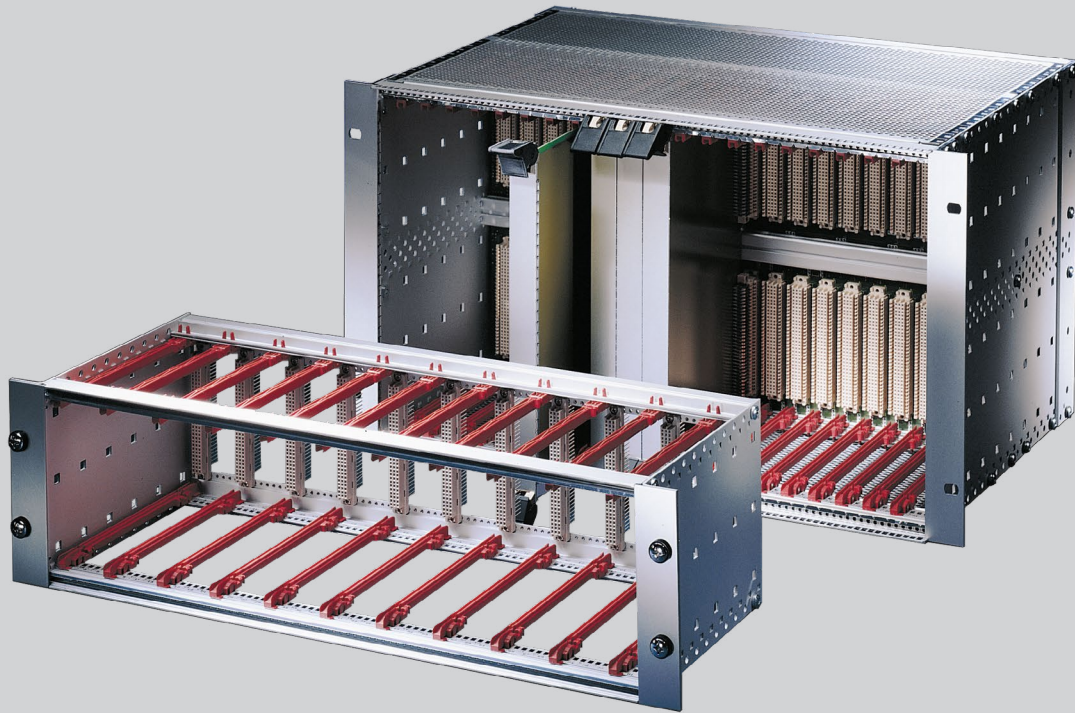




CONNECT AND PROTECT

EuropacPRO

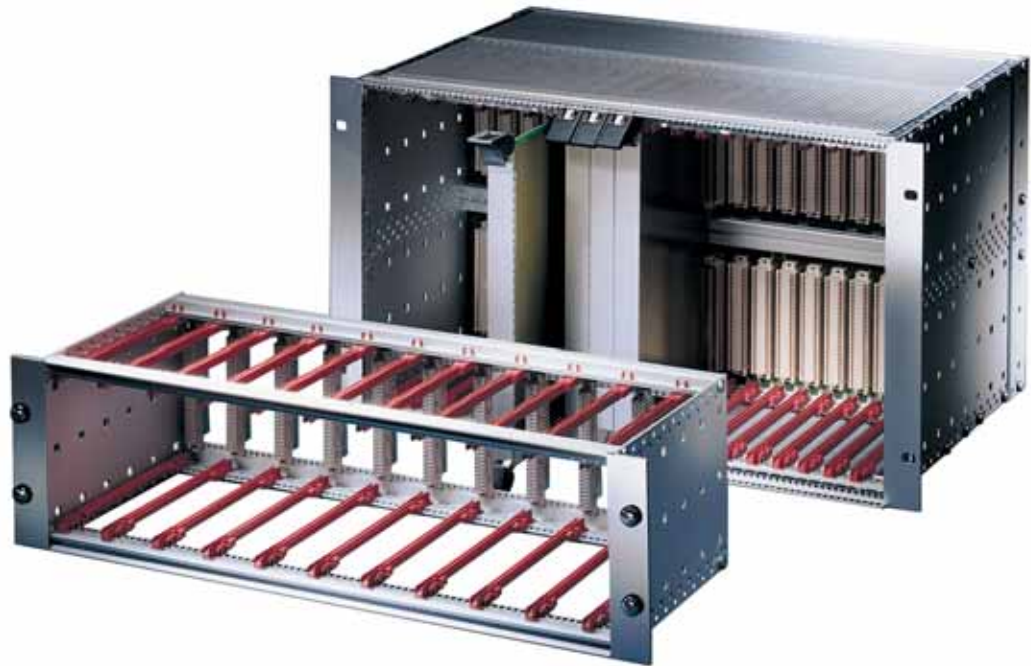


Subracks – EuropacPRO

OVERVIEW

MAIN KATALOG

Cabinets	1
Wall mounted cases	2
Accessories for cabinets and wall mounted cases	3
Climate control	4
Electronics 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



06197001



06112014

Different horizontal rails for various applications



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



04602002

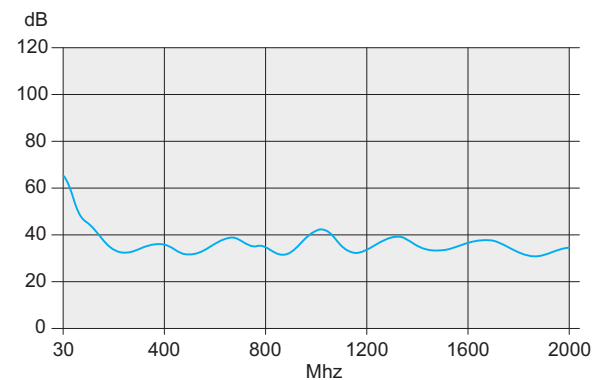
06

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



06108081

Subracks – EuropacPRO

OVERVIEW

19" SUBRACKS

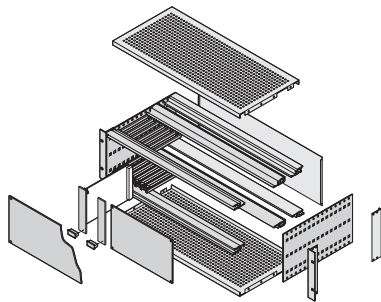
- Kits or individual configuration
- One product and accessories platform for every kind of customer requirement and application
- Suitable for CompactPCI and VME64x insertion and extractor handles
- EMC shielding can easily be retrofitted if needed
- Shock and vibration resistant up to 5 g
- 3D PDF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



06102008

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



06105058

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

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

Overview 6.6

Introduction. 6.4

Kits

Light 6.8
Flexible 6.9
Heavy 6.14
CompactPCI. 6.16

ServicePLUS configuration

Side panels 6.21
Horizontal rails, threaded inserts, perforated strips 6.29
Guide rails 6.37
Cover plates 6.44
EMC shielding 6.54
Interior assemblies. 6.59
Assembly kits 6.65

Application examples 6.71

Subracks for mobile railway applications 6.70

europacPRO for industrial applications 6.86

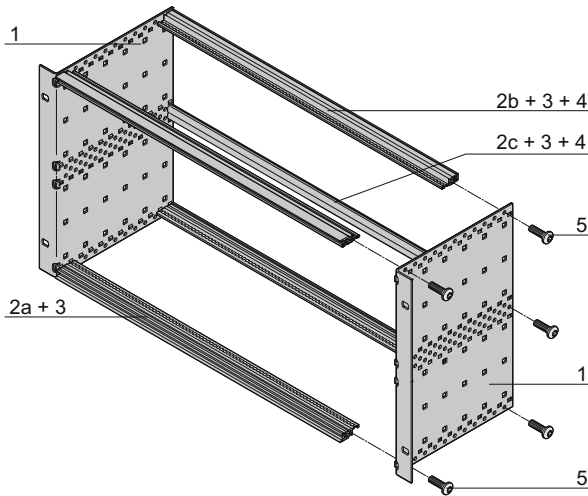
europacPRO for rugged applications 6.92

Subracks – EuropacPRO

KIT, "LIGHT", UNSHIELDED, FOR BACKPLANE MOUNTING

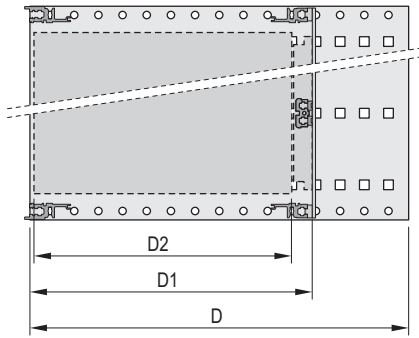


06111002



6 U

06111056



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 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

DELIVERY COMPRISES (Kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type L, Al, 2 mm, passivated, with built-in 19" support bracket
2a	2	2	Front horizontal rail (L-KD)
2b	2	2	Rear horizontal rail (L-ST)
2c	-	1	Rear horizontal rail centre (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

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
---	------------------

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

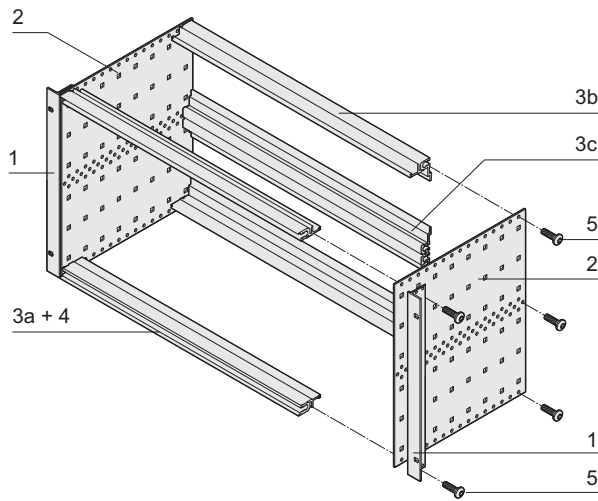
- Subrack is not prepared for shielding

Subracks – EuropacPRO

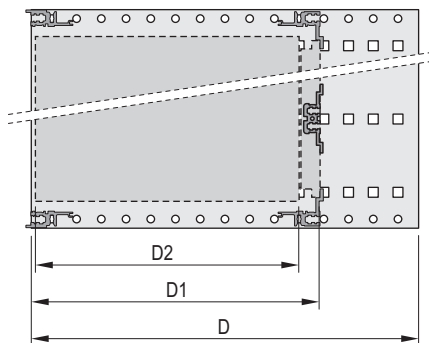
KIT, "FLEXIBLE", UNSHIELDED, FOR CONNECTOR MOUNTING



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

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

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

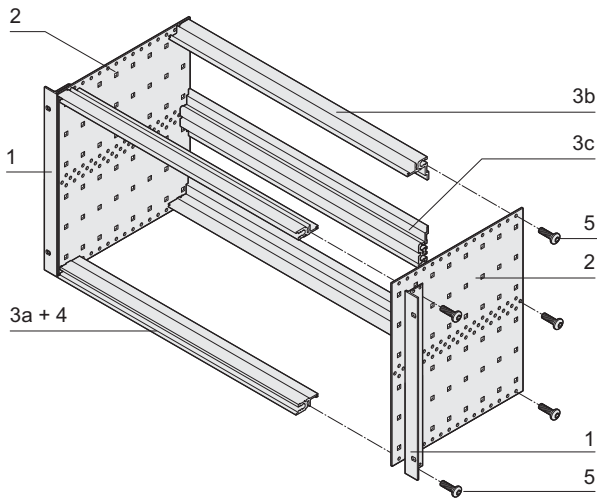
Subracks – EuropacPRO

SUBRACK KIT, UNSHIELDED FOR CONNECTOR, ASSEMBLY ON SLIDE RAIL



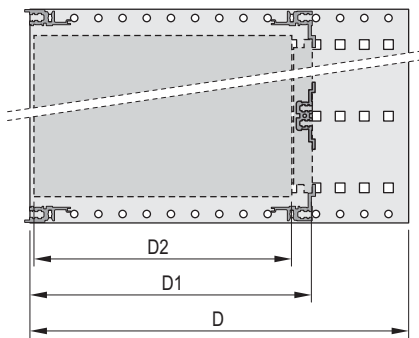
Photo: 3 U subrack

06105001



6 U

06105054



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

06108050



Rear horizontal rail for connector mounting

04400003

- Subrack can be used with slide rails
- Subrack with side panel type F ("flexible"), 19" bracket with notch for slide rail assembly
- Horizontal rails, rear, for connector mounting (IEC 60603-2 / DIN 41612)
- Installed load up to 11 kg

DELIVERY INCLUDES (Kit, flat pack)

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

ORDER INFORMATION

Height U	Width HP	Depth D mm	Depth D1 mm	Part no.
3	84	235	175/235	24553-192
3	84	295	175/235/295	24553-193
3	84	355	175/235/295/355	24553-194
6	84	235	175/235	24553-492
6	84	295	175/235/295	24553-493
6	84	355	175/235/295/355	24553-494

Accessories

19" fixing material 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 Spring steel, tin-plated, silver, PU 50 pieces	24560-255
---	------------------

Cover plates for insertion into horizontal rail type L			
Depth D2 mm	Width HP	Qty/PU piece	Part no.
160	84	2	24561-051
220	84	2	24561-052

NOTE

- Alternative product for older europac lab and europacRational subrack series

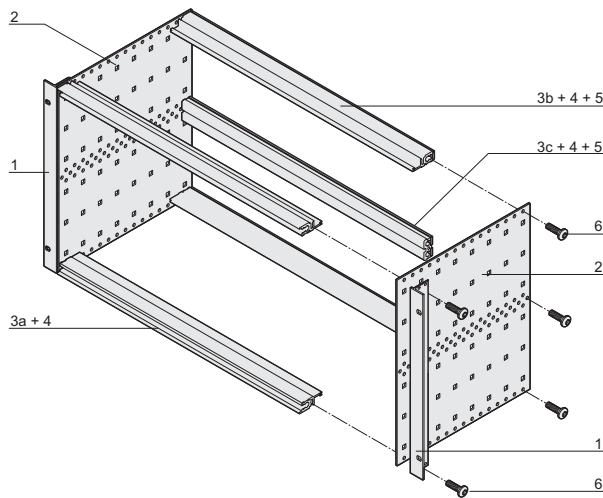
Subracks – EuropacPRO

SUBRACK KIT, UNSHIELDED, FLEXIBLE FOR BACKPLANE, ASSEMBLY ON SLIDE RAIL



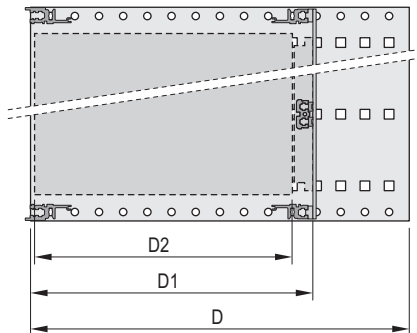
Photo: 3 U subrack

6 U



06102007

06102081



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

06108051



Rear horizontal rail for backplane mounting with insulation strip

04400001

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

DELIVERY INCLUDES (Kit, flat pack)

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

ORDER INFORMATION

Height U	Width HP	Depth D mm	Depth D1 mm	Part no.
3	84	235	175/235	24553-132
3	84	295	175/235/295	24553-133
3	84	355	175/235/295/355	24553-134
6	84	235	175/235	24553-432
6	84	295	175/235/295	24553-433
6	84	355	175/235/295/355	24553-434

Accessories

19" fixing material 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 Spring steel, tin-plated, silver, PU 50 pieces	24560-255
---	------------------

Cover plates for insertion into horizontal rail type L

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

NOTE

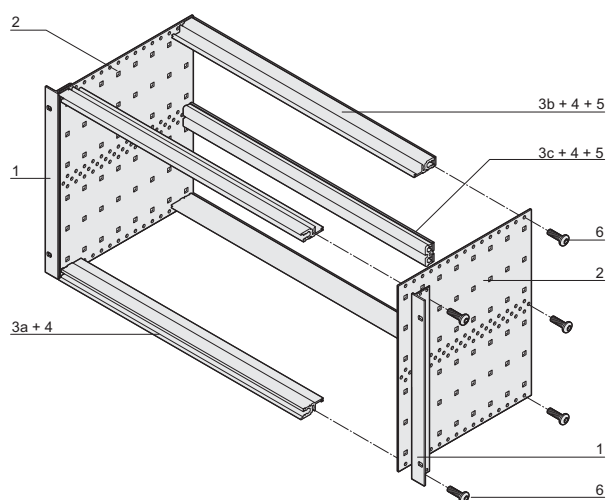
- Alternative product for older europac lab and europacRational subrack series

