

**CONNECT AND PROTECT**

**Subracks/  
19" Chassis**

  
nvent

**SCHROFF**

# Subracks/19" chassis – Overview

## 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

## EuropacPRO

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

For different applications:

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



# Subracks/19" chassis – Overview

## MultipacPRO

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



## Inpac

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



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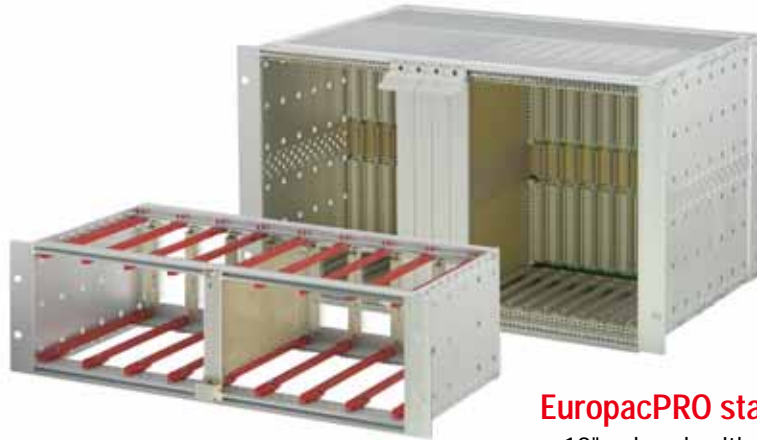
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# Subracks – EuropacPRO

## OVERVIEW

### MAIN KATALOG

- Cabinets . . . . . 1
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- Appendix . . . . . 12



### EuropacPRO standard

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

### EuropacPRO for mobile railway applications

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





# Subracks – EuropacPRO

## EuropacPRO for industrial applications

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



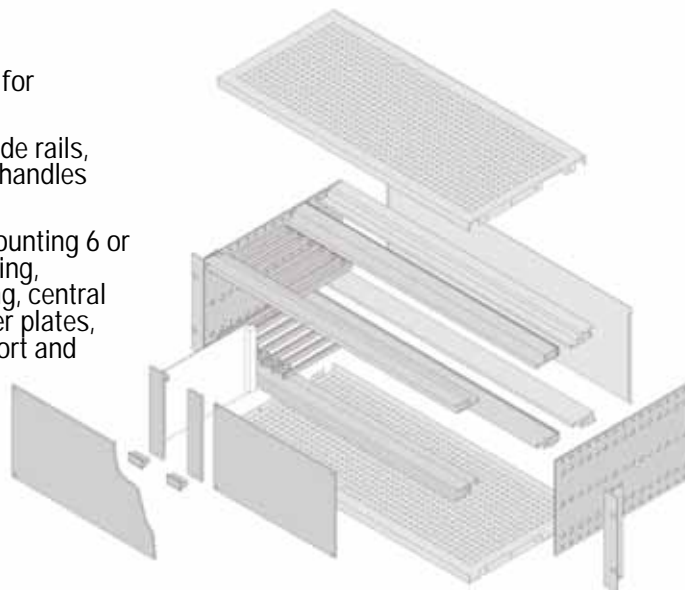
## EuropacPRO for rugged applications

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



## EuropacPRO accessories

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



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# 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, 4x 2 mm, pre-mounted, please order 19" bracket and corner profile separately	with lateral grooves for EMC stainless steel gasket, Al anodized, rear side etched, front anodized	with lateral grooves for EMC stainless steel gasket, Al anodized, rear side etched, front anodized, please order front handles separately, see page 6/20	2 adaptor brackets, Al, 2 mm, equipped support rail, height 35 mm, width 64 mm, depth 7.5 mm, pre-mounted laterally in module support or subrack, power 6/20	inserted laterally into the slots of the front panel	Al anodized, surface steel pre-treated with lateral grooves for EMC stainless steel welding, rear hood cannot be secured simultaneously	Zn die-cast, not assembly kit, for locking two by two side panels (please see another)
Height (H)							
Depth (D)							
	1 piece	PU 1 pair	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces
3	275	34560-185					
3	225	34560-187					
3	275	34579-300					
3	277.75	34579-003	34560-197	34560-198	31101-705	34561-198	31101-954
3	295	34560-189					
3	300	34560-191					
3	415	34560-192					
3	475	34560-195					

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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

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Heavy

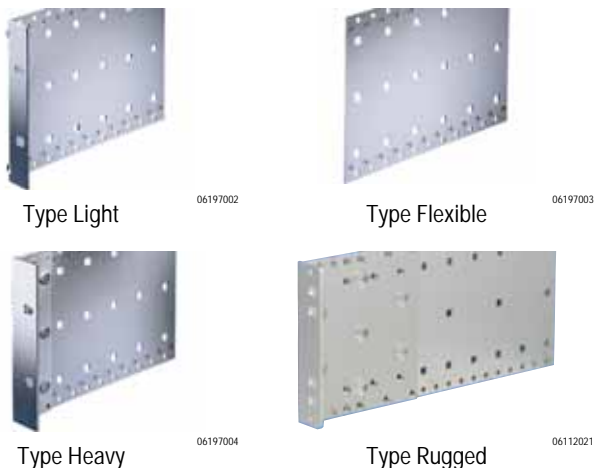
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Rugged

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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

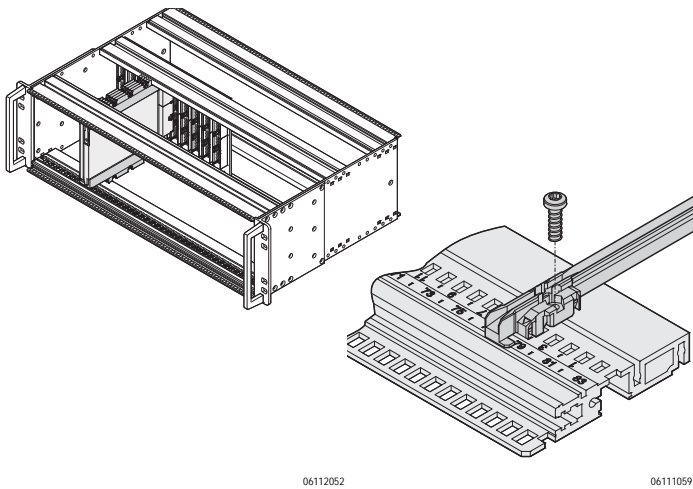
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### Side panels for 4 different load classes

- 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, ...).

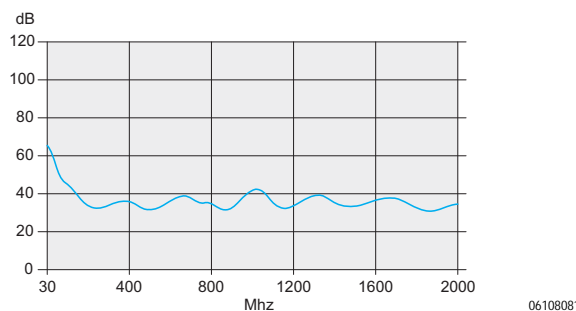
Robust snap-in fixings on the plastic rails assure a secure grip, even when exposed to vibrations. In the case of H and R-type horizontal rails the guide rails can also be bolted on. For extreme stresses, guide rails in aluminium extrusion are used.

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.

