

00505060

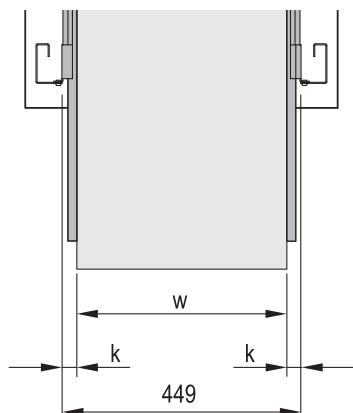
Dimensions table

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



00505055

Universal 2 U, slim telescopic slide



k = rail width, **w** = max. installation width

- Static load-carrying capacity per pair 46 - 57 kg
- Lateral mounting on the 19" uprights (19" plane remains free for fixing the extension/drawer)
- Locking at full extension
- Extension length > 110 %
- Rail width **k** = 9,7 mm,
max. installation width of extension/drawer **w** = 429 mm

Delivery comprises

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

Order Information

Length L mm	Extension length Y mm	Load-carrying capacity P kg	Part no.
356	432	57	20110-071
406	483	55	20110-072
457	533	55	20110-073
508	584	55	20110-074
559	635	46	20110-075
584	660	46	20110-076
610	686	46	20110-077

Accessories

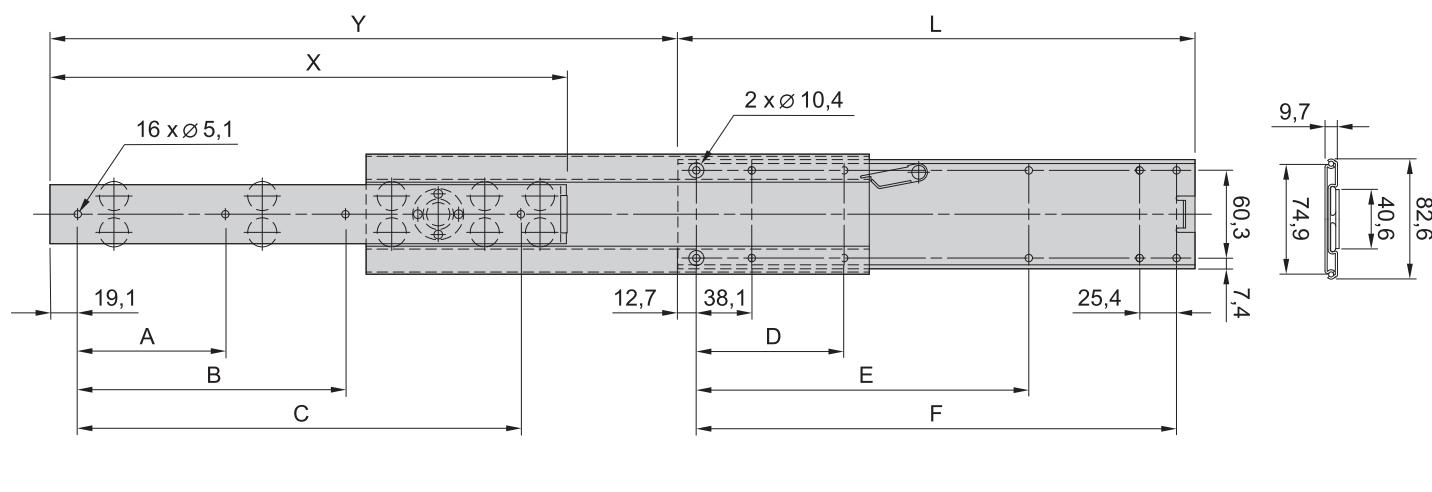
Assembly kit for VARISTAR, for assembly of 2 telescopic slides, PU 1 kit	21120-161
Assembly kit for eurorack, for assembly of 2 telescopic slides, PU 1 kit	21120-162
Telescopic slides mounting kit for NOVASTAR, to mount 2 telescopic slides, PU 1 kit	21120-163
Delivery: supplied loose with cabinet or frame	Part no./35