Subracks – EuropacPRO

KIT, "FLEXIBLE", UNSHIELDED, FOR BACKPLANE MOUNTING

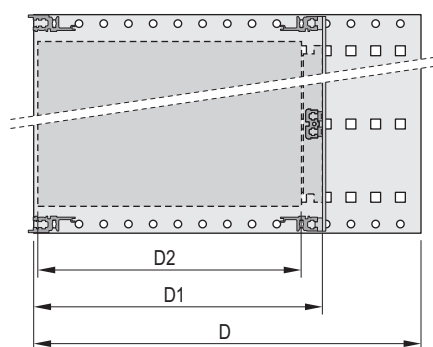


06102007



06102081

6 U



06108051

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



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

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

Cover plates for insertion in horizontal rails (type L)

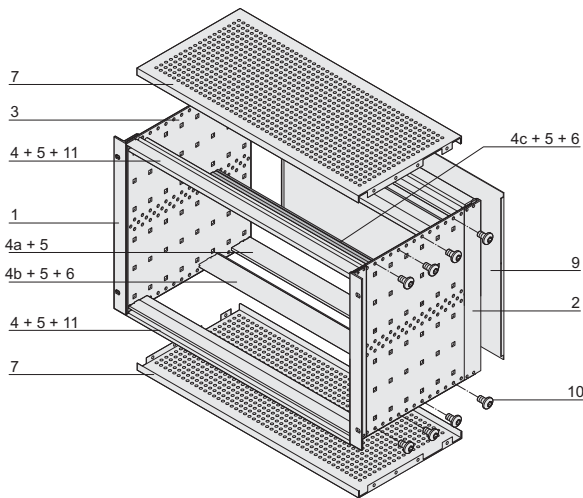
Depth D2 mm	Width HP	Qty/PU piece	Part no.
160	84	2	24561-051
220	84	2	24561-052

Subracks – EuropacPRO

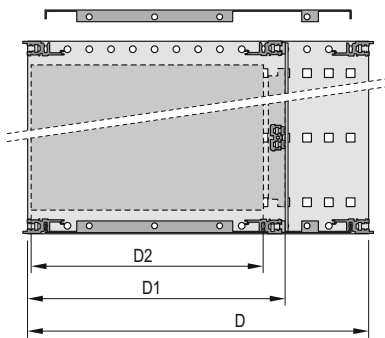
KIT, "FLEXIBLE", SHIELDED, FOR BACKPLANE MOUNTING



06102008



6 U



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



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
- 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

06102075

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

06113056

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

Subracks – EuropacPRO

KIT, 'HEAVY', UNSHIELDED, FOR BACKPLANE MOUNTING

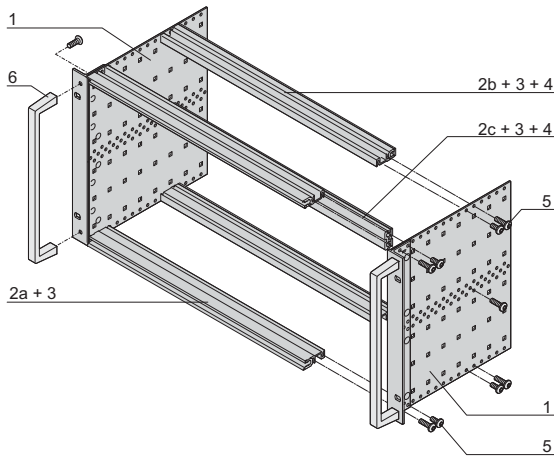


Without front handle

06102007

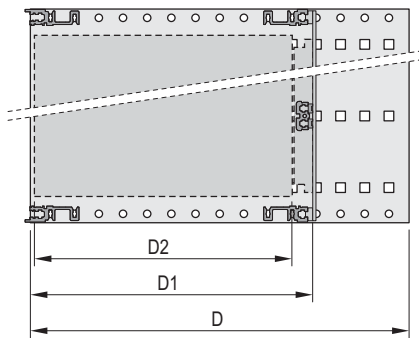
With front handle

06111003



6 U

06111057



06108052

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



04400001

Rear horizontal rail for backplane mounting with insulation strip

- 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

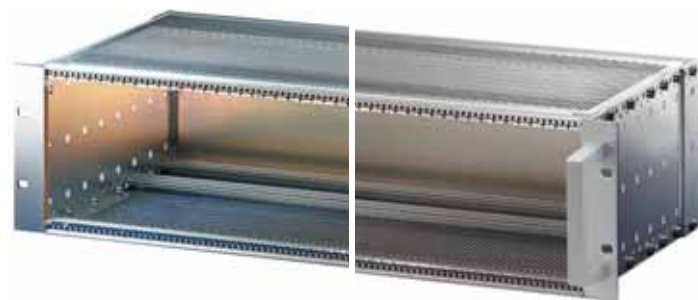
19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)		21100-435
Guide rails (standard), ESD clips		
Depth D2 mm	Qty/PU piece	Part no.
160	10	24560-351
220	10	24560-353
280	10	24560-379
340	10	24560-380
ESD clip for guide rails PU 50 pieces		24560-255
Torx panhead screw, 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

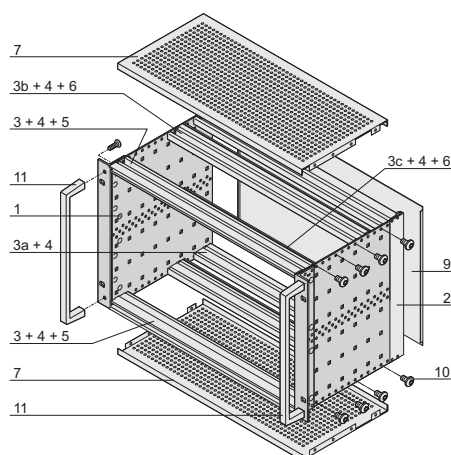
Subracks – EuropacPRO

KIT, "HEAVY", SHIELDED, FOR BACKPLANE MOUNTING

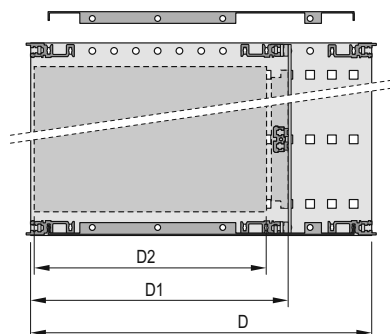


Without front handle

With front handle



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 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

DELIVERY COMPRISES (Kit)

Item	Qty 3 U	6 U	Description
1	2	2	Side panel type H, Al, 2 mm, passivated, with 19" support bracket (tox-cold welded); for textile EMC gasket
2	2	2	Rear corner profile for textile EMC gasket
3	2	2	Front horizontal rail (H-KD)
3 a	2	2	Rear horizontal rail (H-KD)
3 b	2	2	Rear horizontal rail (H-ST)
3 c	-	1	Rear horizontal rail centre (ST)
4	6	8	Threaded insert (pre-fitted)
5	2	2	Perforated strip (pre-fitted)
6	2	4	Insulation strip (pre-fitted)
7	2	2	EMC cover plate
8	1	1	EMC gasketing material (pre-fitted)
9	1	1	EMC rear panel
10	1	1	Fixing material kit, user manual
11	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;		24560-141
torque max. 0.2 Nm		

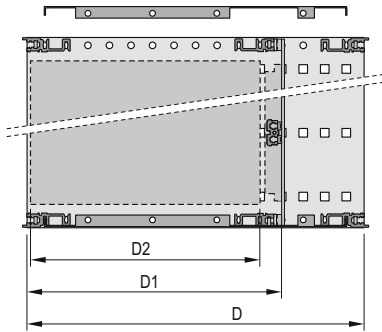
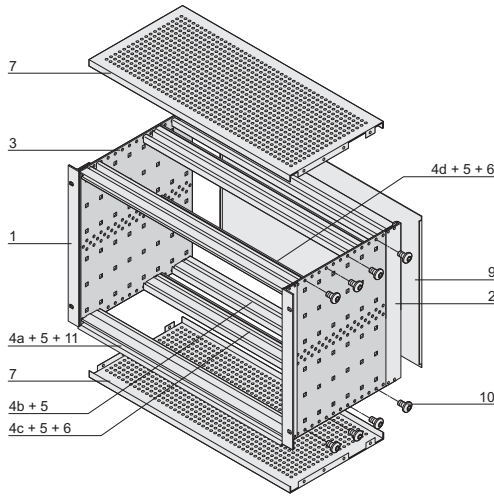
Subracks – EuropacPRO

KIT, FOR COMPACTPCI, FOR BACKPLANE MOUNTING, WITHOUT REAR I/O, SHIELDED



06102009

6 U



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



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
- 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 (L-KD)
4 c	2	2	Rear horizontal rail (H-ST), for backplane mounting with insulation strip
4 d	-	1	Centre horizontal rail (ST)
5	6	8	Threaded insert (pre-fitted)
6	2	4	Insulation strip (pre-fitted)
7	2	2	EMC cover plate
8	1	1	EMC gasketing material (pre-fitted)
9	1	1	Rear panel
10	1	1	Fixing material kit
11	2	2	Perforated strip (pre-fitted in item 4+4a)
12	1	1	User manual

06102078

ORDER INFORMATION

Height	Width	Depth D	Depth D1	Part no.
U	HP	mm	mm	
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

Subracks – EuropacPRO

KIT, FOR COMPACTPCI, FOR BACKPLANE MOUNTING, FOR REAR I/O, SHIELDED

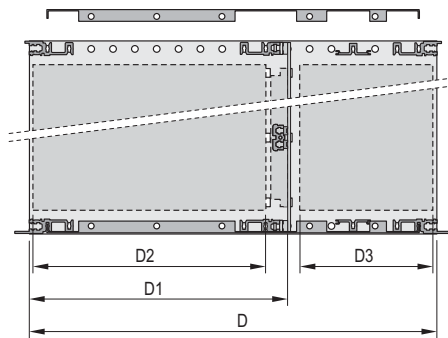
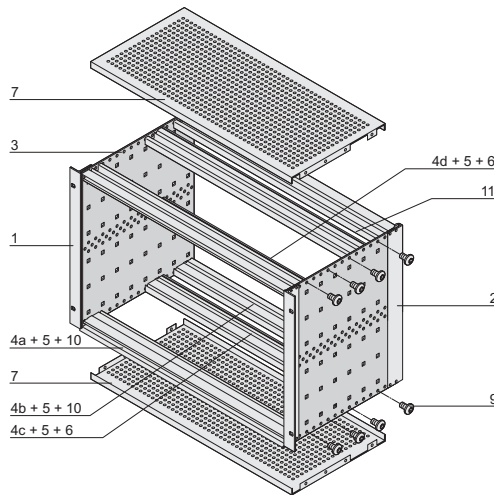


- Subrack with side panel type F ("flexible") for CompactPCI plug-in units with high insertion and withdrawal forces
- For rear I/O boards (depth 80 mm)
- Rear horizontal rail for backplane mounting with insulation strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz, assuming that the front is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

DELIVERY COMPRISES (kit)

Item	Qty	3 U	6 U	Description
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

6 U



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



Rear horizontal rail for backplane mounting with insulation strip

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

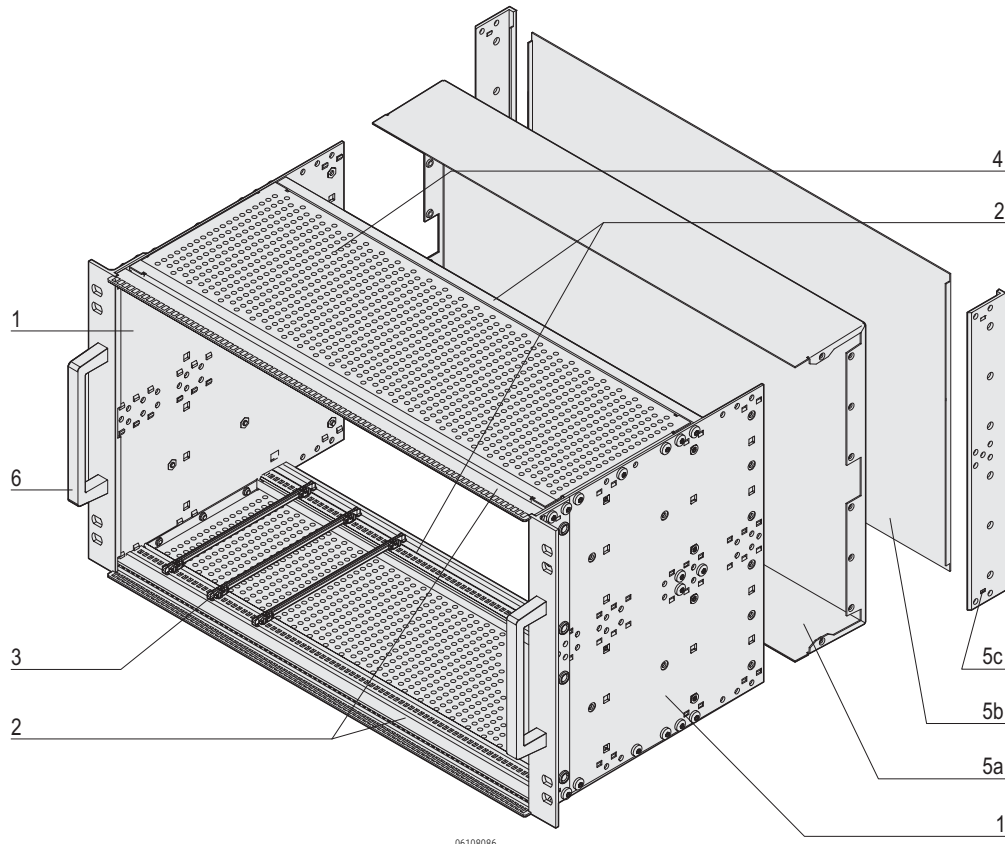
Accessories

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

Subracks – EuropacPRO

Subracks – EuropacPRO

OVERVIEW OF INDIVIDUAL COMPONENTS FOR SHIELDED OR UNSHIELDED SUBRACKS

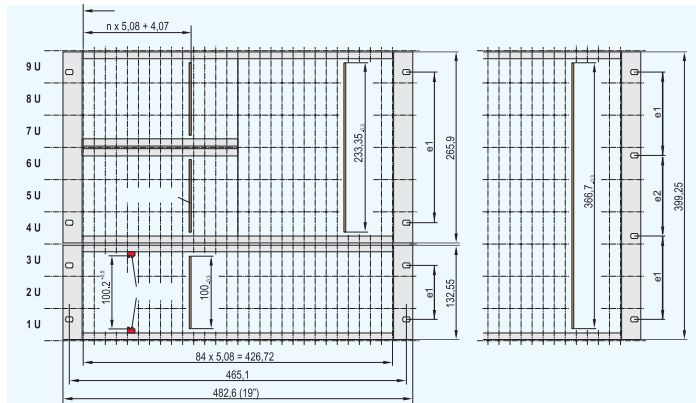


06108086

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.	6.21
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).	6.29
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.	6.37
Item 4	Cover plates	Provide mechanical protection and/or EMC shielding and are perforated.	6.44
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.	6.49
Item 6	Handles	Can be mounted on the 19" brackets.	6.27
–	EMC shielding (without illustration)	Extensive component range for specific shielding of subracks with respect to their application.	6.54
–	Interior assemblies (without illustration)	Universal assemblies, e.g. for horizontal and vertical assembly and for mounting plates.	6.59

Subracks – EuropacPRO

SUBRACK DIMENSIONS



20304051

- 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



06197003

Side panel 3 U, 6 U and 9 U

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



06108008

Side panel 4 U

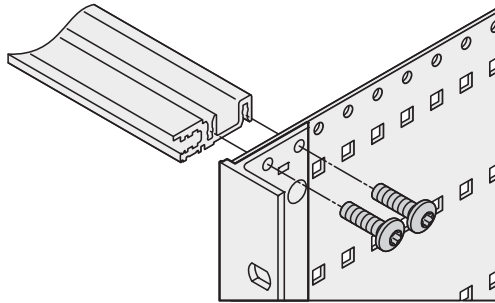
4 U side panels have the same hole positions as 3 U and additionally 1 U (above or beneath the 3 U installation); this height allows the construction of a 3 U unit with 1 U clearance for cabling or airflow



06108011

Subracks – EuropacPRO

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 tox-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