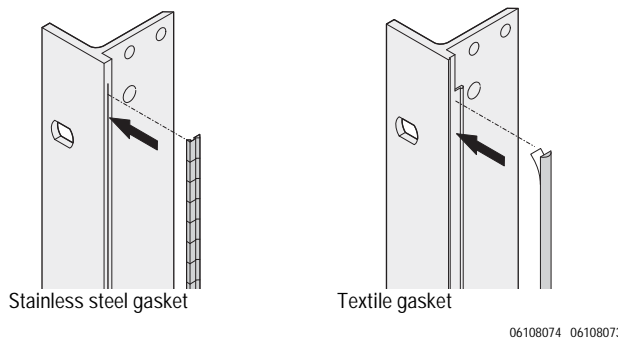
The continuous numbering on the horizontal rail (from 28 HP) and the markings on the guide rails facilitate quick fitting in the correct position.

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



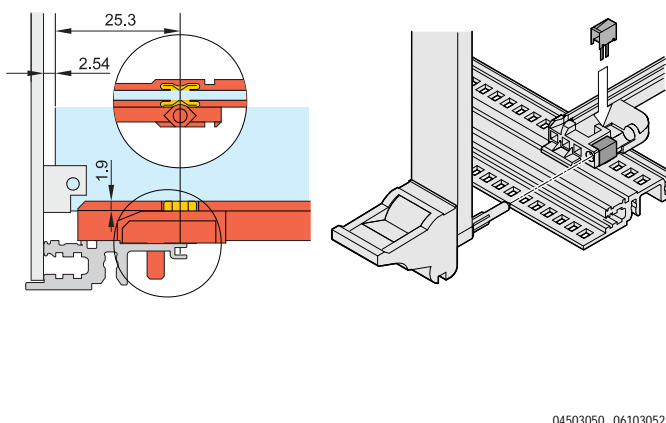
The product platform europacPRO offers a variety of off-the-shelf solutions to assure electromagnetic compatibility (EMC) and to avoid electrostatic discharge (ESD).



**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)

# 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

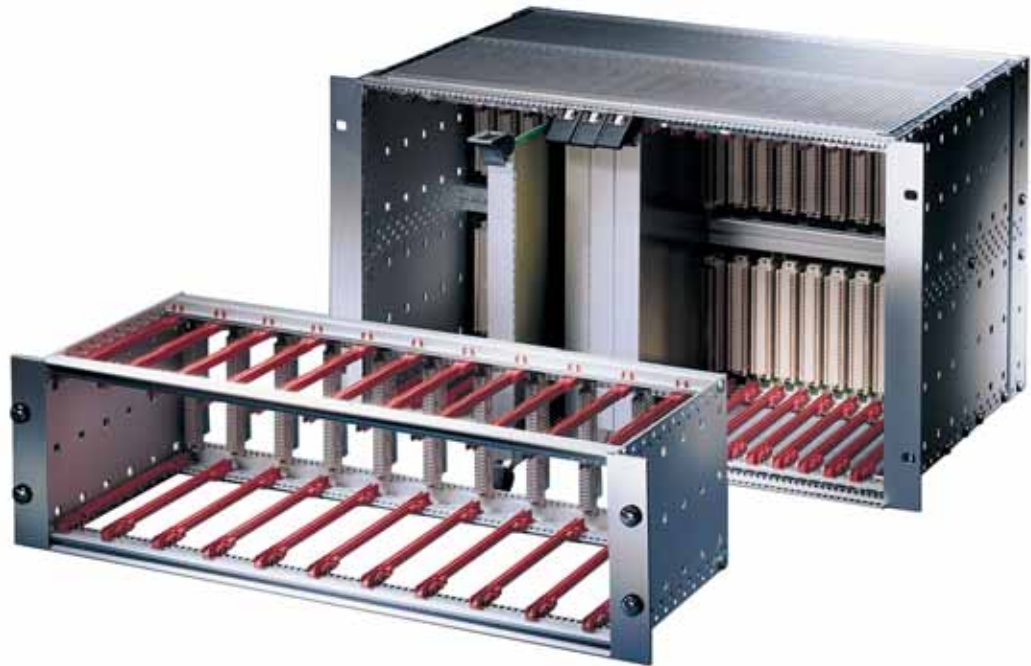
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Different horizontal rails for various applications



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



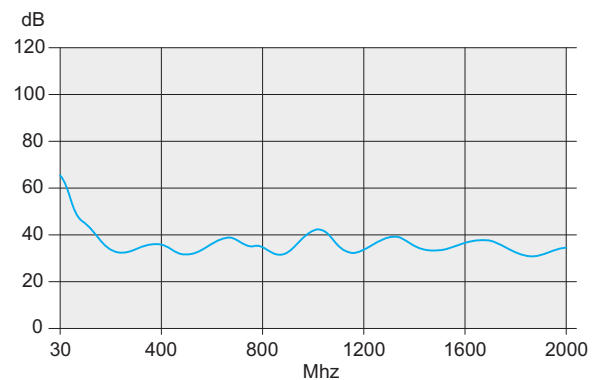
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Sequential numbering on horizontal rails (> 28 HP) and markings on the guide rails provide quick optical positioning aids. ESD clips can be used at front or rear, to protect electronics from electrostatic discharge

**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**



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# Subracks – EuropacPRO

## OVERVIEW

### 19" SUBRACKS

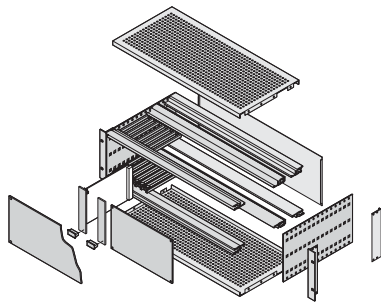
- Kits or individual configuration
- One product and accessories platform for every kind of customer requirement and application
- Suitable for CompactPCI and VME64x insertion and extractor handles
- EMC shielding can easily be retrofitted if needed
- Shock and vibration resistant up to 5 g
- 3D PDF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



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#### 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

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#### Kits

Light . . . . . 6.8  
 Flexible . . . . . 6.9  
 Heavy . . . . . 6.14  
 CompactPCI. . . . . 6.16

#### ServicePLUS configuration

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# Subracks – EuropacPRO

## KIT, "LIGHT", UNSHIELDED, FOR BACKPLANE MOUNTING

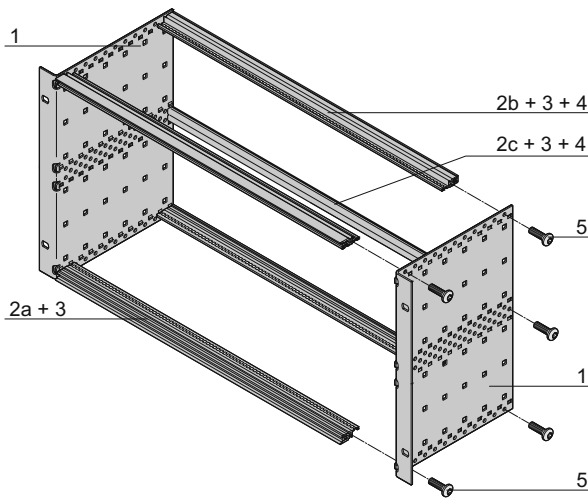


06111002

- 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



06111056

### ORDER INFORMATION

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

### 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

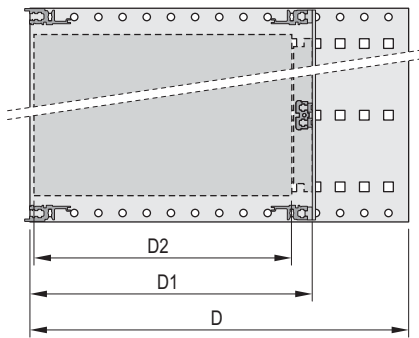
Depth D2 mm	Qty/PU piece	Part no.
160	10	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>