Dimensions table

Length L	Internal part			External part			
	A	w	C	X	D	E	F
356	101.6	184.2	304.8	356.0	101.6	228.6	330.2
406	127.0	209.6	355.6	406.0	127.0	254.0	381.0
457	127.0	235.0	406.4	457.0	152.4	279.4	431.8
508	152.4	260.4	457.2	508.0	152.4	330.2	482.6
559	203.2	412.8	508.0	559.0	177.8	355.6	533.4
584	203.2	431.8	533.4	584.0	177.8	381.0	558.8
610	203.2	438.2	558.8	610.0	203.2	381.0	584.2

Note

- To mount on 19" plane please order assembly kit separately
- Universal telescopic rails can also be fitted without additional components in non-standard applications, thus also in other than 19" cabinets



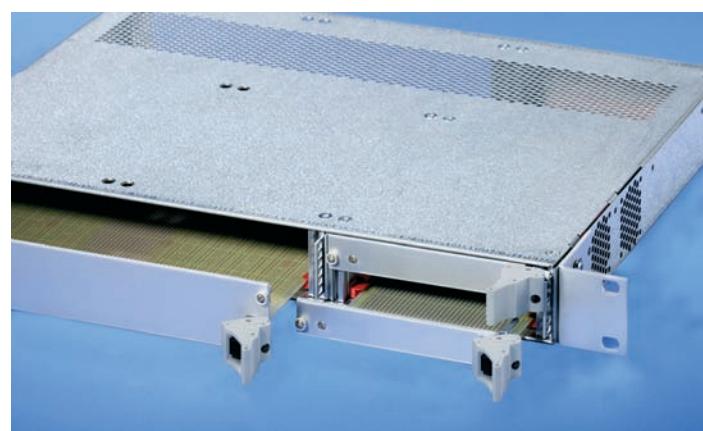
19" chassis - ***multipacPRO*** ServicePLUS

Customised solutions



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 from steel plate; 19" brackets can be removed if required

06008006



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

06108007



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

06101008

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



Robust 19" chassis, also for board assembly

02192005



Assembly with boards and hinged front panel

02196001

Standards

- External dimensions in accordance with:
IEC 60297-3-101
- Ingress protection IP 20 to IEC 60529
- GND/earthing connectors 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

Backplanes .. 10



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

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



19" chassis/desk-top enclosure

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



inpac built into 19" cabinet

inpac

19" chassis 6.130

Accessories

Full-width front panels	6.131
Full-width rear panels	6.131
Support rails ..	6.132
Horizontal rails ..	6.132
Front handles ..	6.133
GND/earthing kit	6.133
Guide rails	6.134
Dimensions	6.136

ServicePLUS. 6.118

ServicePLUS from page 6.118

- 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. modification (special colours)
- e.g. custom solutions (special depths, electromagnetically shielded applications)

www.schroff.biz/ServicePLUS

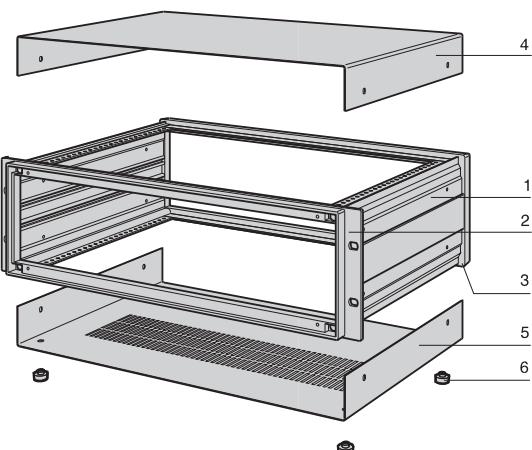


30407004

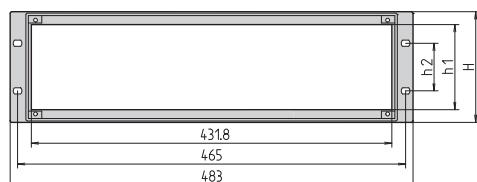
19" chassis



02192006

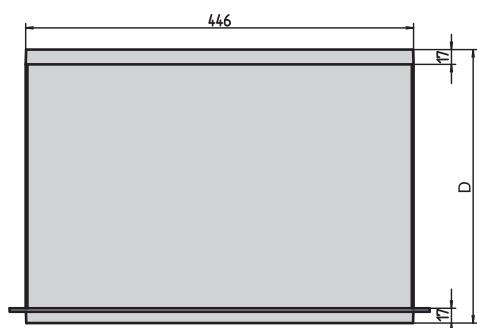


ipa30632



ipa30635

$h1$ = useable height



ipa30704



ipa30706



ServicePLUS see page 6.118

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

Delivery comprises (Kit)