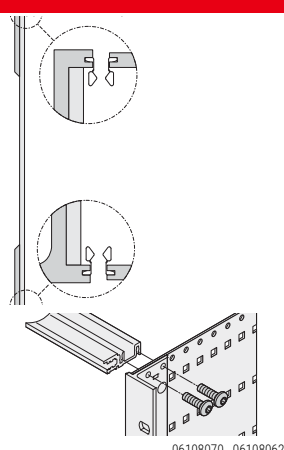
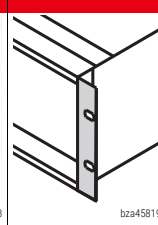
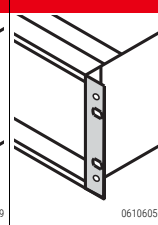
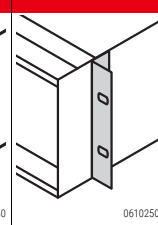
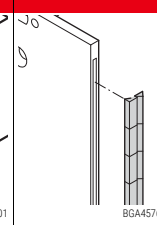
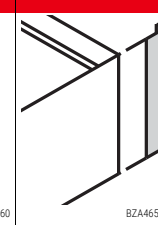
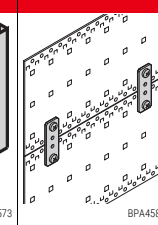
Type L (light)

- 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

Subracks – EuropacPRO

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
		 without 19" bracket, Al, 2 mm, passivated, please order 19" bracket and corner profile separately	 with lateral grooves for stainless steel EMC gasket, Al extrusion, rear side etched, front anodised	 with lateral grooves for stainless steel EMC gasket, Al extrusion, rear side etched, front anodised please order front handles separately,	 Al extrusion, passivated	 inserted laterally into the grooves of the front panel	 Al extrusion, surface clear passivated; with lateral grooves for stainless steel EMC gasket; rear hood cannot be mounted simultaneously	 Zn die-cast, incl. fixing material kit, for connecting two by two side panels (on top of each other)
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	24560-197	24560-198	24560-199	21101-705	24561-198	21101-954
3	235	34560-187						
3	275	1) 34579-300						
3	277.75	2) 34579-002						
3	295	34560-189						
3	355	34560-191						
3	415	34560-193						
3	475	34560-195	24560-297	24560-298	24560-299	21101-713	24561-298	21101-954
4	175	3) 34560-285						
4	235	3) 34560-287						
4	295	3) 34560-289						
4	355	3) 34560-291						
4	415	3) 34560-293						
4	475	3) 34560-295						
6	175	34560-485	24560-497	24560-498	24560-499	21101-707	24561-498	21101-954
6	235	34560-487						
6	275	1) 34579-038						
6	277.75	2) 34579-012						
6	295	34560-489						
6	355	34560-491						
6	415	34560-493						
6	475	34560-495						
6	970	34560-496						
9	175	34560-785						
9	235	34560-787						
9	295	34560-789						
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	–

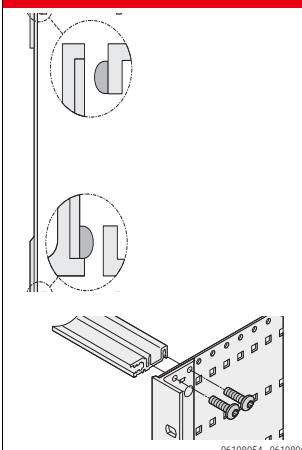
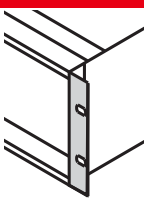
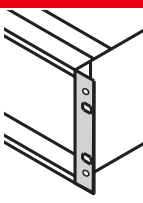
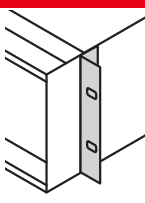
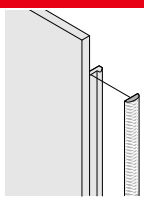
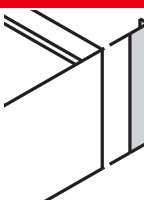
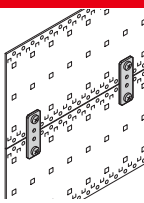
1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U

• View of side panels 3, 4, 6, 9 U see page 6.20

Subracks – EuropacPRO

SIDE PANELS TYPE F FOR TEXTILE EMC GASKET

ORDER INFORMATION

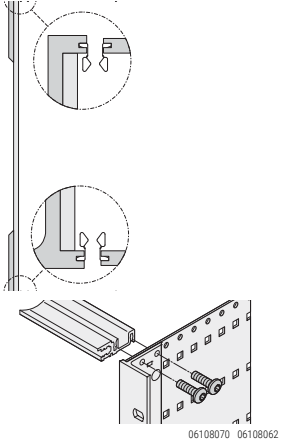
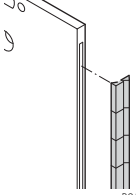
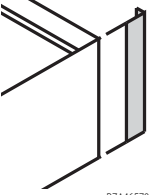
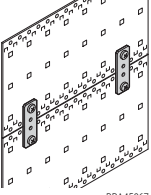
Illustration shows standard assembly, not VME or CompactPCI bus with rear I/O		Side panel type F	19" bracket without handle holes	19" bracket with handle holes	19" bracket depth-adjustable	EMC gasket (textile)	Rear angle	Side panel connection
		 without 19" bracket, Al, 2 mm, passivated, please order 19" bracket and corner profile separately	 Al extrusion for textile EMC gasket rear side etched, front anodised	 Al extrusion for textile EMC gasket, rear side etched, front anodised, please order front handles separately, see page 6.27	 Al extrusion, passivated	 textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0	 Al extrusion, etched; for textile EMC gasket	 Zn die-cast, incl. fixing material kit, for connecting two by two side panels (on top of each other)
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	24564-197	24564-198	24560-199	21101-853	24564-199	21101-954
3	235	34560-187						
3	275	1) 34579-300						
3	277.75	2) 34579-002						
3	295	34560-189						
3	355	34560-191						
3	415	34560-193						
3	475	34560-195						
4	175	3) 34560-285	24564-297	24564-298	24560-299	21101-858	24564-299	21101-954
4	235	3) 34560-287						
4	295	3) 34560-289						
4	355	3) 34560-291						
4	415	3) 34560-293						
4	475	3) 34560-295						
6	175	34560-485	24564-497	24564-498	24560-499	21101-855	24564-499	21101-954
6	235	34560-487						
6	275	1) 34579-038						
6	277.75	2) 34579-012						
6	295	34560-489						
6	355	34560-491						
6	415	34560-493						
6	475	34560-495						
6	970	34560-496						
9	175	34560-785	24564-797	24564-798	24560-799	21101-859	24564-799	21101-954
9	235	34560-787						
9	295	34560-789						
9	355	34560-791						
9	415	34560-793						
Screw, M4 x 14, PU 100 pieces, for 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

Subracks – EuropacPRO

SIDE PANELS TYPE H FOR STAINLESS STEEL EMC GASKET

ORDER INFORMATION

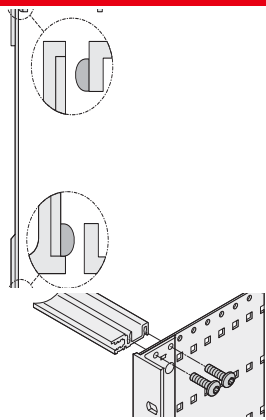
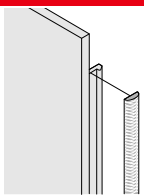
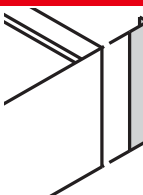
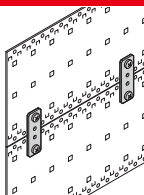
		Side panel type H for stainless steel EMC gasket		EMC gasket (stainless steel)	Rear angle	Side panel connection
		without handle holes	with handle holes			
		 for high mechanical demands, 19" bracket, tox-cold welded, Al, 2 mm, clear passivated, front anodised	 for high mechanical demands, 19" bracket, tox-cold welded, Al, 2 mm, clear passivated, front anodised, please order front handles separately see page 6.27	 inserted laterally into the grooves of the front panel	 Al extrusion, surface clear passivated; with lateral grooves for stainless steel EMC gasket; rear hood cannot be mounted simultaneously	 Zn die-cast, incl. fixing material kit, for connecting two by two side panels (on top of each other)
Height U	Depth mm	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces
3	175	24566-125	24567-125	21101-705	24561-198	21101-954
3	235	24566-127	24567-127			
3	275 1)	–	–			
3	277.75 2)	–	–			
3	295	24566-129	24567-129			
3	355	24566-131	24567-131			
3	415	–	–			
3	475	–	–			
4	175 3)	–	–	–	–	–
4	235 3)					
4	295 3)					
4	355 3)					
4	415 3)					
4	475 3)					
6	175	24566-425	24567-425	21101-707	24561-498	21101-954
6	235	24566-427	24567-427			
6	275 1)	–	–			
6	277.75 2)	–	–			
6	295	24566-429	24567-429			
6	355	24566-431	24567-431			
6	415	–	–			
6	475	–	–			
6	970	–	–			
9	175	–	–	–	–	–
9	235					
9	295					
9	355					
9	415					
Screw, M4 x 14, PU 100 pieces, for 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

Subracks – EuropacPRO

SIDE PANELS TYPE H FOR TEXTILE EMC GASKET

ORDER INFORMATION

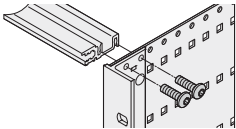
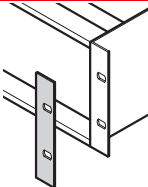
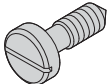
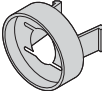
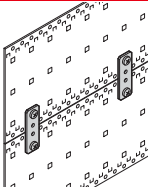
Illustration shows standard assembly, not VME or CompactPCI bus with rear I/O		Side panel type H for textile EMC gasket		EMC gasket (textile)	Rear angle	Side panel connection			
		without handle holes	with handle holes						
		 06197004 for high mechanical	 06107001 for high mechanical demands, 19" bracket,	 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)			
Height U	Depth mm	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces			
3	175	24564-145	24566-145	21101-853	24564-199	21101-954			
3	235	24564-147	24566-147						
3	275 1)	–	–						
3	277.75 2)	–	–						
3	295	24564-149	24566-149						
3	355	24564-151	24566-151						
3	415	–	–						
3	475	–	–	21101-855	24564-499	21101-954			
4	175 3)	–	–						
4	235 3)								
4	295 3)								
4	355 3)								
4	415 3)								
4	475 3)								
6	175	24564-445	24566-445	21101-855	24564-499	21101-954			
6	235	24564-447	24566-447						
6	275 1)	–	–						
6	277.75 2)	–	–						
6	295	24564-449	24566-449						
6	355	24564-451	24566-451						
6	415	–	–						
6	475	–	–	21101-855	24564-499	21101-954			
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

Subracks – EuropacPRO

SIDE PANELS TYPE L

ORDER INFORMATION

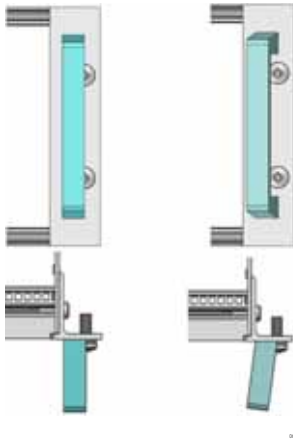
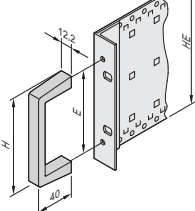
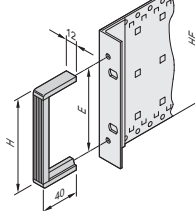
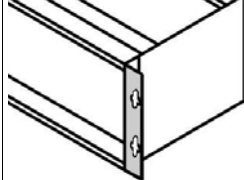
			Side panel type L	Front cover	Collar screw with slot for assembly of front cover	Sleeves for assembly of front cover	Side panel connection
			 06197002 Al, 2 mm, passivated	 BZA45810 for decorative finish of 19" bracket, Al, 2 mm, anodised	 06708055 M6 x 16, St, nickel-plated	 00508056 PPE, black	 BPA45867 Zn die-cast, incl. fixing material kit, for connecting two by two side panels (on top of each other)
Height U	Depth mm		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

Subracks – EuropacPRO

FRONT HANDLES, WALL-MOUNTING BRACKETS

ORDER INFORMATION

Front handle		Front handle	black anodised,	clear anodised,	Universal front handle	Wall-mounting bracket		
Straight version	Angled version	clear anodised, straight version	straight version	angled version				
		 Al extrusion, anodised load-carrying capacity 30 kg			 3 parts: Al extrusion, clear anodised, 2 end pieces, plastic, PA, black; width 12 mm, depth 40 mm load-carrying capacity 10 kg	 Al, 2.5 mm, passivated; bolted to subrack in place of the 19" bracket		
Height U	Depth mm	H mm	E mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	PU 1 pair
3	175	102	88.0	10501-005	10501-026	10501-020	10502-057	24562-197
3	235	102	88.0					
3	275	102	88.0					
3	277.75	102	88.0					
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	10501-018	—	10501-021	10502-060	24562-297
4	235	146	133.4					
4	295	146	133.4					
4	355	146	133.4					
4	415	146	133.4					
4	475	146	133.4					
6	175	249	235.0	10501-008	10501-029	10501-022	10502-065	24562-497
6	235	249	235.0					
6	275	249	235.0					
6	277.75	249	235.0					
6	295	249	235.0					
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	10501-008	10501-029	10501-022	10502-065	24562-797
9	235	249	235.0					
9	295	249	235.0					
9	355	249	235.0					
9	415	249	235.0					
Screw M5 x 12, PU 100 pieces		24560-183	24560-183	24560-183	24560-183	24560-183	24560-183	—
Screw M5 x 12, PU 4 pieces		24560-182	24560-182	24560-182	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

Subracks – EuropacPRO

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

Cabling space behind backplane

Rear I/O installation
(CompactPCI, VME64x applications)

front

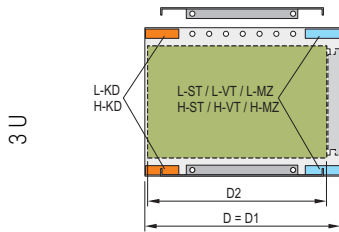
rear

front

rear

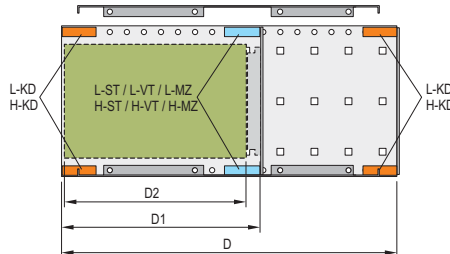
front

rear



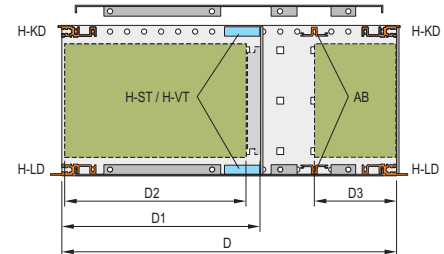
06112081

160, 220, 280 mm,



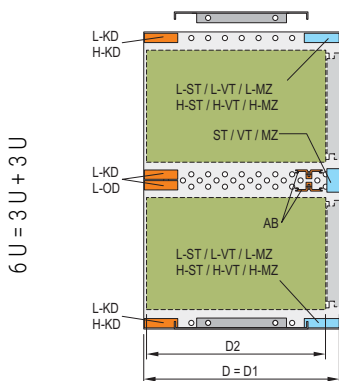
06112083

160, 220, 280 mm,



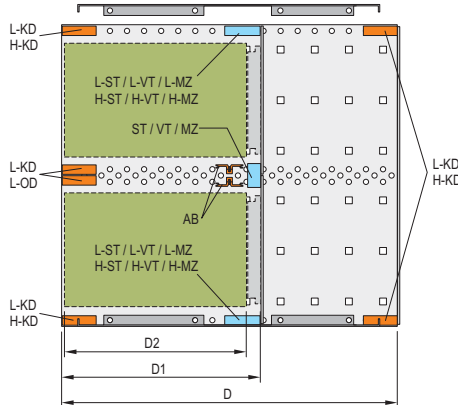
06112085

160 mm/80 mm



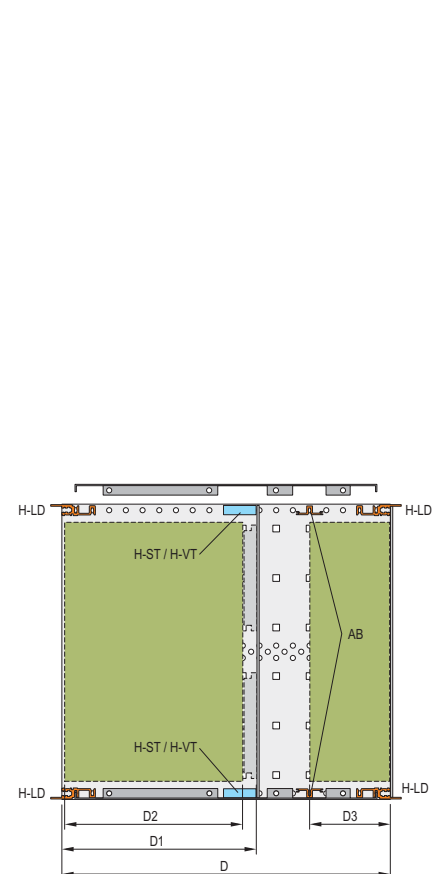
06112088

160, 220, 280 mm,



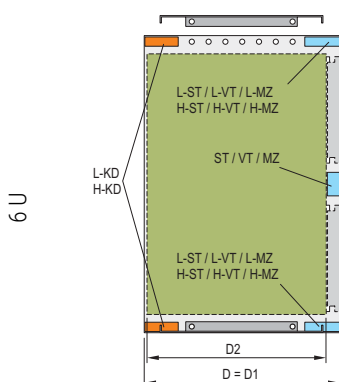
06112087

160, 220, 280 mm,



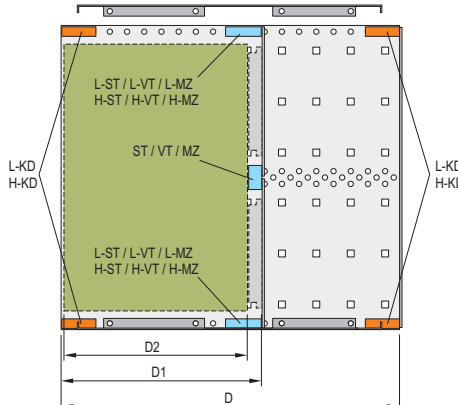
06112086

160 mm/80 mm



06112082

160, 220, 280 mm,



06112084

160, 220, 280 mm,

Subracks – EuropacPRO

FRONT HORIZONTAL RAILS

Assembly 3 U, 2 x 3 U, 6 U

"light" (L)