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	<b>24561-051</b>
220	84	2	<b>24561-052</b>

06108051



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



04400001

Rear horizontal rail for backplane mounting with insulation strip

### NOTE

- Subrack is not prepared for shielding

# Subracks – EuropacPRO

## KIT, "FLEXIBLE", UNSHIELDED, FOR CONNECTOR MOUNTING



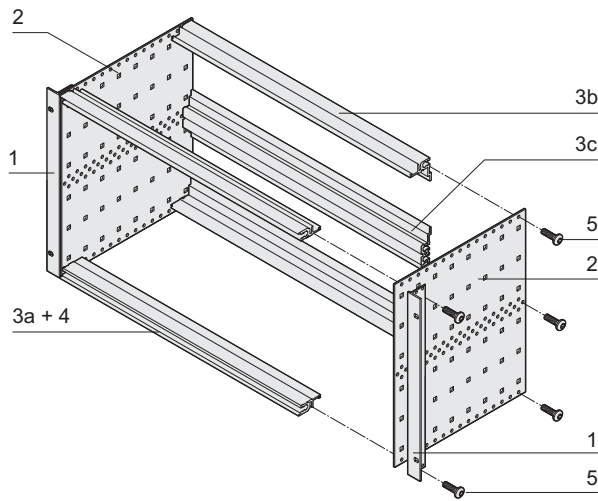
Photo: 3 U subrack

06105001

- 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



6 U

06105054

### ORDER INFORMATION

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

### Accessories

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

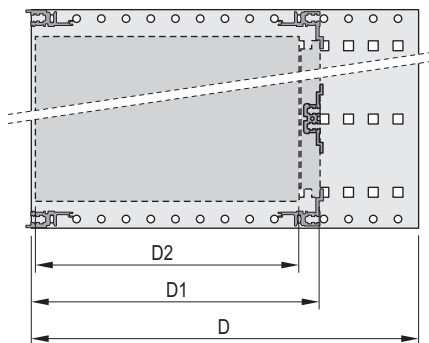
Depth D2 mm	Qty/PU piece	Part no.
160	10	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>
340	10	<b>24560-380</b>

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	<b>24561-051</b>
220	84	2	<b>24561-052</b>



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

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04400003

Horizontal rail to rear for connector mounting

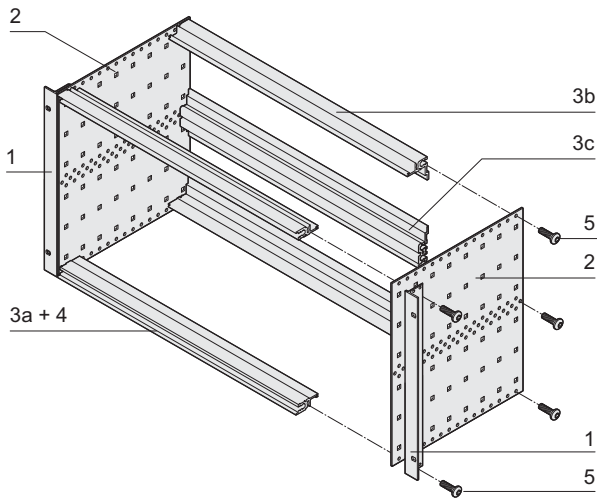
# Subracks – EuropacPRO

## SUBRACK KIT, UNSHIELDED FOR CONNECTOR, ASSEMBLY ON SLIDE RAIL



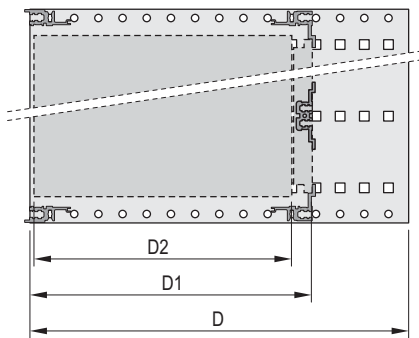
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Photo: 3 U subrack



06105054

6 U



06108050

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



04400003

Rear horizontal rail for connector mounting

- 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		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-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	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>

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	<b>24561-051</b>
220	84	2	<b>24561-052</b>

### NOTE

- Alternative product for older europac lab and europacRational subrack series



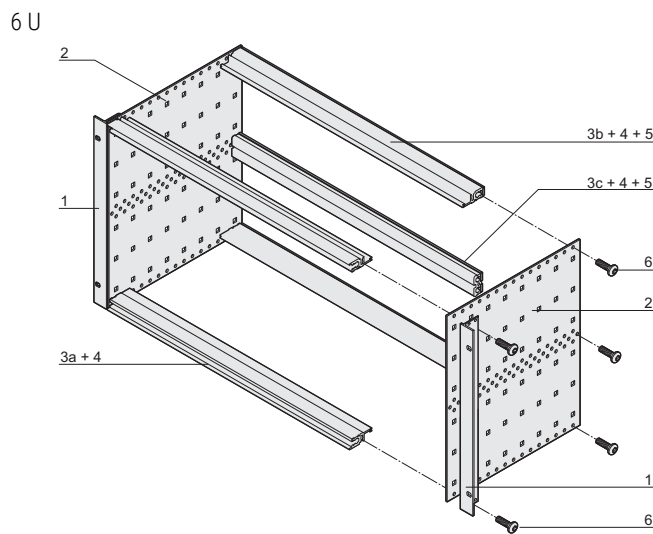
# Subracks – EuropacPRO

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

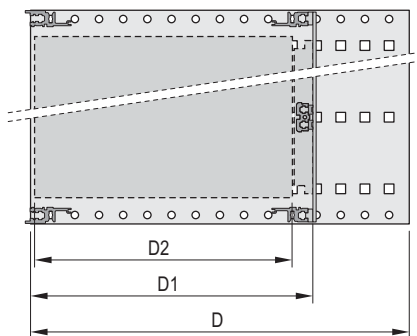


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Photo: 3 U subrack



06102081



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



04400001

Rear horizontal rail for backplane mounting with insulation strip

- 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	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>
340	10	<b>24560-380</b>

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	<b>24561-051</b>
220	84	2	<b>24561-052</b>

### NOTE

- Alternative product for older europac lab and europacRational subrack series

# Subracks – EuropacPRO

## KIT, "FLEXIBLE", UNSHIELDED, FOR BACKPLANE MOUNTING



06102007

- 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	<b>24563-131</b>
3	84	235	175/235	<b>24563-132</b>
3	84	295	175/235/295	<b>24563-133</b>
3	84	355	175/235/295/355	<b>24563-134</b>
3	84	415	175/235/295/355	<b>24563-135</b>
3	84	475	175/235/295/355	<b>24563-136</b>
6	84	175	175	<b>24563-431</b>
6	84	235	175/235	<b>24563-432</b>
6	84	295	175/235/295	<b>24563-433</b>
6	84	355	175/235/295/355	<b>24563-434</b>
6	84	415	175/235/295/355	<b>24563-435</b>
6	84	475	175/235/295/355	<b>24563-436</b>