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	57.1	254.5	10828-051
3	132.5	130.5	102.0	57.1	314.5	10828-052
3	132.5	130.5	102.0	57.1	374.5	10828-053
3	132.5	130.5	102.0	57.1	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

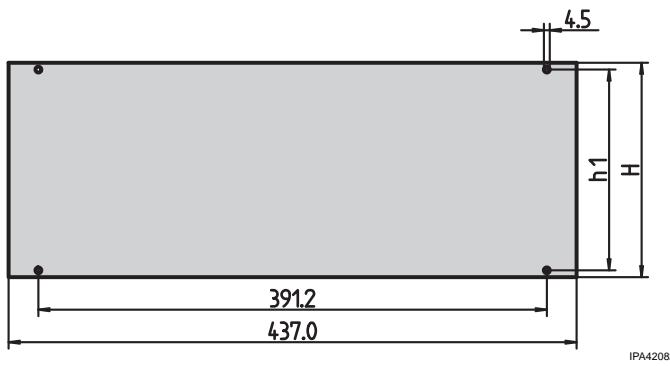
Note

- Max. installation space when fitting 19" components is 75 HP
- Scope of delivery includes screws to fix rear and front panels



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

Front panel



Delivery comprises

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

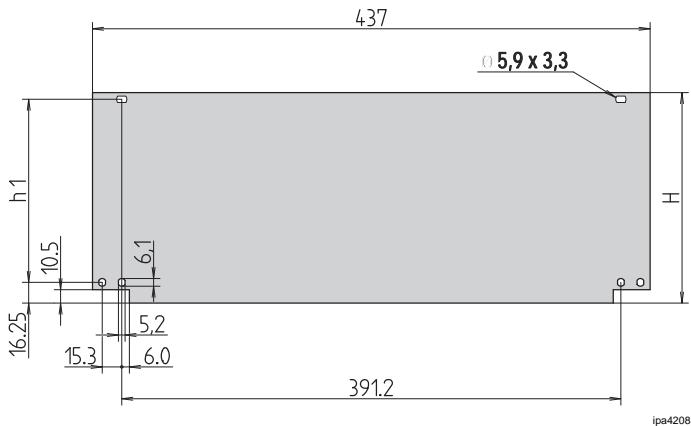
Order Information

Height U	Height H mm	h_1 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

- The assembly kit for the front panel is included with the 19" chassis

Front panel, bottom-hinged



Delivery comprises

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

Order Information

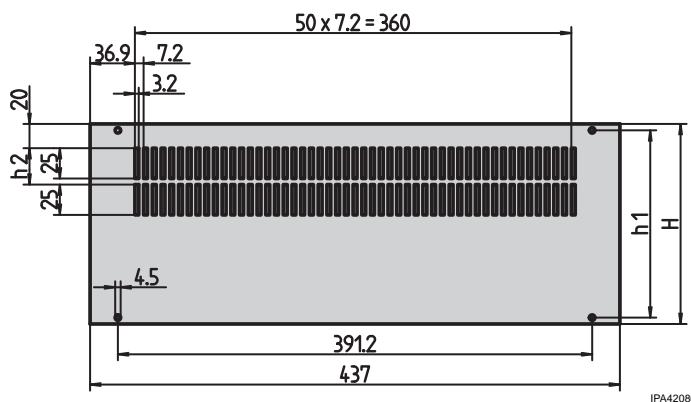
Height U	Height H mm	h_1 mm	Part no.
2	76.0	54.5	30828-085
3	120.5	99.0	30828-088
4	165.0	143.5	30828-091
6	253.8	232.3	30828-097