06197007

"heavy" (H)



Short lip

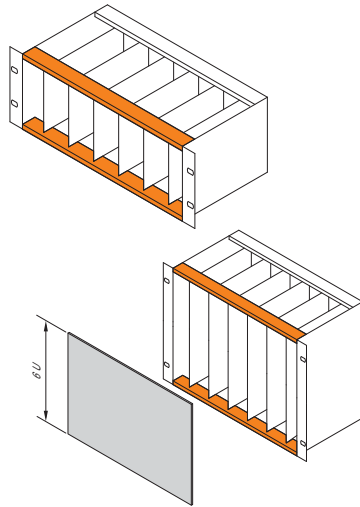
"heavy" (H)



06197008

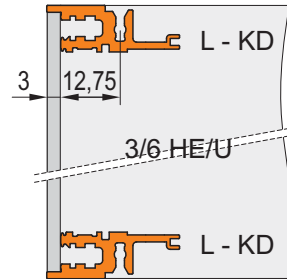
06197009

3 U/6 U



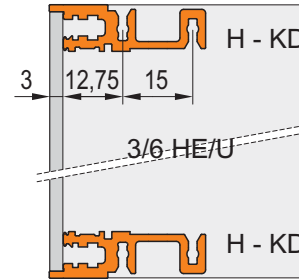
bza44980 bza44974

Short lip



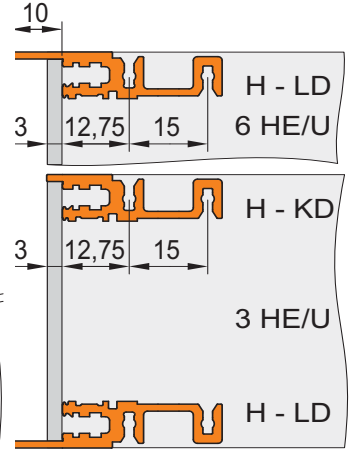
06105060

Short lip



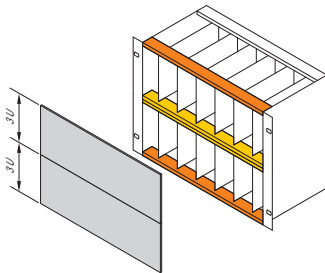
06105061

Long lip

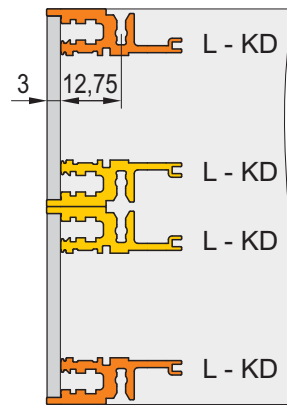


06108063

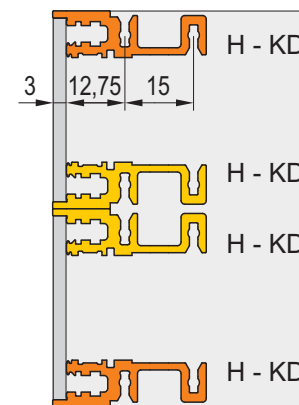
2 x 3 U



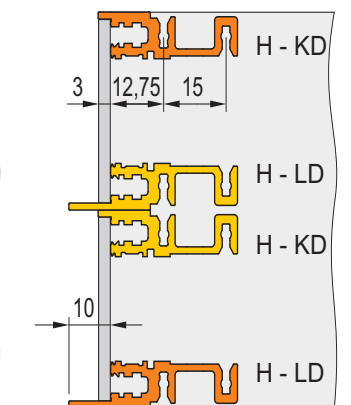
bza44972



06105062

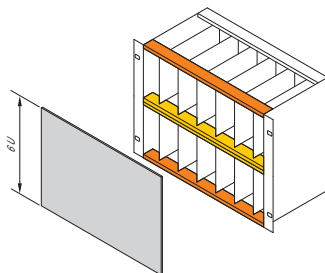


06105063

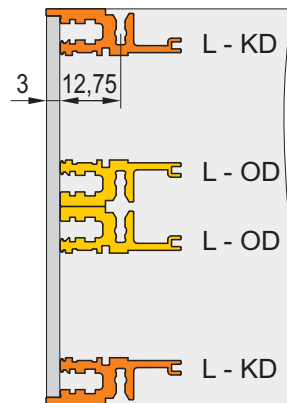


06108064

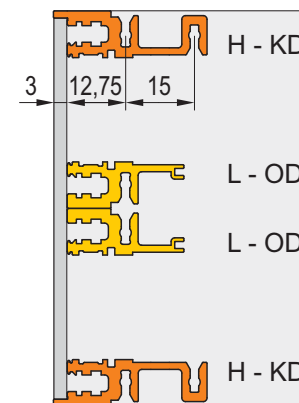
2 x 3 U, 6 U



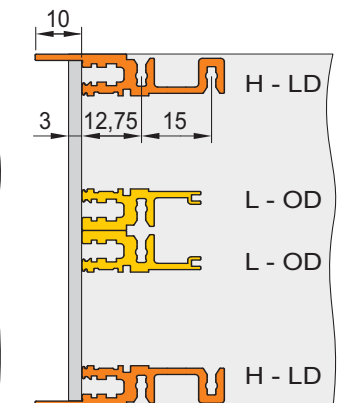
06105059



06105064



06105065



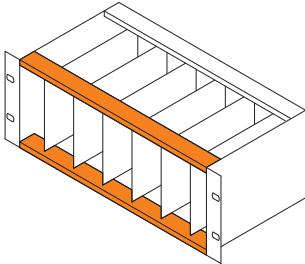
06108065

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

Subracks – EuropacPRO

FRONT HORIZONTAL RAILS

ORDER INFORMATION

		"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
 bza44980	 06197006	 06197007	 06197008	 06197009	
With HP markings from 28 HP, Al extrusion, anodised finish, conductive contact surface	Al extrusion, anodised finish, conductive contact surface, with printed HP markings without lip: 2 x 3 U installation and continuous 6 U front panel	Al extrusion, anodised finish, conductive contact surface, with printed HP markings short lip: horizontal rail and front panel form a single plane	Al extrusion, anodised finish, conductive contact surface, with printed HP markings short lip: horizontal rail and front panel form a single plane	Al extrusion, anodised finish, conductive contact surface, with printed HP markings long lip: for insertion/extraction of CompactPCI or VME64x boards	
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	6.35	6.35	6.35	6.35	6.35

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

Subracks – EuropacPRO

REAR HORIZONTAL RAILS

Indirect backplane mounting (with insulation strip)



04400001

Direct backplane mounting



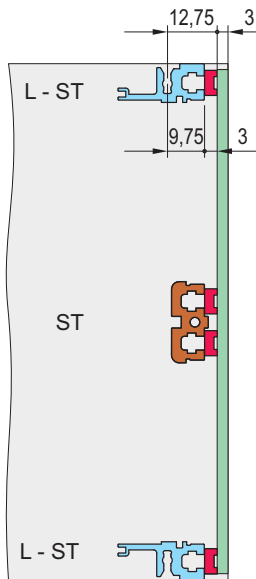
04400002

Connector fitting with Z

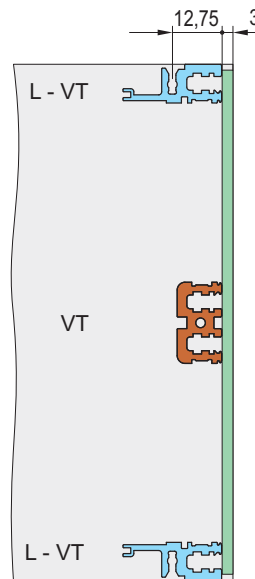


04400003

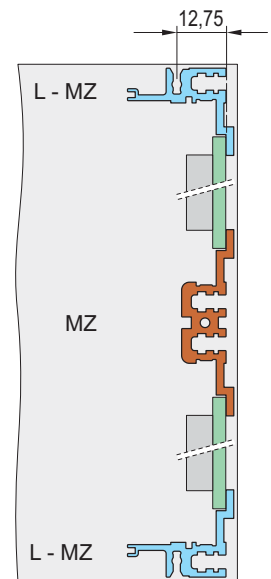
"light"



06105072

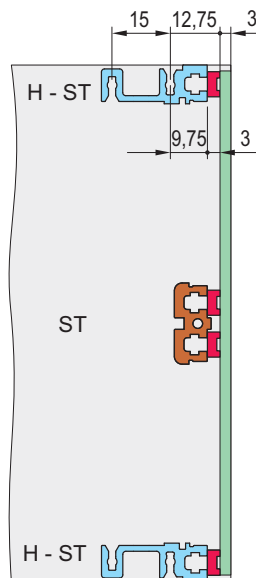


06105073

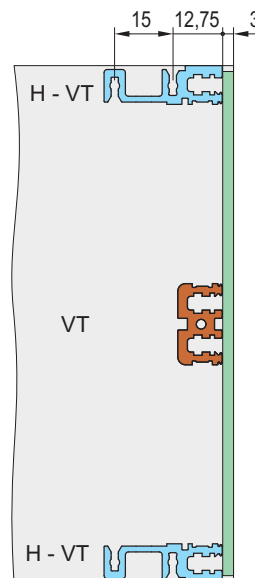


06105071

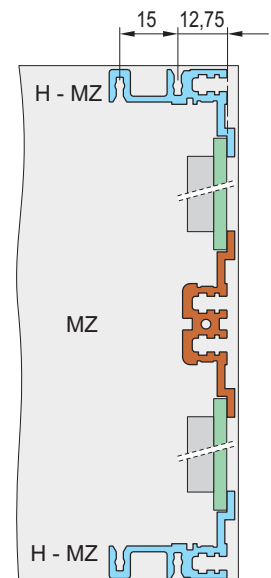
"heavy"



06108066



06108067



06108068

ST = standard, L = light, H = heavy

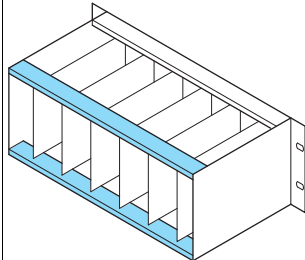
VT = depth-offset, L = light, H = heavy

MZ = with Z-rail, L = light, H = heavy

Subracks – EuropacPRO

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)	
 <							

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

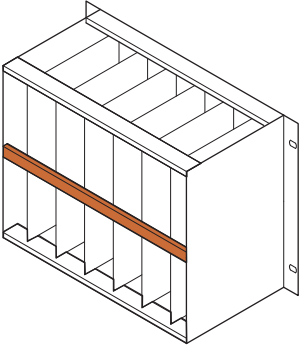
NOTE

- 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

Subracks – EuropacPRO

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)
 06108090		 04400001 Typ ST  06197016 Al extrusion, anodised surface, conductive contact surface, without printed markings	 04400002 Typ VT  06197017 Al extrusion, anodised surface, conductive contact surface, without printed markings	 04400003 Typ MZ  06197018 Al extrusion, anodised surface, conductive contact surface, without printed markings
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		6.35	–	–
Threaded inserts see page		6.35	6.35	6.35

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

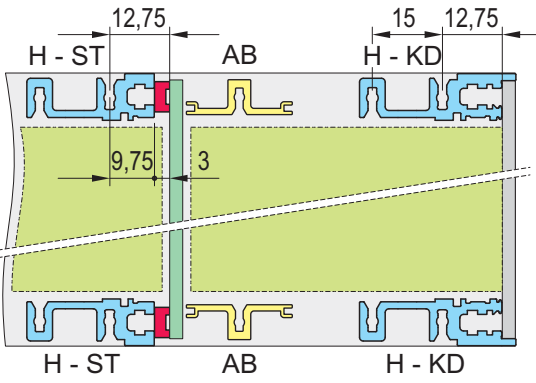
NOTE

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

Subracks – EuropacPRO

HORIZONTAL RAILS (TYPE AB) FOR REAR I/O APPLICATIONS

ORDER INFORMATION

		For CompactPCI in rear I/O area
 06108069		 06108009 Typ AB  06197019 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
Usable length HP	Length mm	1 piece (SPQ 10) ¹⁾
20	106.68	34561-520
28	147.32	34561-528
40	208.28	34561-540
42	218.44	34561-542
63	325.12	34561-563
84	431.80	34561-584
–	1000	34561-501
Screw, M4 x 14, PU 100 pieces, for 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

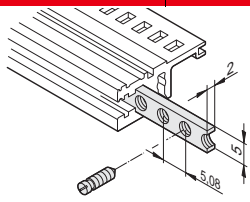
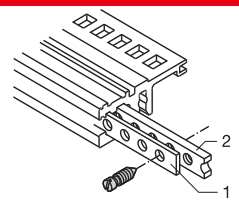
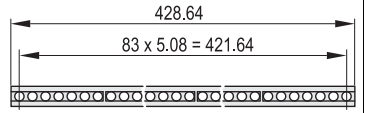
NOTE

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

Subracks – EuropacPRO

THREADED INSERTS, PERFORATED STRIPS, INSULATION STRIPS

ORDER INFORMATION

	Threaded insert M2.5		M3	Perforated strip (item 1)		Insulation strip	
	 required for fixing the front panel to the horizontal rail; St, zinc-plated; use collar screw 12.3 mm, see page 6.66			 for centring shielded plug-in units, Al, 1 mm, please order grub screw separately		 for insulated backplane mounting; PBT UL 94 V-0, grey	
Usable length HP	Threaded insert Length mm	1 piece (SPQ 10) ¹⁾	1 piece (SPQ 10) ¹⁾	Perforated strip Length mm	1 piece (SPQ 10) ¹⁾	Insulation strip 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		–		–

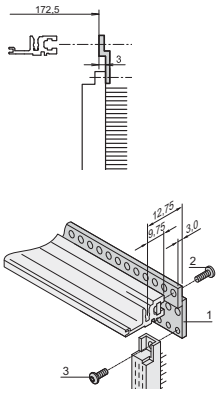
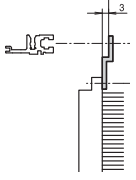
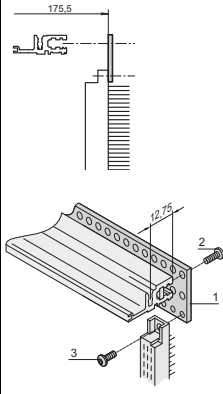
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

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

Subracks – EuropacPRO

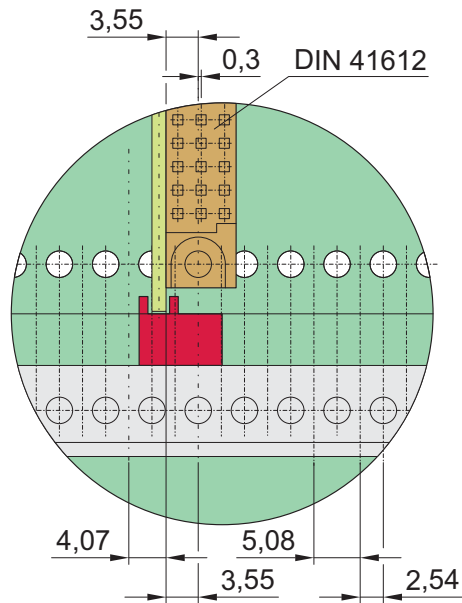
Z-RAILS, PERFORATED RAILS

ORDER INFORMATION

		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 06708063 for connector mounting on ST horizontal rails, please order threaded inserts and screw separately	 BZA45850 for connector mounting on ST horizontal rails, please order threaded inserts and screw separately	 BZA45848 06708051 for connector mounting on VT horizontal rails, please order threaded inserts and screw separately
Usable length HP	Length mm	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