### Accessories

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

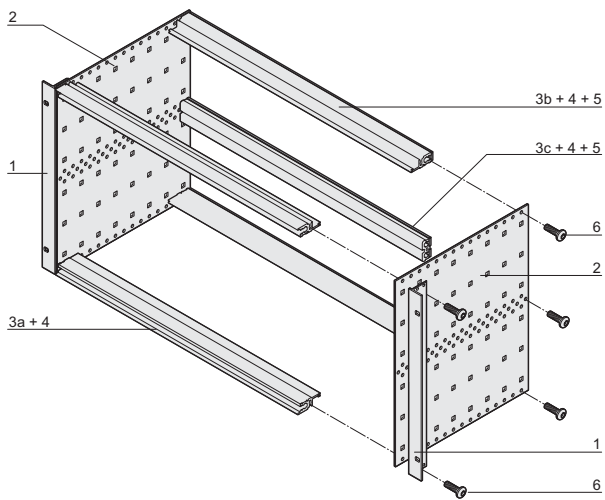
### Guide rails (standard), ESD clips

Depth D2 mm	Qty/PU piece	Part no.
160	10	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>
340	10	<b>24560-380</b>

ESD clip for guide rails PU 50 pieces **24560-255**

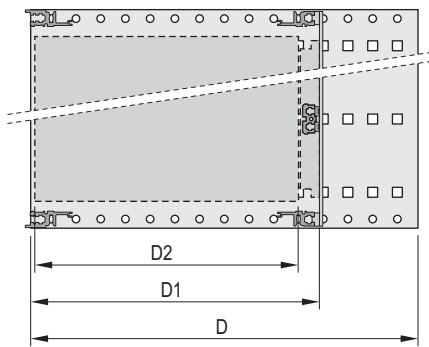
### Cover plates for insertion in horizontal rails (type L)

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



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

# Subracks – EuropacPRO

## KIT, "FLEXIBLE", SHIELDED, FOR BACKPLANE MOUNTING

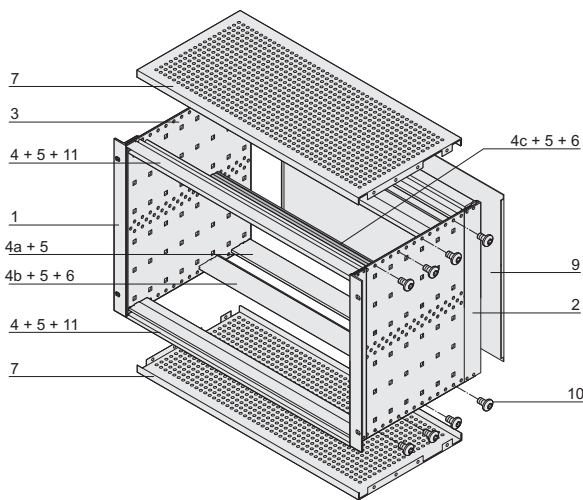


06102008

- 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 <b>EMC textile gasket</b>
2	2	2	Rear corner profile for <b>EMC textile gasket</b>
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



6 U

06102075

### ORDER INFORMATION

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

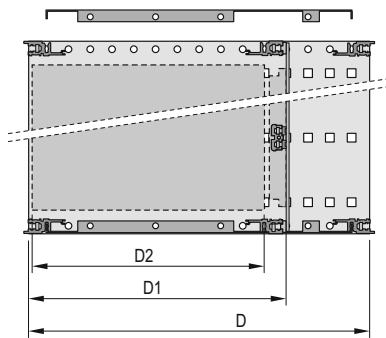
06113056

### Accessories

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

### Guide rails (standard), ESD clips

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



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



04400001

Rear horizontal rail for backplane mounting with insulation strip

# Subracks – EuropacPRO

**KIT, 'HEAVY', UNSHIELDED, FOR BACKPLANE MOUNTING**

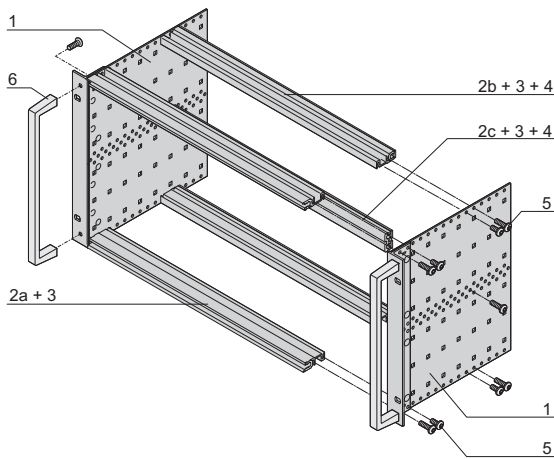


Without front handle

06102007

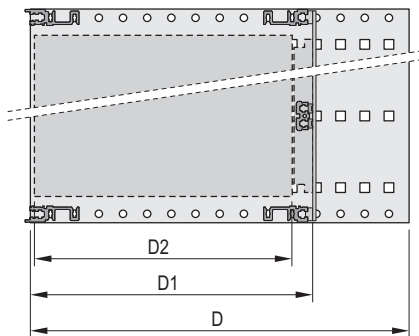
With front handle

0611003



6 U

0611057



0610852

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	<b>24567-161</b>	<b>24563-161</b>
3	84	235	175/235	<b>24567-162</b>	<b>24563-162</b>
3	84	295	175/235/295	<b>24567-163</b>	<b>24563-163</b>
3	84	355	175/235/295/355	<b>24567-164</b>	<b>24563-164</b>
6	84	175	175	<b>24567-461</b>	<b>24563-461</b>
6	84	235	175/235	<b>24567-462</b>	<b>24563-462</b>
6	84	295	175/235/295	<b>24567-463</b>	<b>24563-463</b>
6	84	355	175/235/295/355	<b>24567-464</b>	<b>24563-464</b>

**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	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>
340	10	<b>24560-380</b>

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**

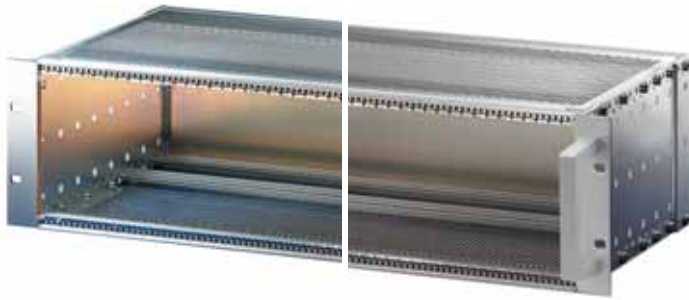
**Cover plates for bolting to side panel**

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



# Subracks – EuropacPRO

## KIT, "HEAVY", SHIELDED, FOR BACKPLANE MOUNTING



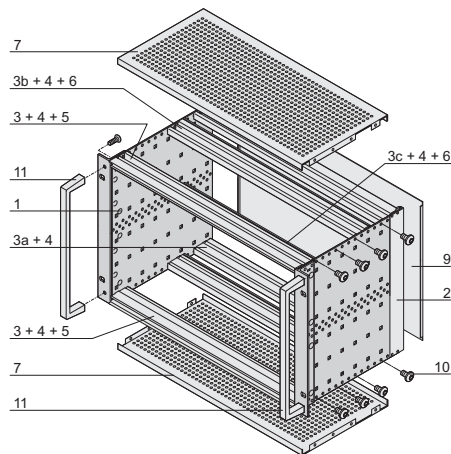
- Subrack with side panel type H ("heavy"), 19" bracket is firmly fixed to side panel (tox-cold welded)
- Rear horizontal rail for backplane mounting with insulation strip
- Shielding typically 40 dB at 1 GHz, 30 dB at 2 GHz, assuming that the front is closed with sealed front panels
- Shock and vibration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