Hinge for front panel PPE, UL 94 V-0, PU 1 kit (includes fixing material kit and 2 collar screws) 20828-028

Note

- Please order hinge for front panel separately

Rear panel with ventilation openings



Delivery comprises (kit)

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

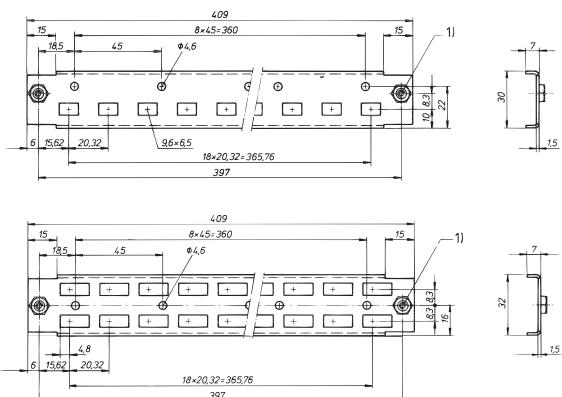
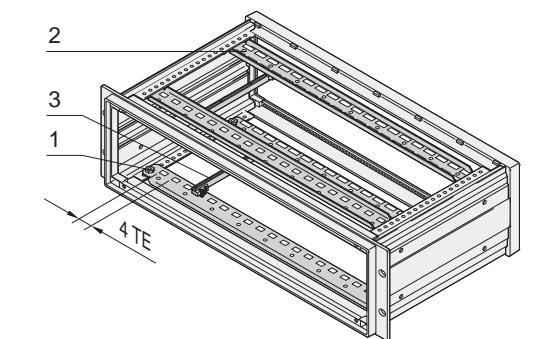
Order Information

Height U	Height H mm	h_1 mm	h_2 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

- The scope of delivery of the 19" chassis includes an assembly kit for the front panel

Support rail for guide rails



IPA30639

a3-308xx

Dimension drawing top: Front support rail,
dimension drawing bottom: rear support rail;
1) bush M4, pressed-in

- 4 support rails to fix PCBs with guide rails

- Support rail can also be used to fix a custom mounting plate

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

Accessories

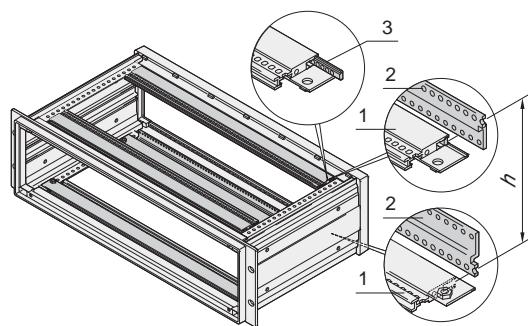
Guide rail 160 mm (Item 3), PBT, UL 94 V-0, with integrated fixture for connector to EN 60603 (DIN 41612), 60817-078 PU 1 pair

Guide rail 220 mm (Item 3), PBT, UL 94 V-0, with integrated fixture for connector to EN 60603 (DIN 41612), 60817-079 PU 1 pair

Screw for mounting of support rails, M4 x 8, flathead bolts with posidrive, PU 100 pieces 21100-677

- Guide rails see page 6.134

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



IPA30640

Item 1: horizontal rail, item 2: Z-rail, item 3: threaded insert

Horizontal rail for guide rails,
backplane and connector mounting

- 4 horizontal rails to fix guide rails (for PCBs) and for backplane or connector mounting

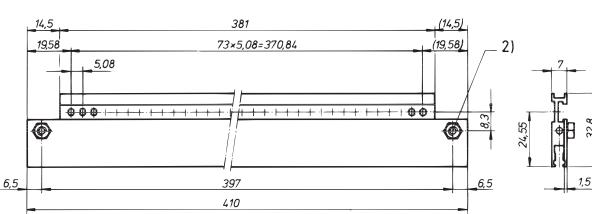
- Useable width 75 HP

Order Information

Item	Description	Qty/PU	Part no.
1	Horizontal rail 75 HP, Al extrusion, anodised	1	30828-128
Accessories			
2	Z-rail (item 2), Al extrusion, anodised, 1 piece		30814-513
3	Threaded insert (item 3), St, zinc-plated (blue), 1 piece		30819-604
4	Screw to fix horizontal rails, M4 x 8, Pozidrive flathead screw, 100 pieces		21100-677
5	Cheesehead screw with slot M2.5 x 6, DIN 84, PU 100 pieces M2.5 x 6, DIN 84, 100 pieces		21100-146