Subracks – EuropacPRO

GUIDE RAILS



Front view: position of guide rails to connector (EN 60603-2/ DIN 41612) 06108083

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)

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

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")

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

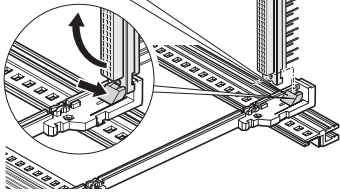
Accessories:

- ESD clip
- Keying/coding pegs
- Board locking

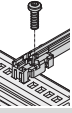
Subracks – EuropacPRO

GUIDE RAILS FOR PLUG-IN UNITS AND MODULES, ONE-PIECE, GROOVE WIDTH 2 MM AND 2.5 MM

ORDER INFORMATION

			For plug-in units and frame type plug-in units standard type		standard type, with DIN connector fixing
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					
			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	PBT, UL 94 V-0, red, connector is clipped directly onto the guide rails; for euroboards only, 100 x 160 mm or 100 x 220 mm
Board length mm	Groove width mm	Colour mm	PU 10 pieces ²⁾	1 piece (SPQ 50) ¹⁾	1 pair (SPQ 10) ¹⁾
70	2	red	–	34579-230	–
70	2	grey	–	34579-231	–
160	2	red	24560-351	64560-001	64560-074
220	2	red	24560-353	64560-002	64560-075
280	2	red	24560-379	–	–
340	2	red	24560-380	–	–
160	2.5	red	–	64560-096	–
220	2.5	red	–	64560-098	–

Accessories

Retention screw, PU 100 pieces; 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

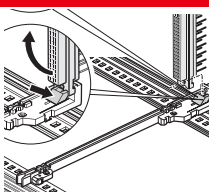
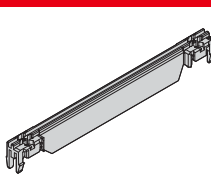
2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

Description of accessories see from page 6.43

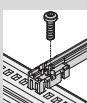
Subracks – EuropacPRO

GUIDE RAILS TYPE "ACCESSORY", ONE-PIECE, GROOVE WIDTH 2 MM AND 2.5 MM

ORDER INFORMATION

			Guide rails accessory type		"Accessories" with DIN connector mounting	accessory type, strengthened	for heavy modules, Al extrusion, silver, robust version
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			 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		 PBT, UL 94 V-0, connector is bolted directly onto the guide rails, only suitable for euroboards 100 x 160 mm or 100 x 220 mm	 PBT UL 94 V-0, red; support beam of guide rails adds to strengthening	 Al extrusion; is screwed to horizontal rail "heavy" with retention screws
Board length mm	Groove width mm	Colour	PU 10 pieces ²⁾	1 piece (SPQ 50)	PU 10 pairs ²⁾	1 piece (SPQ 50)	1 piece (SPQ 10) ¹⁾
100	2	red	–	64560-082	–	–	–
160	2	red	24560-373	64560-005	24560-274	64560-076	–
160	2	grey/silver	–	64560-055	24560-276	–	34562-881
220	2	red	24560-374	64560-006	24560-275	64560-078	–
220	2	grey/silver	–	64560-166	24560-277	–	34562-882
280	2	red/silver	24560-375	–	–	64560-080	34562-883
340	2	red/silver	24560-376	–	–	–	34562-884
400	2	red/silver	–	–	–	–	34562-885
160	2.5	silver	–	–	–	–	34564-881
220	2.5	silver	–	–	–	–	34564-882
280	2.5	silver	–	–	–	–	34564-883
340	2.5	silver	–	–	–	–	34564-884
400	2.5	silver	–	–	–	–	34564-885

Accessories

Retention screw, PU 100 pieces; torque max. 0.2 Nm		24560-141	24560-141	24560-141	24560-141	24560-157
ESD clip, PU 50 pieces		24560-255	24560-255	24560-255	24560-255	–
Board locking C, red, PU 10 pieces		24560-377	24560-377	24560-377	24560-377	–
Board handle C, red, PU 10 pieces		24560-378	24560-378	24560-378	24560-378	–
Identification strips for board handle, red, PU 1 sheet = 438 pieces		60817-228	60817-228	60817-228	60817-228	–
Coding see page		6.43				–

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

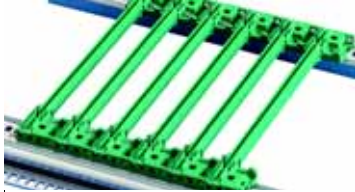
2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

Description of accessories see from page 6.43

Subracks – EuropacPRO

GUIDE RAILS FOR COMPACTPCI, VME64X WITH CODING, 4.4" PCBs, GROOVE WIDTH 2 MM AND 2.5 MM

ORDER INFORMATION

			For CompactPCI, VME64x with coding 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				For 4.4" PCBs
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			 					
			One-piece for groove width 2 mm, PBT, UL 94 V-0; multi-piece at groove width 2,5 mm, end-piece PBT, UL 94 V-0, center piece Al profile	PBT, UL 94 V-0	PBT, UL 94 V-0, for installation of power supplies in CompactPCI systems or plug-in units with SMD placement			One-piece, PBT, UL 94 V-0; for 4.4" PCBs or drive unit modules
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 6.43

Subracks – EuropacPRO

GUIDE RAILS, MULTI-PIECE, GROOVE WIDTH 2 MM

ORDER INFORMATION

			For plug-in units and modules standard type		Accessories type		For 4.4" PCBs	
PCBs: Fixed lengths for 160, 220, 280, 340 mm; length 1000 mm for special dimensions Mounting: pluggable into horizontal rails Storage temperature : End piece -40°C ... +130°C PVC profile 0°C ... +60°C			 06106004		 06106005		 06106006	
			end piece, PBT, UL 94 V-0, middle section Al extrusion	end piece, PBT, UL 94 V-0, middle section plastic extrusion (PVC, RAL 7035)	end piece, PBT, UL 94 V-0, middle section Al extrusion	end piece, PBT, UL 94 V-0, middle section plastic extrusion (PVC, RAL 7035)	end piece, PBT, UL 94 V-0, middle section Al extrusion	end piece, PBT, UL 94 V-0, middle section plastic extrusion (PVC, RAL 7035)
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⁾	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	34564-891
Al extrusion, for 220 mm board length	155	2	34560-892	34564-892	34560-892	34564-892	34560-892	34564-892
Al extrusion, for 280 mm board length	215	2	34560-893	34564-893	34560-893	34564-893	34560-893	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 C, red, PU 10 pieces	–	–	24560-377	24560-377	–	–
Board handle C, 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 6.43		–	–

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 6.43

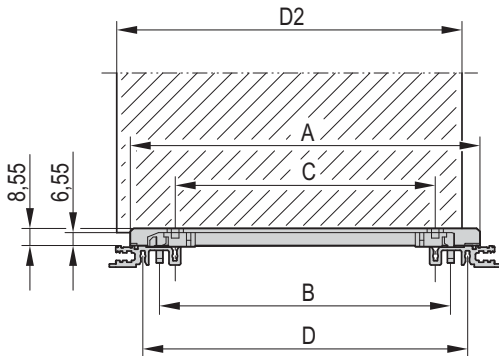
NOTE

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

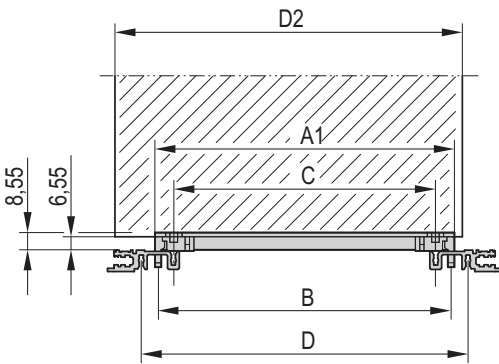
Subracks – EuropacPRO

DIMENSION DRAWINGS OF GUIDE RAILS

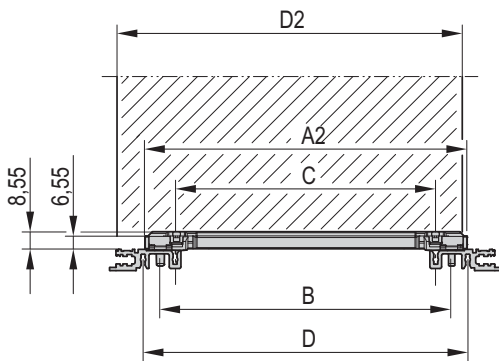
Standard



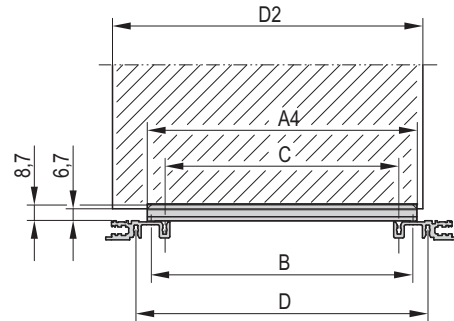
For accessories



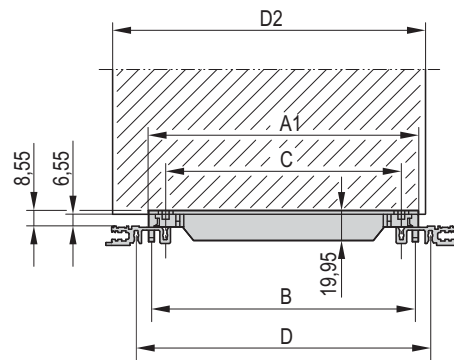
CompactPCI, VME64x



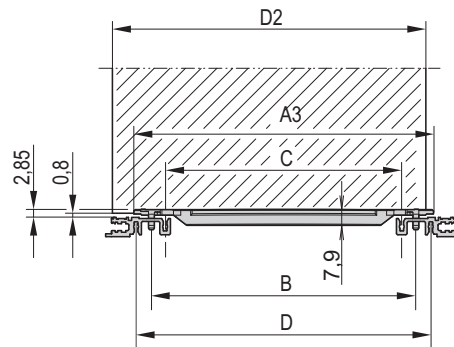
Robust version



For accessories, strengthened



4.4" (111.7 mm)



Dimensions table

Board length

L	Dimensions							
mm	A	A1	A2	A3	A4	B	C	D
mm	mm	mm	mm	mm	mm	mm	mm	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

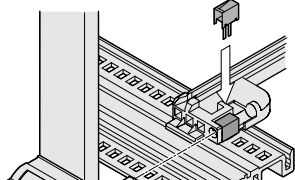
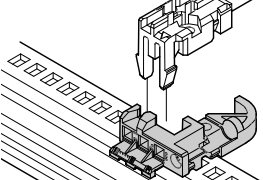
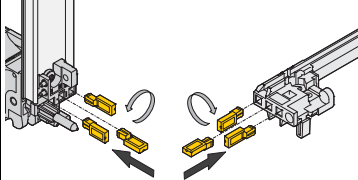
C: Pitch of guide rail retention screws

D: Pitch of horizontal rail retention screws

Subracks – EuropacPRO

GUIDE RAIL ACCESSORIES

ORDER INFORMATION

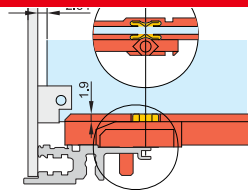
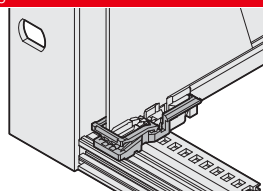
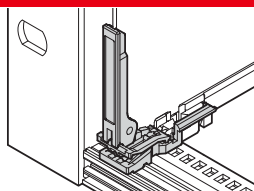
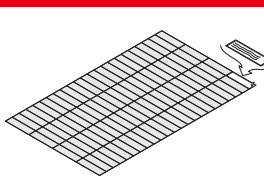
		ESD clips, CompactPCI/VME 64 alignment pin for guide rails	Coding for subracks	
			Keying/coding block for guide rails accessory type	Keying/coding for CompactPCI, VME64x handles to IEEE 1011.10 and IEC 60297-3-103
		 06103052	 06103051	 04612052
		Spring steel, tin-plated, ESD clip, for alignment pin in accordance with IEEE; can be plugged into the guide rails with coding and into the keying/coding block; provides conductive contact between the alignment pin of the insertion/extractor handle (IEL or IET handle) and the horizontal rail	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;
Assembly	Colour	PU 50 pieces	1 piece (SPQ 50)	PU 100 pieces
above	red	–	34579-232	–
	grey	–	34579-233	20817-501
	silver	24560-256	–	–
below	red	–	34579-234	–
	grey	–	34579-235	20817-501
	silver	24560-256	–	–

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

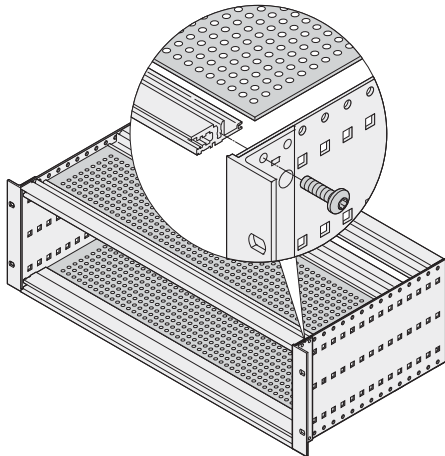
2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

GUIDE RAIL ACCESSORIES

ORDER INFORMATION

		ESD clips for guide rails	Board locking C for PCBs without front panel; for accessory type guide rails	PCB handle C for board locking; for accessory type guide rails	Identification strips
		 04503050	 04805050	 04805051	 06108076
		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)
Assembly	Colour	silver	red	red	white/matt
mm		PU 50 pieces	PU 10 pieces	PU 10 pieces	1 piece
above/below		24560-255	24560-377	24560-378	60817-228

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

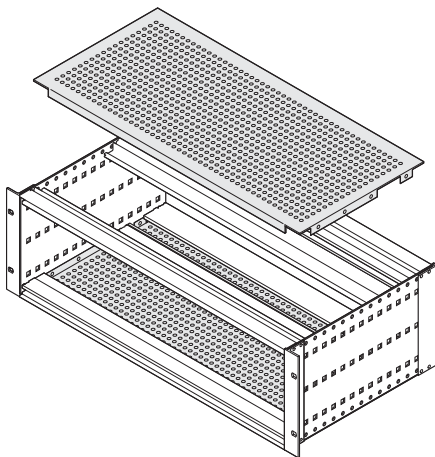


06108077

Cover plates for mechanical protection

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

see page 6.45



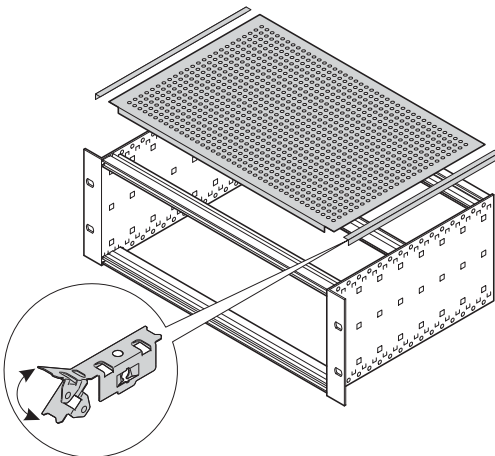
06102084

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 6.46



06105082

Universal EMC cover plates for top and bottom

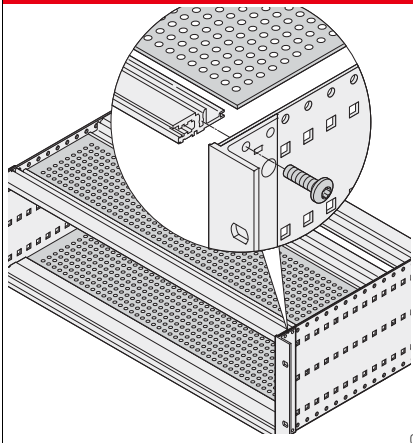
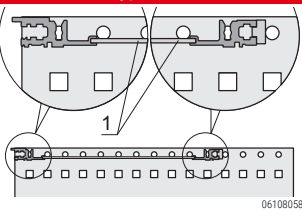
- Inserted in the groove of the front and rear horizontal rails; shielding with contact springs, lateral contact by bolting to the side panel with special contact springs
- Used when PCBs with special dimensions are fitted

see page 6.47

Subracks – EuropacPRO

COVER PLATES FOR MECHANICAL PROTECTION (INSERTION INTO HORIZONTAL RAIL TYPE L)