Without front handle

06102008

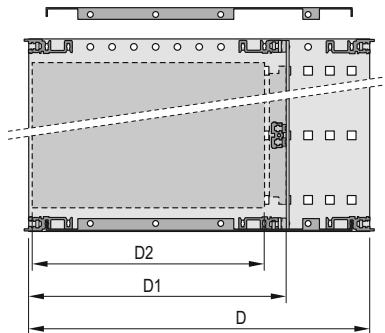
With front handle

06111001



6 U

06111058



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

06113055



04400001

Rear horizontal rail for backplane mounting with insulation strip

### 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
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	without front handle
3	84	235	175/235	<b>24567-172</b>	<b>24563-172</b>
3	84	295	175/235/295	<b>24567-173</b>	<b>24563-173</b>
3	84	355	175/235/295	<b>24567-174</b>	<b>24563-174</b>
6	84	235	175/235	<b>24567-472</b>	<b>24563-472</b>
6	84	295	175/235/295	<b>24567-473</b>	<b>24563-473</b>
6	84	355	175/235/295	<b>24567-474</b>	<b>24563-474</b>

### Accessories

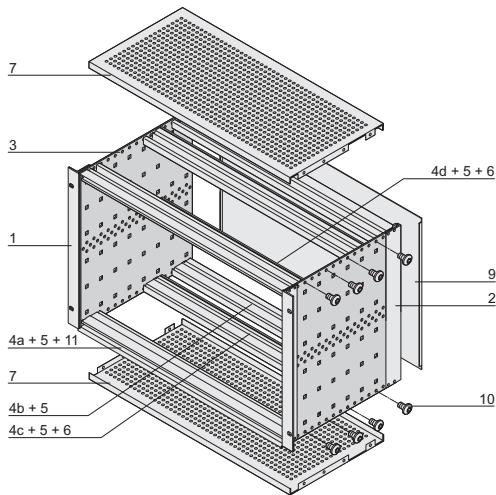
19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	<b>21100-435</b>
<b>Guide rails (standard), ESD clips</b>	
<b>Depth D2 mm</b>	<b>Qty/PU piece</b>
160	10
220	10
280	10
ESD clip for guide rails PU 50 pieces	<b>24560-255</b>
Torx panhead screw, for extra bolting of the guide rails, 2.5 x 9.3, zinc-plated, PU 100 pieces; torque max. 0.2 Nm	<b>24560-141</b>

# Subracks – EuropacPRO

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



6 U



06102009

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

### DELIVERY COMPRISES (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	19" support bracket for <b>EMC textile gasket</b>
2	2	2	Rear corner profile for <b>EMC textile gasket</b>
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	<b>24563-152</b>
6	84	235	175	<b>24563-452</b>

### Accessories

Guide rail with coding, red 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	<b>24560-356</b>
Guide rail with coding, grey 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	<b>24560-358</b>
Guide rail with coding, green, offset 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	<b>24560-359</b>
ESD clip for guide rails PU 50 pieces	<b>24560-255</b>
ESD clip for alignment pin of CPCI/VME64x handle PU 50 pieces	<b>24560-256</b>
Torx panhead screw 2.5 x 9.3, zinc-plated, PU 100 pieces; torque max. 0.2 Nm	<b>24560-141</b>
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces	<b>20817-501</b>
19" assembly kit (screw, washer, nut) (8 x screws, 8 x plastic washers, 8 x cage nuts)	<b>21100-435</b>

06113055

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



0440001

Rear horizontal rail for backplane mounting with insulation strip

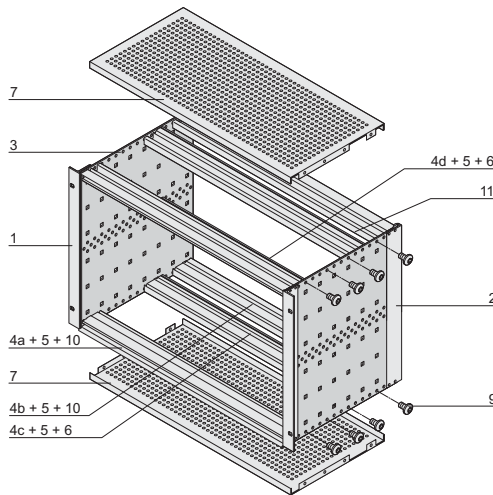
# Subracks – EuropacPRO

## 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

6 U



06108007

### DELIVERY COMPRISES (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	19" support bracket for <b>EMC textile gasket</b>
2	2	2	Rear corner profile for <b>EMC textile gasket</b>
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

06105076

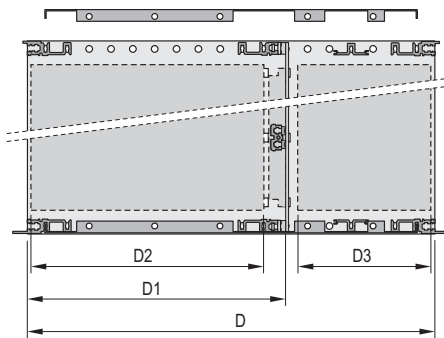
### ORDER INFORMATION

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

### Accessories

Guide rail with coding, red 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	<b>24560-356</b>
Guide rail with coding, grey 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	<b>24560-358</b>
Guide rail with coding, green, offset 160 mm deep, PBT, UL 94 V-0, groove width 2 mm, PU 10 pieces	<b>24560-359</b>
ESD clip for guide rails PU 50 pieces	<b>24560-255</b>
ESD clip for alignment pin of CPCI/VME64x handle PU 50 pieces	<b>24560-256</b>
Guide rail with coding, red 70 mm deep, PU 10 pieces	<b>24560-355</b>
Guide rail with coding, grey 70 mm deep, PU 10 pieces	<b>24560-360</b>
Torx panhead screw 2.5 x 9.3, zinc-plated, PU 100 pieces; torque max. 0.2 Nm	<b>24560-141</b>
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces	<b>20817-501</b>
19" fixing material kit (screw, washer, nut) ( 8 x screws, 8 x plastic washers, 8 x cage nuts)	<b>21100-435</b>