Note

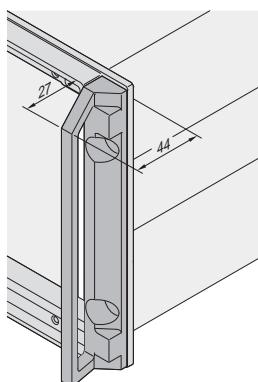
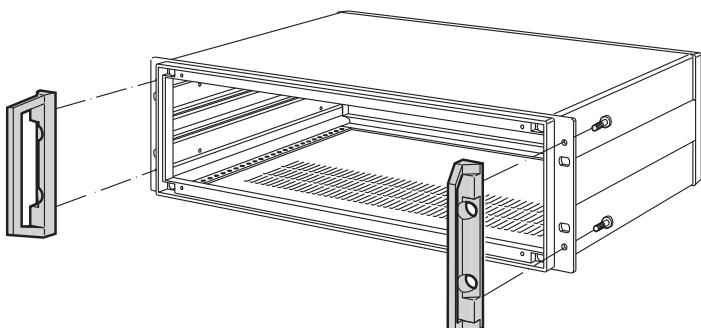
- Threaded inserts cannot be used at front
- For backplane mounting, threaded inserts are required in the rear horizontal rails
- For connector mounting, threaded inserts and Z-rails are required in the rear horizontal rails
- Guide rails see page 6.134



A4-587

2) bush M4, pressed-in

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

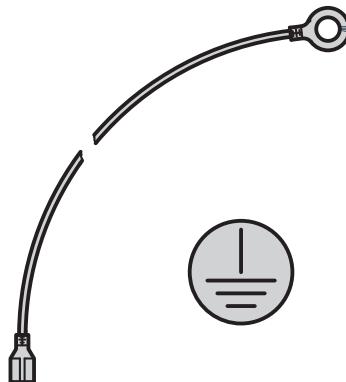
Order Information

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.

GND/earthing kit



aza43284

- The GND/earthing kit allows VDE-compliant earthing of the case 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/A

- VDE inspection has been carried out

Order Information

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



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

Guide rails



04292012

Order Information

Board lengths	Groove width	Light version, snap-in	Standard version, snap-in	a4-2744X	Version with board fixing, snap-in	a42744b	Version with board fixing, bolt-on	a42744c	Version for heavy load-carrying capacity, snap-in	a42744d	Version with ESD clip	bza44247	Universal version with Al middle section, bolt-on	a4-2744d
		Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.	Qty/PU	Part no.	Qty/PU	
mm	mm	1 piece (SPQ 50) ¹⁾	1 piece (SPQ 50) ¹⁾								1 piece			
mm	mm													
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): 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														