ORDER INFORMATION

			Cover plates for insertion into horizontal rail type L
			
			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)
Width HP	Depth mm	Application	PU 1 pair
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

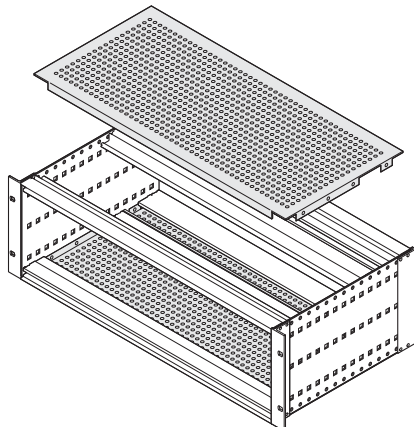
- Other dimensions on request

Subracks – EuropacPRO

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

			Cover plate for bolting to side panel	Stainless steel EMC gasket, between cover plate and horizontal rail	
 					

NOTE

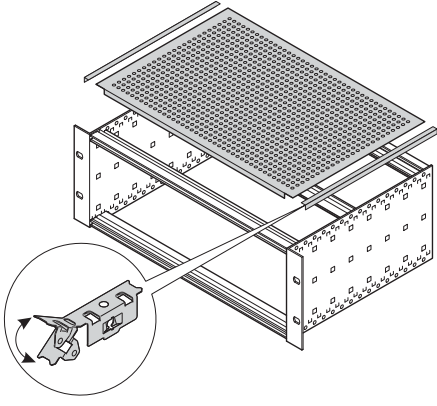
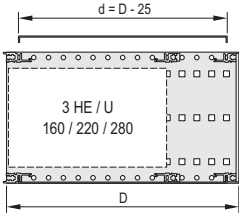
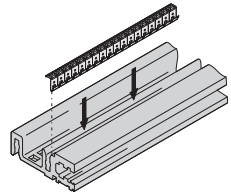
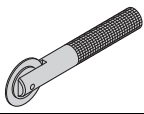
- Cover plates without perforation available on request

Subracks – EuropacPRO

UNIVERSAL EMC COVER PLATES AND MECHANICAL PROTECTION

- Used when PCBs with special dimensions are fitted

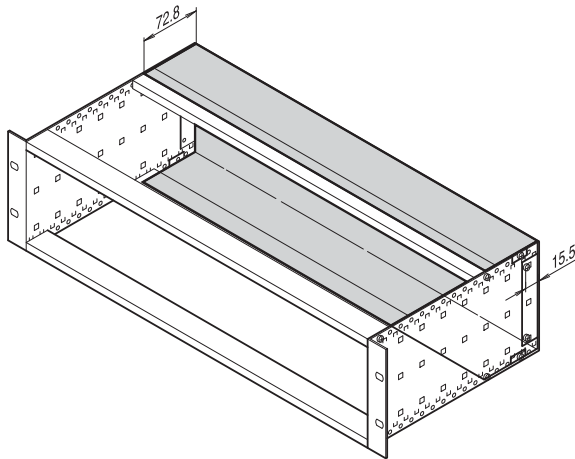
ORDER INFORMATION

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

Subracks – EuropacPRO

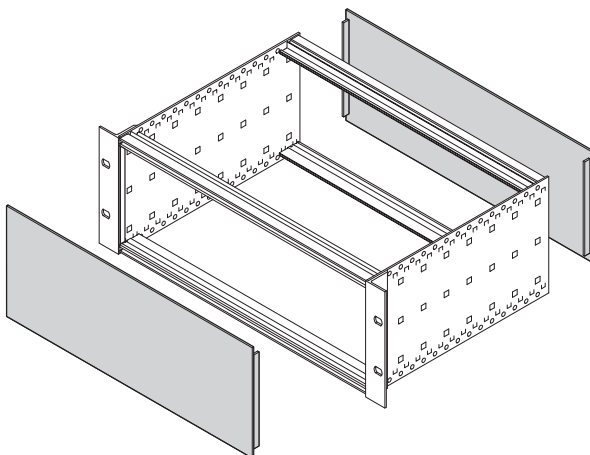
COVER/SHIELDING TO FRONT AND REAR

- 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



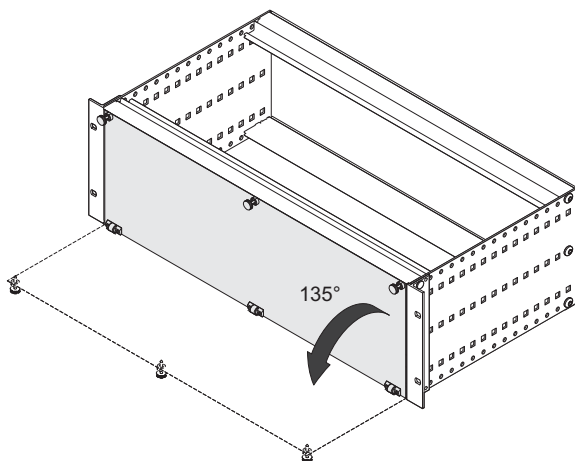
BZA45814

Rear hood



06112089

Front panel for front and rear



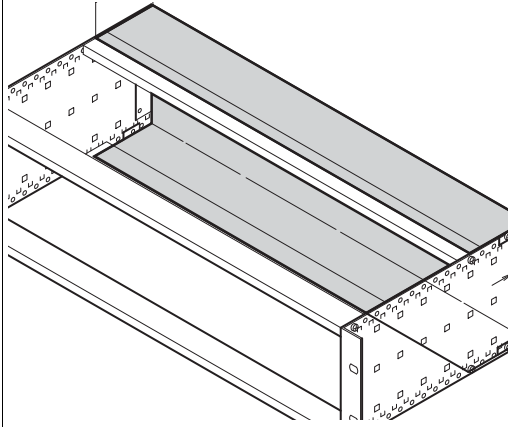
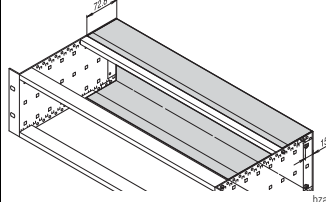
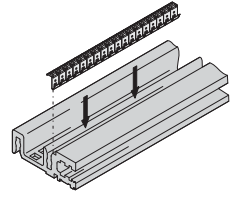
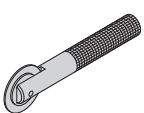
06112090

Front panel, hinged/pivoted

Subracks – EuropacPRO

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	
		 Al, 1 mm, clear passivated; 60 mm additional side panel depth required (board depth + 60 mm); for shielding please order EMC gasket for horizontal rail separately; cannot be used simultaneously with rear corner profile	 stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails	
Height U	Width HP	1 piece	PU 10 pieces	PU 100 pieces
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 × 6, St, zinc-plated, PU 100 pieces Assembly tool, for EMC gasket, stainless steel (horizontal rails), 1 piece		24560-135	–	
		–	24560-271	

NOTE

- Other dimensions of rear hood available on request

Subracks – EuropacPRO

FRONT/REAR PANELS, UNSHIELDED

ORDER INFORMATION

			Front panel					
			pre-anodised, cut edges plain		anodised		Front anodised, rear iridescent green chromated	
 04292001			Al, 2.5 mm		Al, 2.5 mm		Al, 2.5 mm	
Height U	Height mm	Width HP	1 piece	1 piece (SPQ 5) ¹⁾	1 piece	1 piece (SPQ 5) ¹⁾	1 piece	1 piece (SPQ 5) ¹⁾
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 6.65

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

Subracks – EuropacPRO

FRONT/REAR PANELS SHIELDABLE WITH STAINLESS STEEL EMC GASKET

ORDER INFORMATION

			Front panel			
			Front panel for shielding with EMC gasket (stainless steel)		Stainless steel EMC gasket	
 04292001			Al, 2.5 mm, front anodized, rear iridescent green chromated, 2 alignment pins pressed-in, St, stainless		inserted laterally into the grooves of the front panel, suited for temperatures above 70 °C	
Height U	Height mm	Width HP	1 piece	1 piece (SPQ 5) ¹⁾	PU 10 pieces	PU 100 pieces
2	84	84	30846-588	–	21101-775	21101-776
3	128.4	2	–	30846-864	21101-705	21101-706
3	128.4	3	–	20846-425		
3	128.4	4	–	20846-426		
3	128.4	5	–	20846-427		
3	128.4	6	–	20846-428		
3	128.4	7	–	20846-429		
3	128.4	8	–	20846-430		
3	128.4	10	–	20846-431		
3	128.4	12	–	20846-432		
3	128.4	14	–	20846-433		
3	128.4	21	–	20846-434		
3	128.4	28	–	20846-436		
3	128.4	42	20846-437	–		
3	128.4	63	20846-438	–		
3	128.4	84	30846-676	–		
4	172.9	42	30846-681	–	21101-713	21101-714
4	172.9	63	30846-682	–		
4	172.9	84	30846-683	–		
6	261.8	2	–	30846-865	21101-707	21101-708
6	261.8	4	–	20846-443		
6	261.8	5	–	20846-444		
6	261.8	6	–	20846-445		
6	261.8	7	–	20846-446		
6	261.8	8	–	20846-447		
6	261.8	10	–	20846-448		
6	261.8	12	–	20846-449		
6	261.8	14	–	20846-450		
6	261.8	16	–	20846-456		
6	261.8	21	–	20846-451		
6	261.8	28	–	20846-452		
6	261.8	42	20846-453	–		
6	261.8	63	20846-454	–		
6	261.8	84	30846-771	–		
9	395.1	84	30846-859	–	21101-709	21101-710
Assembly tool, for stainless steel EMC gasket					24560-270	

•Front panel assembly kits, sleeves, collar screws, quick-release fasteners see page 6.65

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

Subracks – EuropacPRO

FRONT/REAR PANELS SHIELDABLE WITH TEXTILE EMC GASKET

ORDER INFORMATION

			Front panel			
			Front panel for shielding with EMC sealing (textile)		Textile EMC gasket	
			Al extrusion, 2.5 mm, front anodised, rear conductive; 3, 6 U with alignment pin (not 84 HP)		textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0	
04292001						
Height U	Height mm	Width HP	1 piece	1 piece (SPQ 5) ¹⁾	PU 10 pieces	PU 100 pieces
2	84	84	20848-262	–	–	21101-856
3	128.4	2	–	30849-001	21101-853	21101-854
3	128.4	3	–	30849-004		
3	128.4	4	–	30848-354		
3	128.4	5	–	30848-378		
3	128.4	6	–	30848-380		
3	128.4	7	–	30848-382		
3	128.4	8	–	30848-356		
3	128.4	10	–	30848-386		
3	128.4	12	–	30848-358		
3	128.4	14	–	20848-013		
3	128.4	21	–	20848-020		
3	128.4	28	–	20848-027		
3	128.4	42	20848-047	–		
3	128.4	63	20848-068	–		
3	128.4	84	20848-097	–		
4	172.9	28	–	20848-268	21101-858	–
4	172.9	42	20848-269	–		
4	172.9	63	20848-270	–		
4	172.9	84	20848-271	–		
6	261.8	2	–	30849-002	21101-855	21101-856
6	261.8	4	–	30848-355		
6	261.8	5	–	30848-379		
6	261.8	6	–	30848-381		
6	261.8	7	–	30848-383		
6	261.8	8	–	30848-357		
6	261.8	10	–	30848-387		
6	261.8	12	–	30848-359		
6	261.8	14	–	20848-106		
6	261.8	16	–	20848-108		
6	261.8	21	–	20848-113		
6	261.8	28	–	20848-120		
6	261.8	42	20848-139	–		
6	261.8	63	20848-160	–		
6	261.8	84	20848-189	–		
9	395.1	84	20848-280	–	21101-859	21101-904

•Front panel assembly kits, sleeves, collar screws, quick-release fasteners see page 6.65

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

Subracks – EuropacPRO

FRONT PANELS, HINGED AND PIVOTED

ORDER INFORMATION

		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	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
Height U	Width HP	1 piece	1 piece	1 piece
3	28	20848-608	20838-280	–
3	42	20848-599	20838-271	–
3	63	20848-600	20838-272	–
3	84	20848-601	20838-273	20848-611
4	42	20848-605	20838-277	–
4	63	20848-606	20838-278	–
4	84	20848-607	20838-279	–
6	28	20848-696	–	–
6	42	20848-602	20838-274	–
6	63	20848-603	20838-275	–
6	84	20848-604	20838-276	20848-617

NOTE

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

Subracks – EuropacPRO

SHIELDING IS REQUIRED BETWEEN THE FOLLOWING COMPONENTS OF A SUBRACK

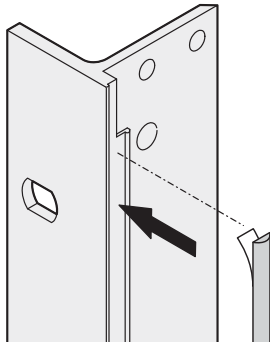
- Front panel/rear panel and horizontal rail, see page 6.55
- Front panel and 19" bracket/corner profile or in case of depth-offset installation, see page 6.55
- Cover plate/horizontal rail, see page 6.44
- Cover plate/side panel, see from page 6.44
- Horizontal rail/horizontal rail in combined mounting (3 U + 3 U and 6 U), see page 6.59
- Shielding for backplane and side panel see page 6.55

EMC shielding concepts

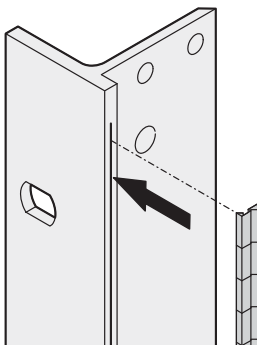
- Shielding concepts in accordance with IEEE and IEC
- Shielding effectiveness has been determined in various series of measurements in accordance with IEC 61587-3 and can be found online together with the relevant standard product
- The combined use of stainless steel and textile EMC gaskets is functionally 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



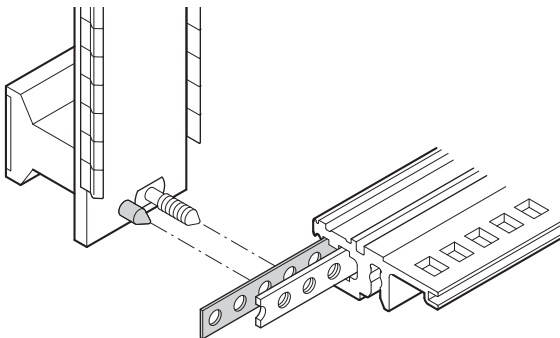
06108074

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

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)

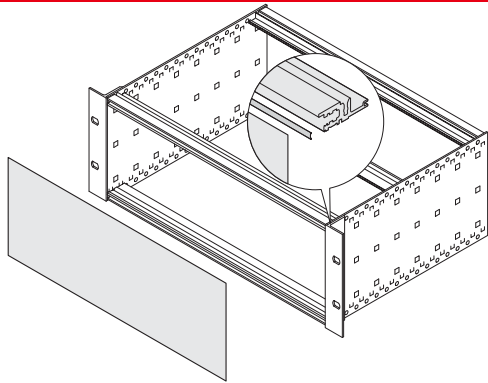
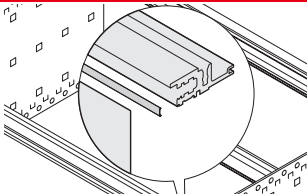


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Subracks – EuropacPRO

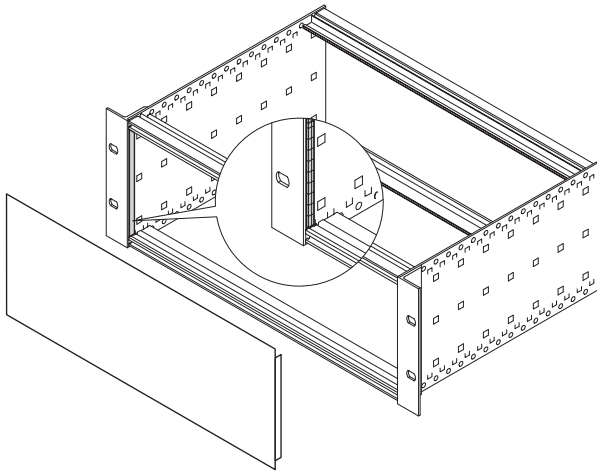
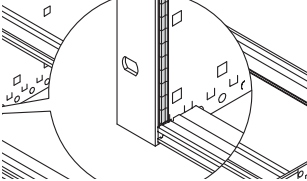
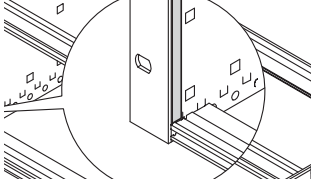
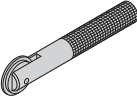
EMC GASKETS BETWEEN FRONT/REAR PANEL AND HORIZONTAL RAIL