06108075



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



04400001

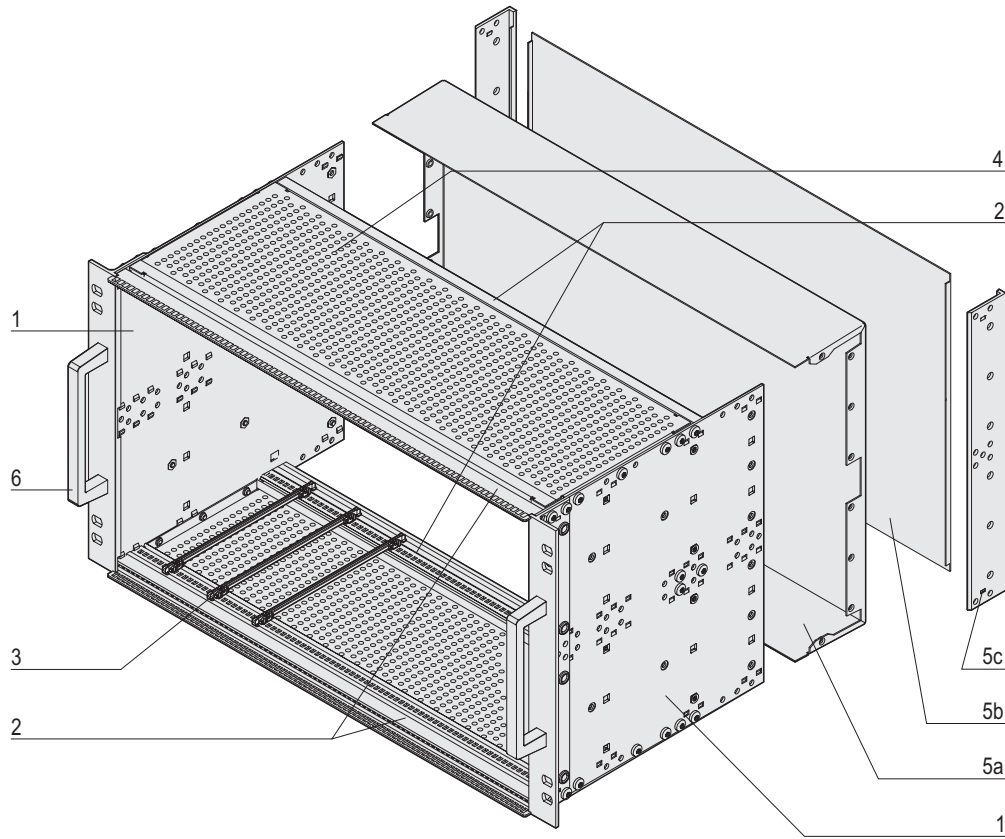
Rear horizontal rail for backplane mounting with insulation strip

# Subracks – EuropacPRO



# Subracks – EuropacPRO

## OVERVIEW OF INDIVIDUAL COMPONENTS FOR SHIELDED OR UNSHIELDED SUBRACKS

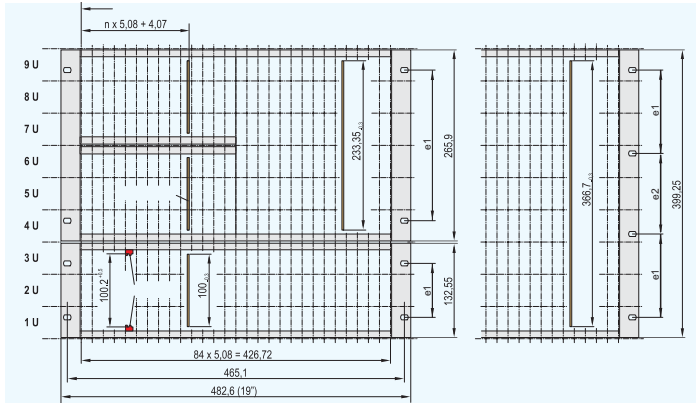


06108086

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



- 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



06197003

### 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



06108008

### Side panel 3 U, 6 U and 9 U

3 and 6 U 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)



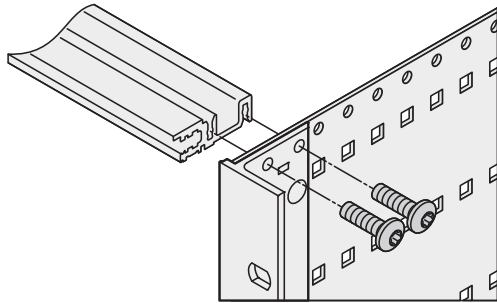
06108011

### 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

# Subracks – EuropacPRO

## SIDE PANELS



Side panel - horizontal rail assembly

- 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

06108062

### NOTE

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



### 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

06197003



### 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

06197004



### Type L (light)

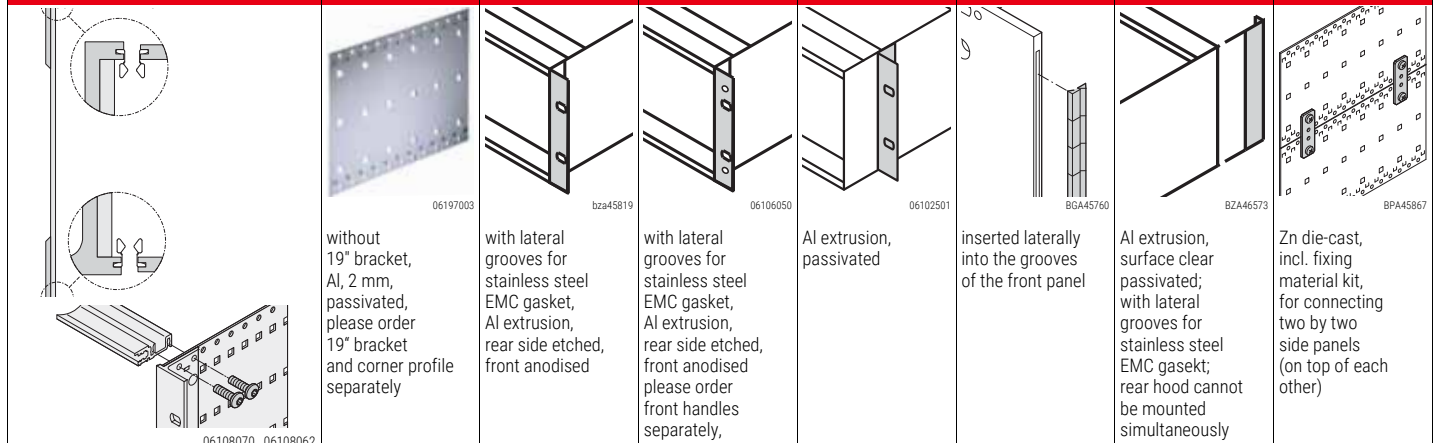
- Side panel with moulded 19" bracket, for standard applications, unshielded
- Particularly cost-effective version (not suitable for EMC applications)
- Heights: 3 and 6 U  
Depths: 175, 235 and 295 mm  
Other dimensions on request
- Installed load up to 7.5 kg