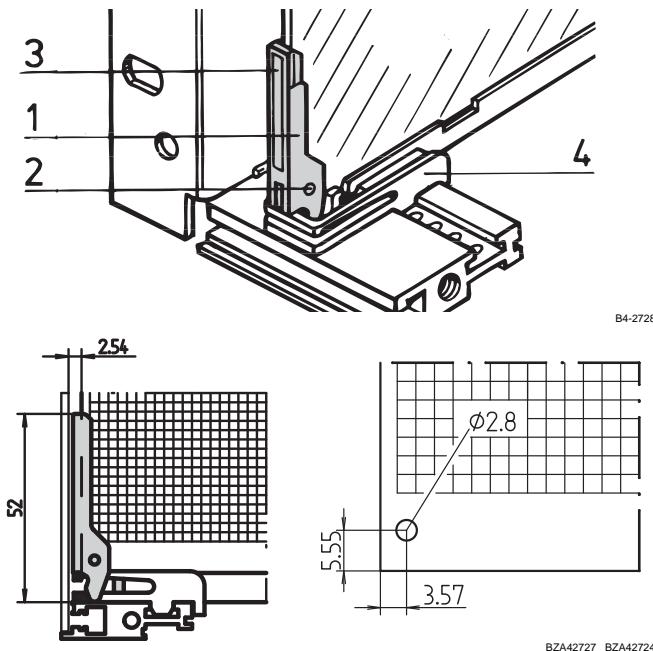
Accessories

Spring clip PPE, UL 94 V-0, red, PU 10 pieces	21100-553	21100-553	–	–	–
Spring clip PPE, UL 94 V-0, red, PU 100 pieces	21100-554	21100-554	–	–	–
Assembly parts for 50 guide rails PU (100 screws, 100 nuts)	–	21101-990	–	–	21101-990

Note

- For a detailed description of the guide rails see our website;
please enter part number in "oneclick" search

PCB handle A



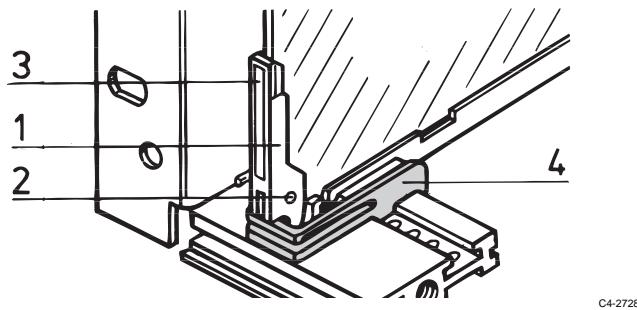
- To be mounted behind front panel, for PCB thickness 1.6 mm
- Insertion and extraction function
- Can be labelled

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 DIN 7	Stainless steel	–	100	21100-671
3	Identification strip	Polyester film, matt-self-adhesive	silver	100	21100-672

SPQ (Standard Pack Quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity: Please order at least 10 pieces PCB handles or a multiple

PCB retainer A



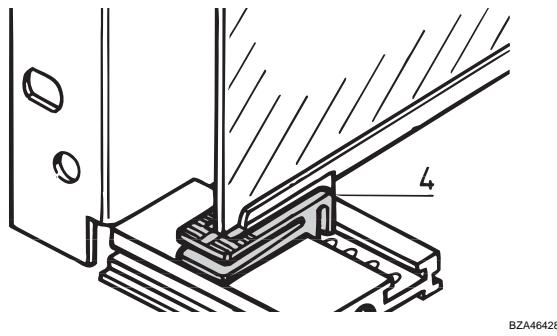
- Can also be used without PCB handle
- Application on top and bottom horizontal rail

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

SPQ (Standard Pack Quantity): Part number includes 1 piece, but delivery is exclusively made in Standard Pack Quantity: Please order at least 10 pieces PCB retainers or a multiple

PCB retainer B



- 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

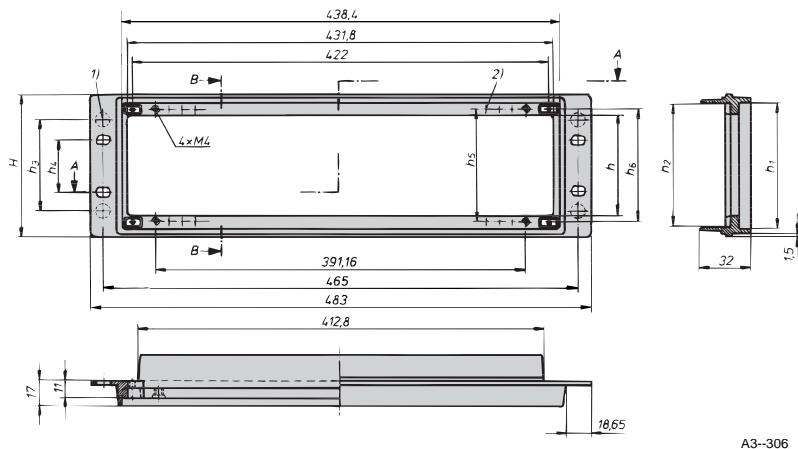
Order Information

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 securing top	PPE, UL 94 V-0	black	1 piece (SPQ 10)	60817-071