ORDER INFORMATION

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

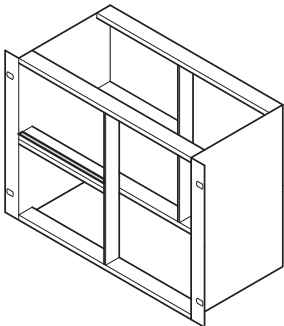
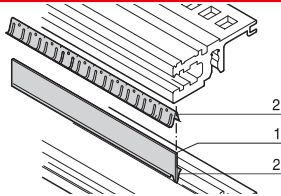
ORDER INFORMATION

		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	
		 inserted laterally into the grooves of the front panel		 textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0	
Height U	Depth mm	PU 10 pieces	PU 100 pieces	PU 10 pieces	PU 100 pieces
3	97.5	21101-705	21101-706	21101-853	21101-854
4	142.5	21101-713	21101-714	21101-858	–
6	232.5	21101-707	21101-708	21101-855	21101-856
9	365.0	21101-709	21101-710	21101-859	21101-904
Assembly tool, for stainless steel EMC gasket 		24560-270		–	

Subracks – EuropacPRO

EMC GASKETS BETWEEN HORIZONTAL RAIL AND HORIZONTAL RAIL

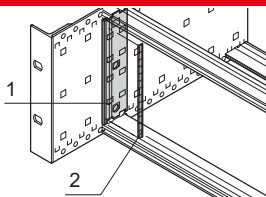
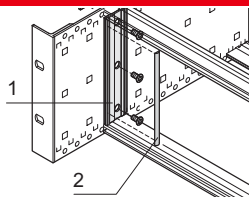
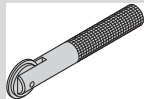
ORDER INFORMATION

		Stainless steel EMC gasket between horizontal rail and horizontal rail
		 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
Width HP Depth mm		PU 1 kit
20	107.0	24562-520
28	147.0	24562-528
40	208.0	24562-540
42	218.0	24562-542
63	325.0	24562-563
84	431.0	24562-584

1) SPQ (standard pack quantity): 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)

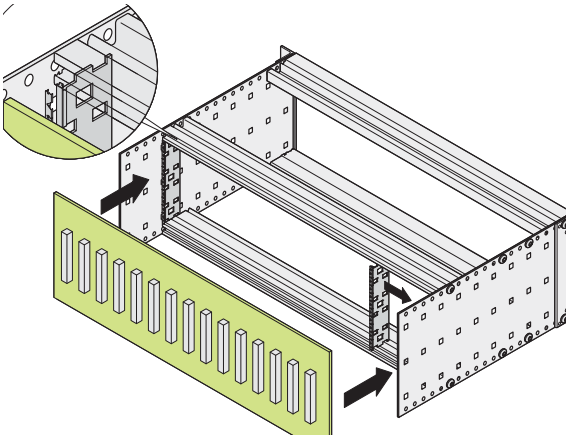
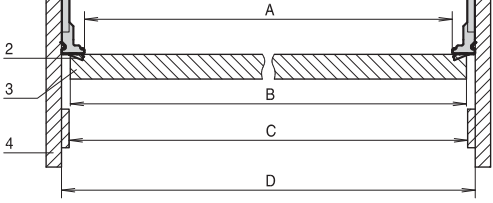
ORDER INFORMATION

		Stainless steel EMC gasket between front panel and side panel (depth-offset installation)	Textile EMC gasket between front panel and side panel (depth-offset installation)
		 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	 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
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
Assembly tool, for stainless steel EMC gasket 		24560-270	—

Subracks – EuropacPRO

EMC GASKETS BETWEEN BACKPLANE AND SIDE PANEL

ORDER INFORMATION

	Stainless steel EMC gasket between backplane and side panel (depth-offset installation)
 06108078	 bpa45016 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; dimensions (84 HP): A = 425.8 mm, B < 429.9 mm, C = 429.8 mm, D = 431.8 mm
Height	
U	PU 1 kit
3	24561-199
6	24561-499

- 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)

Subracks – EuropacPRO

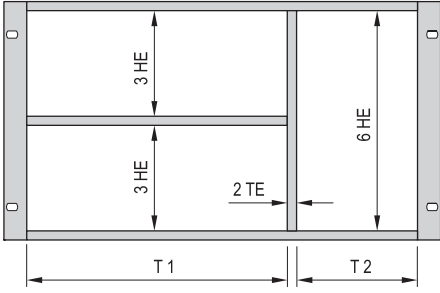
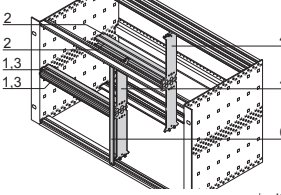
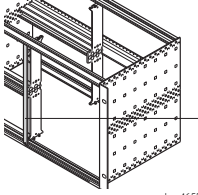
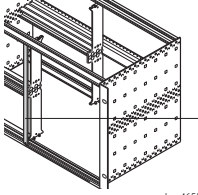
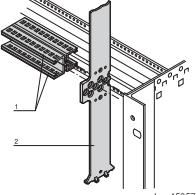
SPECIAL INTERIOR MOUNTING PARTS

- Combined mounting: 3 U + 3 U and 6 U, see page 6.59
- Horizontal board mounting, see page 6.60
- Mounting plates, see page 6.61
- Central locking for PCBs, see page 6.62
- Divider plates, see page 6.62
- Air baffles, see page 6.63
- Telescopic slides, see page 6.64
- Fixing parts (bolts, nuts, assembly tools), see page 6.63

Subracks – EuropacPRO

COMBINED MOUNTING (6 U AND 2 X 3 U ONE ABOVE THE OTHER)

ORDER INFORMATION

	Combined mounting: horizontal and vertical subdivision (incl. front panel for stainless steel EMC gasket)	Alternative front panels for combined mounting unshielded front panel, 6 U, 2 HP item 6	front panel for textile EMC gasket, 6 U, 2 HP item 6	Splitting extrusion for combined mounting item 2
	 Item 1: 2 front horizontal rails (H-KD), Al extrusion, anodised; item 2: 2 rear horizontal rails (AB), Al extrusion, anodised; item 3: threaded inserts, St, zinc-plated; item 4: Zn die-cast support members; item 6: front panel 2 HP, 6 U, with EMC stainless steel gasket; 84:0 without items 4, 5 - Note see below 2)	 Al, 2.5 mm, front anodised, rear iridescent green chromated	 Al, 2.5 mm, U-profile with notch, 6 U, 2 HP	 6 U, die-cast zinc; splitting extrusion is inserted in the grid holes of the horizontal rail; the splitting extrusion can be bolted
Width pitch T1:T2 HP	PU 1 kit	1 (SPQ 5)	1 piece (SPQ 5) ¹⁾	1 piece
20:62	24562-420			
40:42	24562-440			
42:40	24562-442	30847-472	30849-140	64560-010
63:19	24562-463			
84:0	24562-484			
Torx countersunk screw M4 x 14, zinc-plated, PU 100 pieces to fix splitting extrusion/horizontal 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)

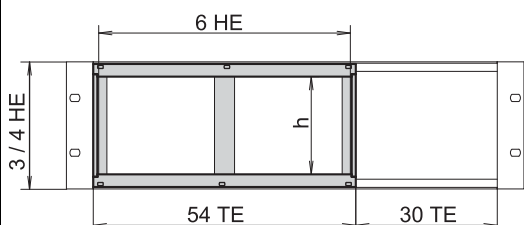
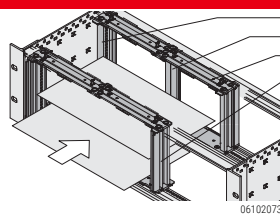
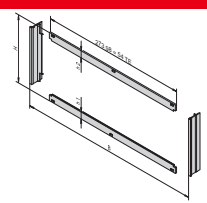
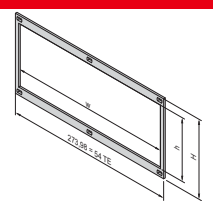
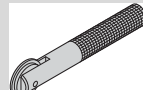
NOTE

- Please order EMC gasketing kit for horizontal rails separately, see page 6.56
- Please order perforated strips for horizontal rails separately, see page 6.35
- Please order rear centre horizontal rail separately, see page 6.33

Subracks – EuropacPRO

HORIZONTAL BOARD MOUNTING IN 3 OR 4 U SUBRACK

ORDER INFORMATION

				Horizontal board mounting in 3 or 4 U subrack		
				Board cage	Front frame for EMC shielding	Front frame, unshielded
 (1 TE = 1 HP, 1 HE = 1 U) bpa45914				 06102073 Struts, die-cast zinc; horizontal rails front and rear; threaded inserts, St, zinc-plated; fixing material kit; for horizontal mounting of double-height euroboards in 3 or 4 U high subracks/cases; 54 HP space required; please order front frame for EMC shielding separately	 bpa45913 2 horizontal covers, Al 2.5 mm, front anodised, rear iridescent green chromated; 2 vertical trims, Al extrusion, passivated; stainless steel EMC gasket; front frame provides the contact between subrack and the sub-assemblies	 bza4306 Al, 2.5 mm, clear anodised; front frame with cut-out, clear internal width w = 266.35 mm
Height U	Usable height h HP	Mounting variants Horizontal rail, front Horizontal rail, rear		PU 1 kit	PU 1 kit	1 piece
3	20			24564-117	24564-109	34564-108
3	20			24564-118	24564-109	34564-109
4	28			24564-217	24564-209	34564-208
Assembly tool, for stainless steel EMC gasket					 24560-270	

* For direct backplane mounting

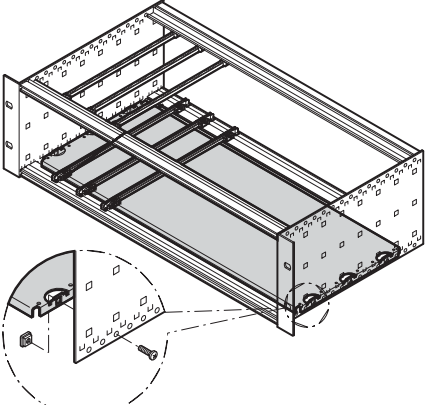
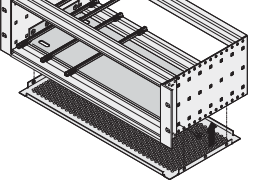
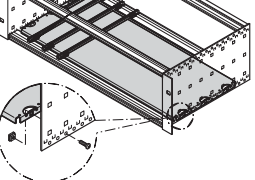
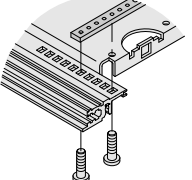
NOTE

- Please order front frame for EMC shielding separately

Subracks – EuropacPRO

MOUNTING PLATES

ORDER INFORMATION

			Mounting plate can be used in combination with cover plate	Mounting plate for use without cover plate	Fixing strip for partial widths
 bpa45875			 06108080 Al, 1.5 mm; mounting is only possible over the entire width between the side panels; width of mounting plate = W - 9.71 mm	 bpa45875 Al, 1.5 mm; for mounting over partial width, please order fixing strips separately	 bpa46557 St, 2.5 mm, zinc-plated; is bolted from front to rear onto the horizontal rails; to fix mounting plates
Width W HP	W mm	Board length mm	1 piece	1 piece	1 piece
28	146.88	160	34563-001	34562-745	30840-021
28	146.88	220	34563-009	34562-749	30840-033
28	146.88	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) Assembly kit for fixing strips for partial width mounting plates Torx screw M2.5 x 5, St, zinc-plated, PU 100 pieces			24560-184	24560-184	–
			–	–	24560-146

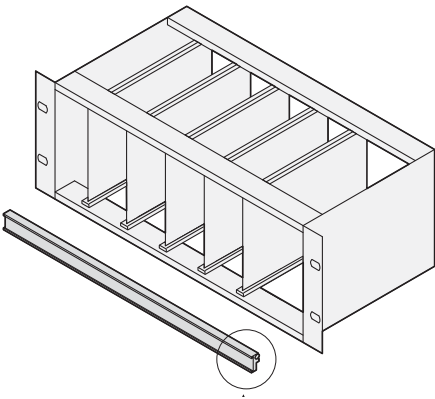
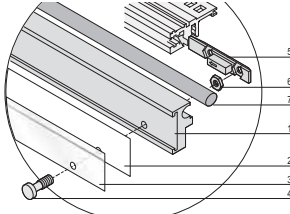
NOTE

- 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

Subracks – EuropacPRO

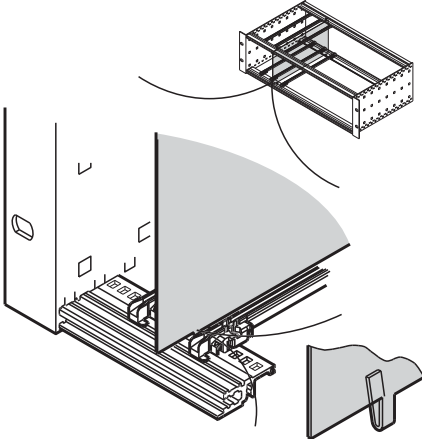
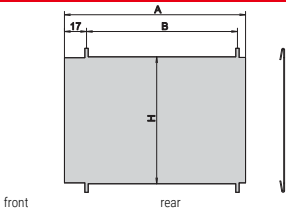
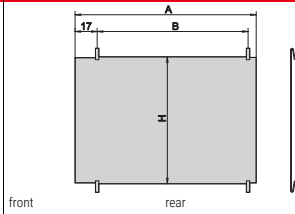
CENTRAL LOCKING

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		1 piece
84	426.0		24560-167

DIVIDER PLATE

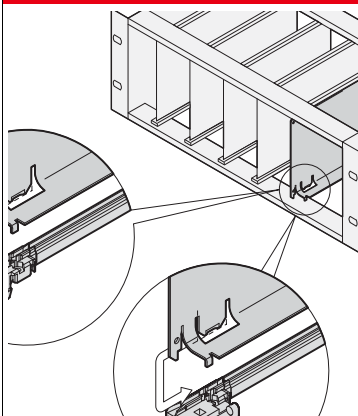
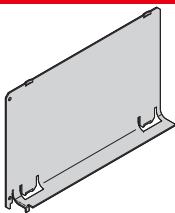
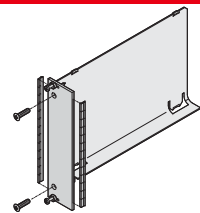
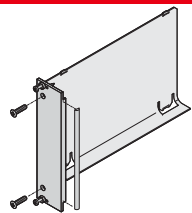
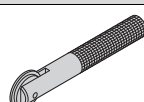
ORDER INFORMATION

					Divider plate
					Mounting position when stainless steel EMC gasket is used
					Mounting position when textile EMC gasket is used
					 front rear
					 front rear
Height U	Depth mm	A mm	B mm	H mm	PU 10 pieces
3	160	158.3	135.0	113.5	34562-761
3	220	218.3	195.0	113.5	34562-762
6	160	158.3	135.0	246.9	34562-763
6	220	218.3	195.0	246.9	34562-764

Subracks – EuropacPRO

AIR BAFFLES FOR SLOTS

ORDER INFORMATION

			Air baffle without front panel	Air baffle with front panel	U front panel for textile EMC gasket
			Front panel with lateral groove for stainless steel EMC gasket		
			 Al, 1 mm, incl. fixing material kit; prevents an air short circuit in unused slot positions; is pushed into the groove of the guide rail	 Air baffle, Al, 1 mm; front panel, Al, 2.5 mm, front anodised, rear conductive; stainless steel EMC gasket; fixing material kit prevents an air short circuit in unused slot positions; is pushed into the groove of the guide rail	 Air baffle, Al, 1 mm, front anodised, rear conductive; textile EMC gasket, fixing material kit prevents an air short circuit in unused slot positions; is pushed into the groove of the guide rail
Depth mm	Width HP	Height U	1 piece	1 piece	1 piece
160	4	3	34562-823	20848-712	20848-728
160	4	6	34562-826	20848-720	20848-736
160	8	3	34562-833	20848-714	20848-730
160	8	6	34562-836	20848-722	20848-738
160	12	3	34562-843	20848-716	20848-732
160	12	6	34562-846	20848-724	20848-740
220	4	3	34562-824	20848-713	20848-729
220	4	6	34562-827	20848-721	20848-737
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