06197002

# 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 06197003	with lateral grooves for stainless steel EMC gasket, Al extrusion, rear side etched, front anodised bza45819	with lateral grooves for stainless steel EMC gasket, Al extrusion, rear side etched, front anodised please order front handles separately, 06106050	Al extrusion, passivated 06102501	inserted laterally into the grooves of the front panel BGA45760	Al extrusion, surface clear passivated; with lateral grooves for stainless steel EMC gasket; rear hood cannot be mounted simultaneously BZA46573	Zn die-cast, incl. fixing material kit, for connecting two by two side panels (on top of each other) BPA45867
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	<b>34560-185</b>						
3	235	<b>34560-187</b>						
3	275	1) <b>34579-300</b>						
3	277.75	2) <b>34579-002</b>						
3	295	<b>34560-189</b>	<b>24560-197</b>	<b>24560-198</b>	<b>24560-199</b>	<b>21101-705</b>	<b>24561-198</b>	<b>21101-954</b>
3	355	<b>34560-191</b>						
3	415	<b>34560-193</b>						
3	475	<b>34560-195</b>						
4	175	3) <b>34560-285</b>						
4	235	3) <b>34560-287</b>						
4	295	3) <b>34560-289</b>	<b>24560-297</b>	<b>24560-298</b>	<b>24560-299</b>	<b>21101-713</b>	<b>24561-298</b>	<b>21101-954</b>
4	355	3) <b>34560-291</b>						
4	415	3) <b>34560-293</b>						
4	475	3) <b>34560-295</b>						
6	175	<b>34560-485</b>						
6	235	<b>34560-487</b>						
6	275	1) <b>34579-038</b>						
6	277.75	2) <b>34579-012</b>						
6	295	<b>34560-489</b>	<b>24560-497</b>	<b>24560-498</b>	<b>24560-499</b>	<b>21101-707</b>	<b>24561-498</b>	<b>21101-954</b>
6	355	<b>34560-491</b>						
6	415	<b>34560-493</b>						
6	475	<b>34560-495</b>						
6	970	<b>34560-496</b>						
9	175	<b>34560-785</b>						
9	235	<b>34560-787</b>						
9	295	<b>34560-789</b>	<b>24560-797</b>	<b>24560-798</b>	<b>24560-799</b>	<b>21101-709</b>	<b>24561-798</b>	<b>21101-954</b>
9	355	<b>34560-791</b>						
9	415	<b>34560-793</b>						
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel		<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	-	<b>24560-130</b>	-
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		<b>24560-155</b>	<b>24560-155</b>	<b>24560-155</b>	<b>24560-155</b>	-	<b>24560-155</b>	-

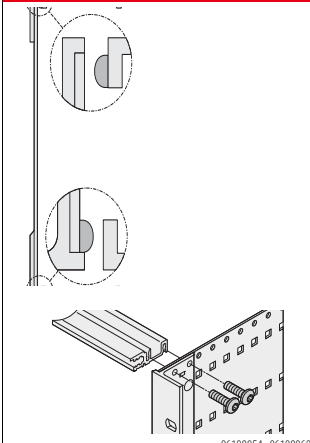

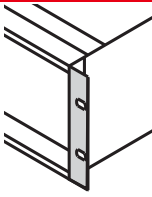
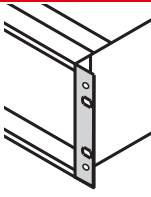
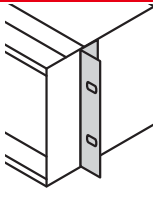
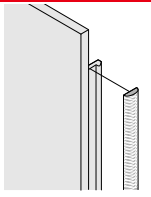
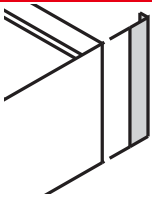
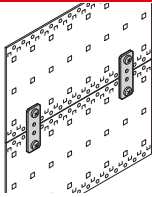
1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U

• 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
		 <p>06197003</p> <p>without 19" bracket, Al, 2 mm, passivated, please order 19" bracket and corner profile separately</p>	 <p>bza45819</p> <p>Al extrusion for textile EMC gasket rear side etched, front anodised</p>	 <p>06106050</p> <p>Al extrusion for textile EMC gasket, rear side etched, front anodised, please order front handles separately, see page 6.27</p>	 <p>06102501</p> <p>Al extrusion, passivated</p>	 <p>04602054</p> <p>textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0</p>	 <p>BZA46573</p> <p>Al extrusion, etched; for textile EMC gasket</p>	 <p>BPA45867</p> <p>Zn die-cast, incl. fixing material kit, for connecting two by two side panels (on top of each other)</p>
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	<b>34560-185</b>						
3	235	<b>34560-187</b>						
3	275	1) <b>34579-300</b>						
3	277.75	2) <b>34579-002</b>						
3	295	<b>34560-189</b>	<b>24564-197</b>	<b>24564-198</b>	<b>24560-199</b>	<b>21101-853</b>	<b>24564-199</b>	<b>21101-954</b>
3	355	<b>34560-191</b>						
3	415	<b>34560-193</b>						
3	475	<b>34560-195</b>						
4	175	3) <b>34560-285</b>						
4	235	3) <b>34560-287</b>						
4	295	3) <b>34560-289</b>						
4	355	3) <b>34560-291</b>	<b>24564-297</b>	<b>24564-298</b>	<b>24560-299</b>	<b>21101-858</b>	<b>24564-299</b>	<b>21101-954</b>
4	415	3) <b>34560-293</b>						
4	475	3) <b>34560-295</b>						
6	175	<b>34560-485</b>						
6	235	<b>34560-487</b>						
6	275	1) <b>34579-038</b>						
6	277.75	2) <b>34579-012</b>						
6	295	<b>34560-489</b>	<b>24564-497</b>	<b>24564-498</b>	<b>24560-499</b>	<b>21101-855</b>	<b>24564-499</b>	<b>21101-954</b>
6	355	<b>34560-491</b>						
6	415	<b>34560-493</b>						
6	475	<b>34560-495</b>						
6	970	<b>34560-496</b>						
9	175	<b>34560-785</b>						
9	235	<b>34560-787</b>						
9	295	<b>34560-789</b>	<b>24564-797</b>	<b>24564-798</b>	<b>24560-799</b>	<b>21101-859</b>	<b>24564-799</b>	<b>21101-954</b>
9	355	<b>34560-791</b>						
9	415	<b>34560-793</b>						
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel		<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	–	<b>24560-130</b>	–
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		<b>24560-155</b>	<b>24560-155</b>	<b>24560-155</b>	<b>24560-155</b>	–	<b>24560-155</b>	–

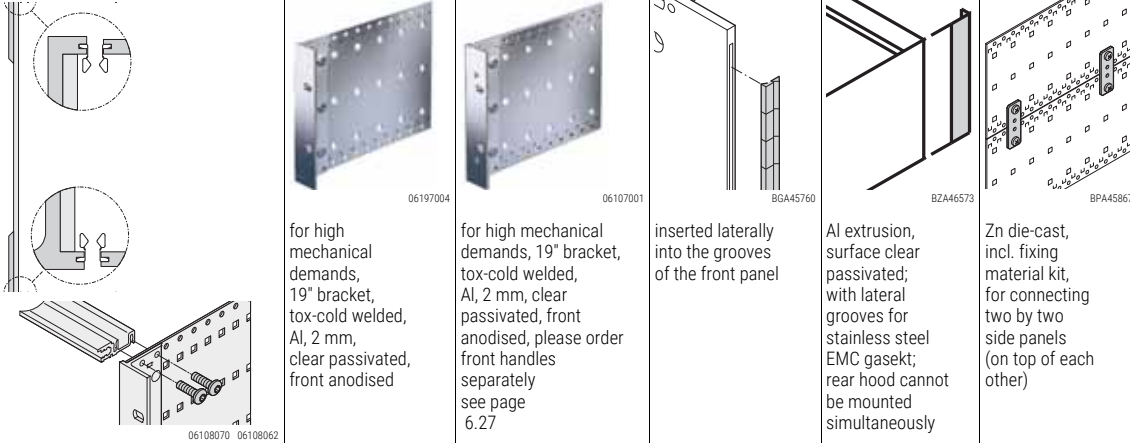
1) CompactPCI 2) VME64x 3) Grid holes of side panel 3 + 1 U