SPQ (Standard Pack Quantity): Part number includes 1 piece, but delivery is exclusively made in Standard Pack Quantity: Please order at least 10 pieces PCB retainers or a multiple

Dimensions

19" front frame

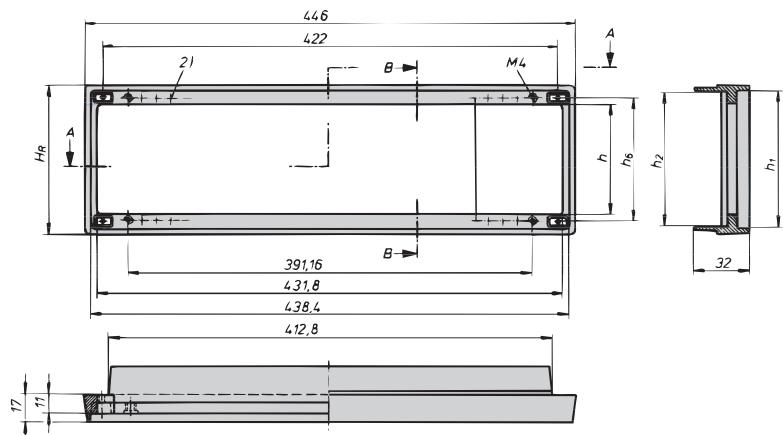


Section A-A

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

- 1) For handle mounting
- 2) For mounting of partial-width front panel (grid 5.08 mm)

19" rear frame



Section A A

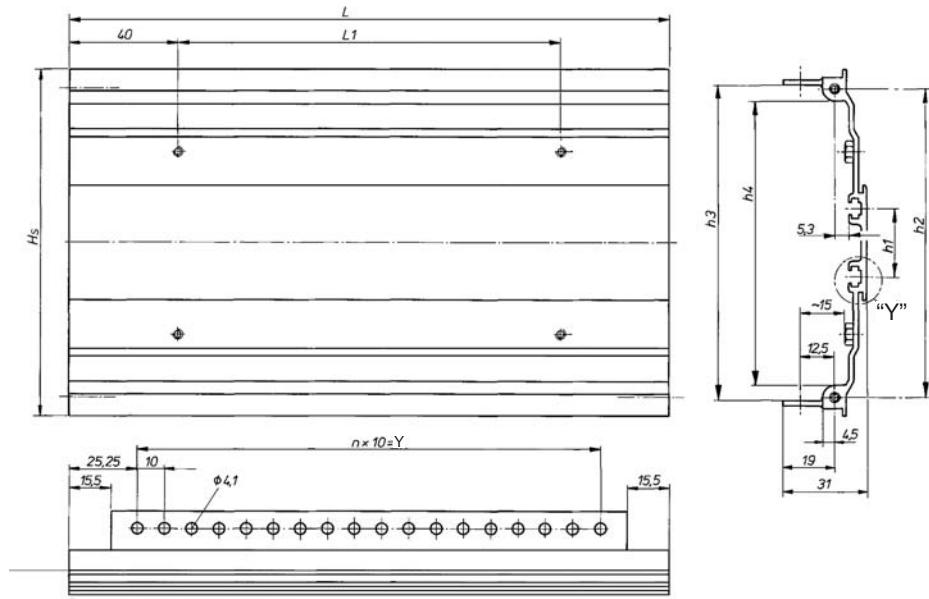
Dimensions table

Height

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

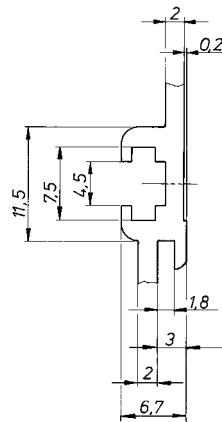
Dimensions

Side panel



A3-304a

Detail "Y"



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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