Subracks – EuropacPRO

SIMPLE TELESCOPIC SLIDE FOR ASSEMBLY OF SUBRACKS IN CABINETS

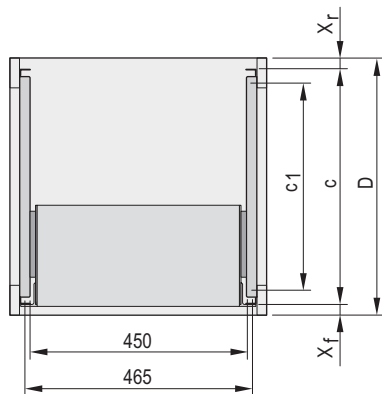


06101006

- 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



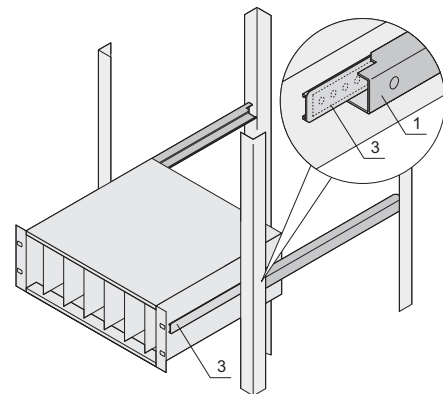
06108082

Description	Depth D mm	x _f mm	x _r mm	C mm	c1 mm	Part no.
VARISTAR	600	50	50	500	369	24562-464
VARISTAR	800	50	50	700	569	24562-466
VARISTAR	900	50	50	800	669	24562-467
VARISTAR	1000	50	50	900	769	24562-468
VARISTAR	1100	50	50	1000	869	24562-472
VARISTAR	1200	50	50	1100	969	24562-473
eurorack	600	60	60	480	397	24562-449
eurorack	800	60	60	680	597	24562-451
eurorack	900	60	60	780	697	24562-452
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



06108072

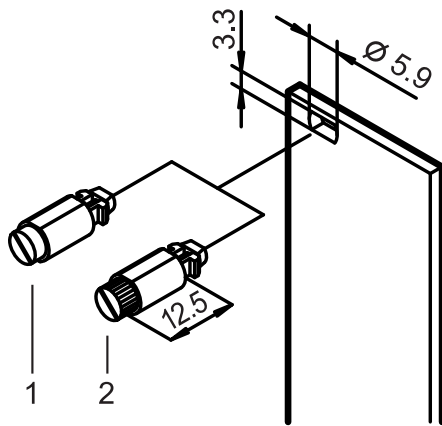
For subrack depth mm	Part no.
175	24562-453
235	24562-454
295	24562-455
355	24562-456
415	24562-457
475	24562-458

Subracks – EuropacPRO

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

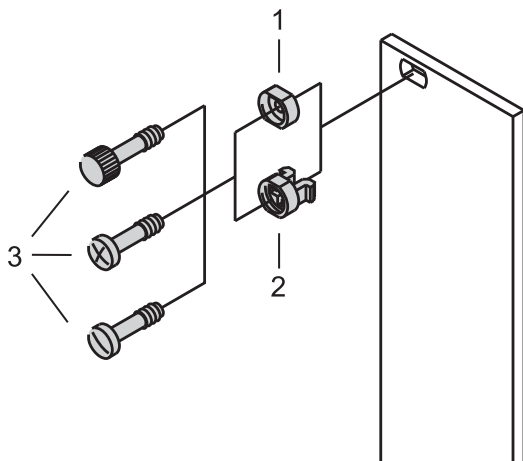
ORDER INFORMATION

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

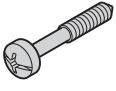
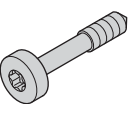
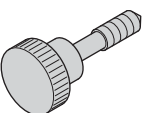
NOTE

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

Subracks – EuropacPRO

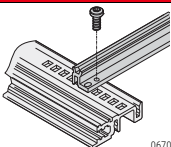
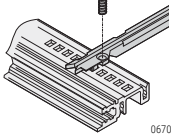
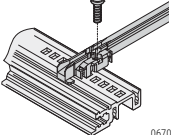
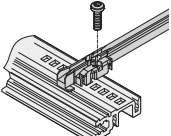
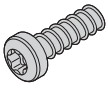
COLLAR SCREWS

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	Collar screw with knurled head	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

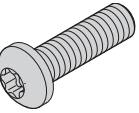
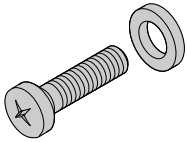
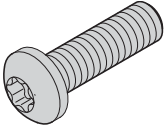
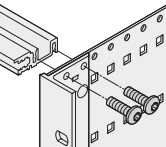
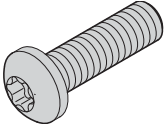
COUNTERSUNK SCREWS

ORDER INFORMATION

	Description	Application	Material	Dimension	Qty/PU	Part no.
 AZA46585	Torx screw	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

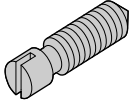
ORDER INFORMATION

	Description	Application	Material	Dimension	Qty/PU	Part no.
 a2a45040	Torx panhead screw	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
 a2a45178	Washer	For insulated backplane mounting	Plastic, PA	2.8 x 6.3 x 2	100	21101-964
 a2a45040	Screw + plastic washer (PA)	For backplane mounting	St, nickel-plated	M2.5 x 12	100	21100-777
 a2a45040	Torx panhead screw	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
 06707058	Torx panhead screw	For horizontal rail on side panel if guide rails are bolted to slot 1	St, zinc-plated	M4 x 10	100	24560-155
 a2a45040	Torx panhead screw	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

Subracks – EuropacPRO

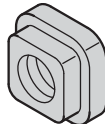
GRUB SCREWS

ORDER INFORMATION

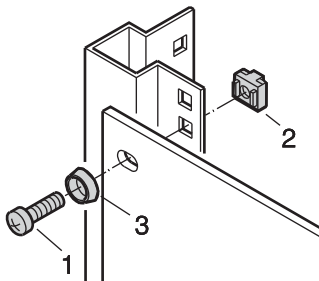
Description	Application	Material	Dimension	Qty/PU	Part no.
 06702053 Grub screw	For threaded inserts M2.5 and perforated strips	Stainless steel	M2.5 x 9	100	21101-359
	For threaded inserts M2.5	St, nickel-plated	M2.5 x 8	100	21100-276
	For threaded inserts M3	St, zinc-plated	M3.0 x 8	100	21100-646

SQUARE NUTS

ORDER INFORMATION

Description	Application	Material	Dimension	Qty/PU	Part no.
 AZA5921 Square nut	For fixing: parts to side panels, support profiles, mounting plates	St, zinc-plated	M4	100	24560-140

ASSEMBLY KITS



SC128XXX

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

DELIVERY COMPRISES (kit)

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

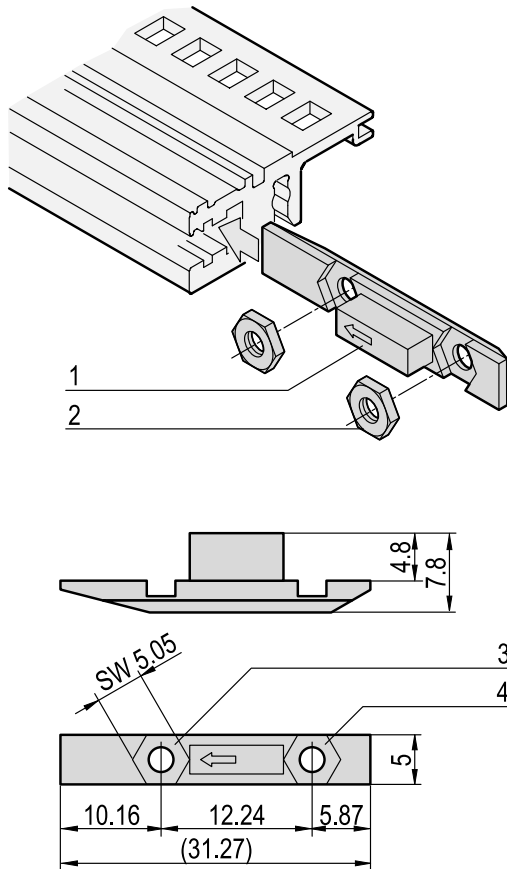
ORDER INFORMATION

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

Subracks – EuropacPRO

SLIDE, TO ACCOMMODATE 2 NUTS



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

DELIVERY COMPRISES (kit)

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

ORDER INFORMATION

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

NOTE

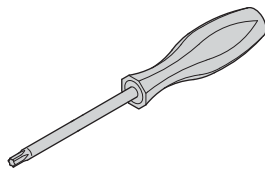
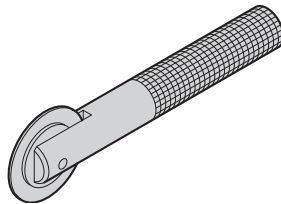
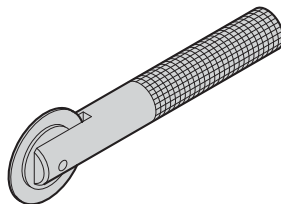
- Nuts used in item 3 suitable for:
 - hinged front panels, 84 HP
 - front or rear panels, 84 HP
- Nuts used in item 4 suitable for:
 - hinged front panels
- Nuts used in item 3 and 4 suitable for:
 - two front panels

06702060

Subracks – EuropacPRO

ASSEMBLY TOOLS

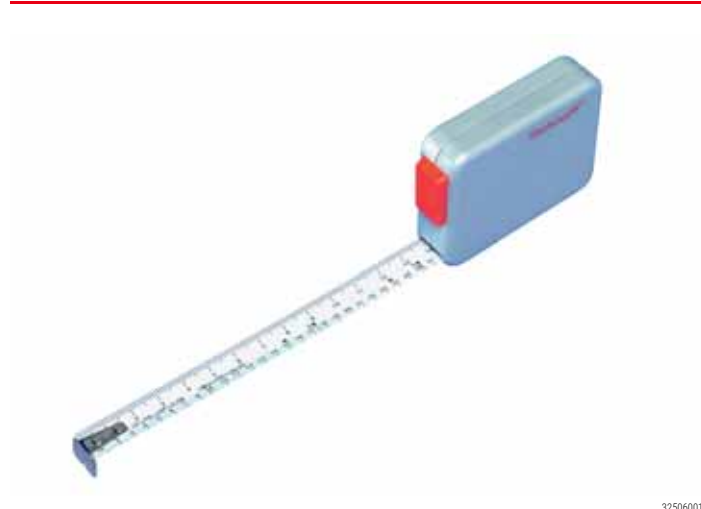
ORDER INFORMATION

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

32506001

Subracks – EuropacPRO

APPLICATION EXAMPLES

Application: Transportation/defense sectors



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

06108006



06103001

- 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

06108002



06108003

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

Application: Telecoms sectors



06112023

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



06101005

- Subrack with plastic cable ducting for fibre optic cables
- Terminal area at top

Subracks – EuropacPRO

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.

Simple assembly with europacPRO kits:



06107001

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

Two ways of reaching your desired product:

- Kits
- Individual configuration

Individual configuration:

		Side panel type F		19" bracket without handle holes		19" bracket with handle holes		19" bracket depth-adjustable		EMC sealing (St, stainless)		Rear angle		Side panel connection
		without 19" bracket, Al, 2 mm, pre-painted, please order 19" bracket and corner profile separately		with lateral grooves for EMC stainless steel gasket, Al extrusion, rear side etched, built-in anodized		with lateral grooves for EMC stainless steel gasket, Al extrusion, rear side etched, built-in anodized, inside rear support, please order front handle separately, see page 6.25		2 adaptor brackets, Al, 2 mm, equipment support rail, height 35 mm, width 64 mm, depth 7.5 mm, mounted laterally in module support or subrack, power		inserted laterally into the slots of the front panel		Al extrusion, surface steel pre-painted with lateral grooves for EMC stainless steel sealing, rear foot cannot be removed simultaneously		Zn die-cast, not assembly kit, for joining two by two side panels (allow one another)
Height U	Depth mm	1 piece	PU 1 pair	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces						
3	175	34560-183												
3	225	34560-187												
3	275 1)	34579-300												
3	277.75 2)	34579-003												
3	295	34560-189	34560-197	34560-198	34560-199	31101-705	34561-198	31101-954						
3	350	34560-191												
3	415	34560-192												
3	475	34560-195												

06109052

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



Light

06197007

Heavy

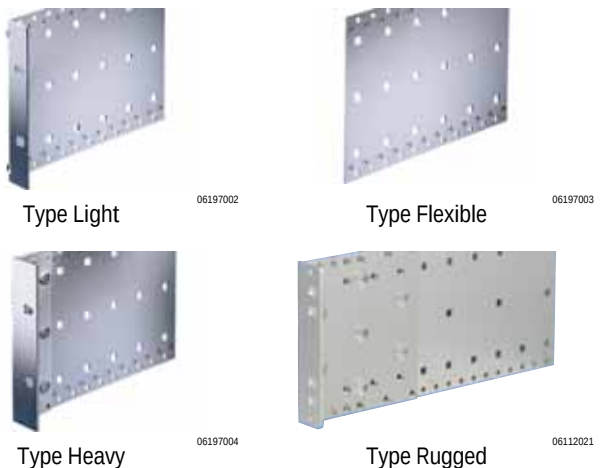
06197008

Rugged

06112004

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

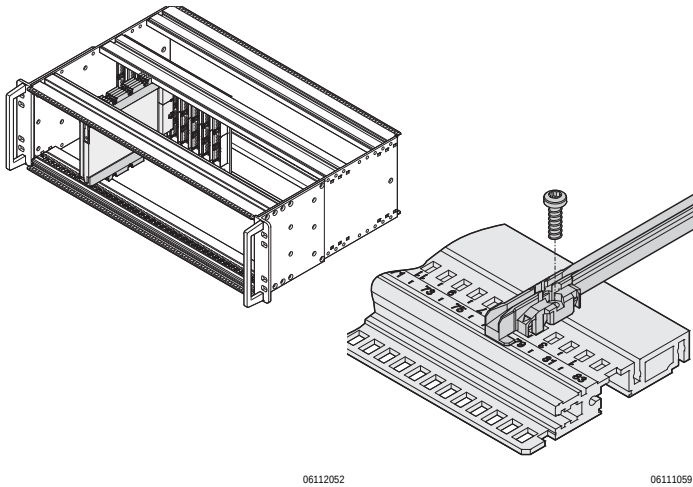
06112021

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

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, ...).

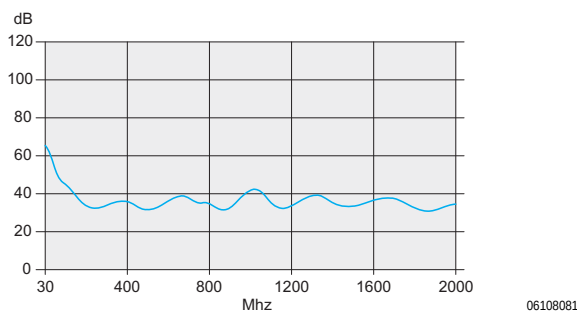
Robust snap-in fixings on the plastic rails assure a secure grip, even when exposed to vibrations. In the case of H and R-type horizontal rails the guide rails can also be bolted on. For extreme stresses, guide rails in aluminium extrusion are used.

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.

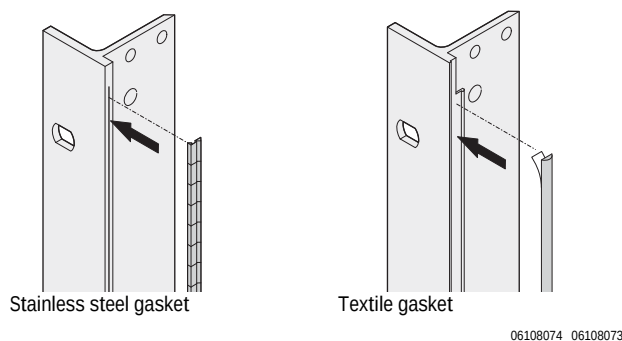
The continuous numbering on the horizontal rail (from 28 HP) and the markings on the guide rails facilitate quick fitting in the correct position.

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).

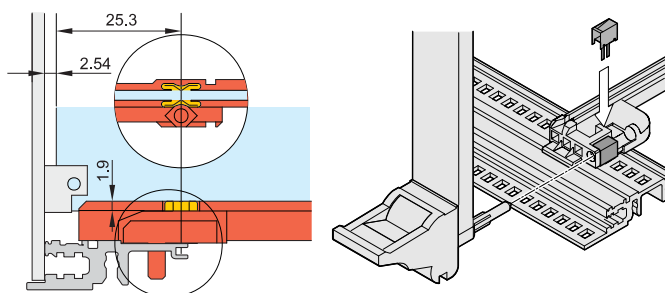


Two shielding concepts

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)