# Subracks – EuropacPRO

## SIDE PANELS TYPE H FOR STAINLESS STEEL EMC GASKET

### ORDER INFORMATION

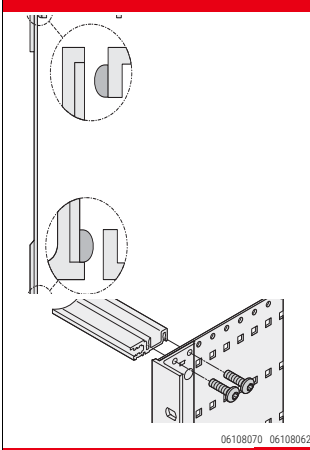


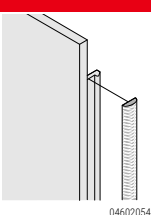
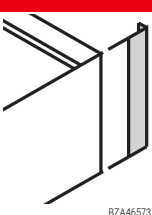
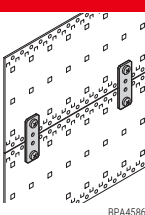
		Side panel type H for stainless steel EMC gasket		EMC gasket (stainless steel)	Rear angle	Side panel connection
		without handle holes	with handle holes			
		for high mechanical demands, 19" bracket, tox-cold welded, Al, 2 mm, clear passivated, front anodised	for high mechanical demands, 19" bracket, 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	<b>24566-125</b>	<b>24567-125</b>			
3	235	<b>24566-127</b>	<b>24567-127</b>			
3	275	–	–			
3	277.75	–	–	<b>21101-705</b>	<b>24561-198</b>	<b>21101-954</b>
3	295	<b>24566-129</b>	<b>24567-129</b>			
3	355	<b>24566-131</b>	<b>24567-131</b>			
3	415	–	–			
3	475	–	–			
4	175					
4	235					
4	295	–	–			
4	355	–	–			
4	415	–	–			
4	475	–	–			
6	175	<b>24566-425</b>	<b>24567-425</b>			
6	235	<b>24566-427</b>	<b>24567-427</b>			
6	275	–	–			
6	277.75	–	–	<b>21101-707</b>	<b>24561-498</b>	<b>21101-954</b>
6	295	<b>24566-429</b>	<b>24567-429</b>			
6	355	<b>24566-431</b>	<b>24567-431</b>			
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		<b>24560-130</b>	<b>24560-130</b>	–	<b>24560-130</b>	–
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		<b>24560-155</b>	<b>24560-155</b>	–	<b>24560-155</b>	–

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

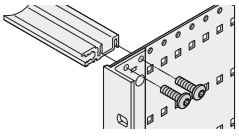

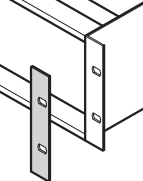
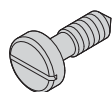
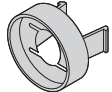
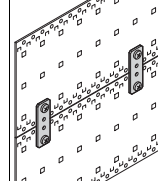
Illustration shows standard assembly, not VME or CompactPCI bus with rear I/O		Side panel type H for textile EMC gasket		EMC gasket (textile)	Rear angle	Side panel connection
		without handle holes	with handle holes			
		 06197004 for high mechanical	 06107001 for high mechanical demands, 19" bracket,	 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	<b>24564-145</b>	<b>24566-145</b>			
3	235	<b>24564-147</b>	<b>24566-147</b>			
3	275	–	–			
3	277.75	–	–			
3	295	<b>24564-149</b>	<b>24566-149</b>	<b>21101-853</b>	<b>24564-199</b>	<b>21101-954</b>
3	355	<b>24564-151</b>	<b>24566-151</b>			
3	415	–	–			
3	475	–	–			
4	175					
4	235					
4	295	–	–			
4	355	–	–			
4	415	–	–			
4	475	–	–			
6	175	<b>24564-445</b>	<b>24566-445</b>			
6	235	<b>24564-447</b>	<b>24566-447</b>			
6	275	–	–			
6	277.75	–	–			
6	295	<b>24564-449</b>	<b>24566-449</b>	<b>21101-855</b>	<b>24564-499</b>	<b>21101-954</b>
6	355	<b>24564-451</b>	<b>24566-451</b>			
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		<b>24560-130</b>	<b>24560-130</b>	–	<b>24560-130</b>	–
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		<b>24560-155</b>	<b>24560-155</b>	–	<b>24560-155</b>	–

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

# Subracks – EuropacPRO

## SIDE PANELS TYPE L

### ORDER INFORMATION

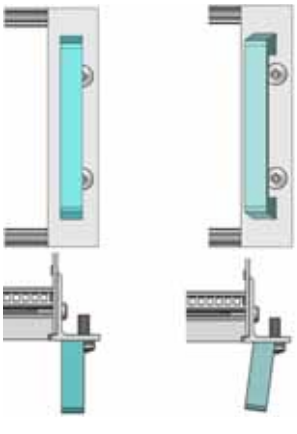
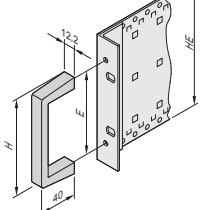
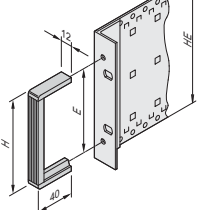
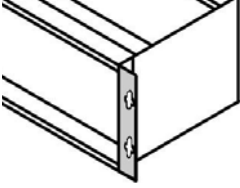
		Side panel type L	Front cover	Collar screw with slot for assembly of front cover	Sleeves for assembly of front cover	Side panel connection
		 06197002 Al, 2 mm, passivated	 BZA45810 for decorative finish of 19" bracket, Al, 2 mm, anodised	 06708055 M6 x 16, St, nickel-plated	 00508056 PPE, black	 BPA45867 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	<b>34561-185</b>				
3	235	<b>34561-187</b>				
3	275 1)	-				
3	277.75 2)	-				
3	295	<b>34561-189</b>	<b>34561-197</b>	<b>21100-565</b>	<b>21100-566</b>	<b>21101-954</b>
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	<b>34561-485</b>				
6	235	<b>34561-487</b>				
6	275 1)	-				
6	277.75 2)	-				
6	295	<b>34561-489</b>	<b>34561-497</b>	<b>21100-565</b>	<b>21100-566</b>	<b>21101-954</b>
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		<b>24560-130</b>	-	-	-	-
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		<b>24560-155</b>	-	-	-	-

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			Universal front handle	Wall-mounting bracket
Straight version		Angled version		clear anodised, straight version	black anodised, straight version	clear anodised, 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	Depth	H	E	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	PU 1 pair
U	mm	mm	mm					
3	175	102	88.0	<b>10501-005</b>	<b>10501-026</b>	<b>10501-020</b>	<b>10502-057</b>	<b>24562-197</b>
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	<b>10501-018</b>	-	<b>10501-021</b>	<b>10502-060</b>	24562-297
4	235	146	133.4					
4	295	146	133.4					
4	355	146	133.4					
4	415	146	133.4					
6	175	249	235.0	<b>10501-008</b>	<b>10501-029</b>	<b>10501-022</b>	<b>10502-065</b>	<b>24562-497</b>
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					
9	175	249	235.0	<b>10501-008</b>	<b>10501-029</b>	<b>10501-022</b>	<b>10502-065</b>	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				<b>24560-183</b>	<b>24560-183</b>	<b>24560-183</b>	<b>24560-183</b>	-
Screw M5 x 12, PU 4 pieces				<b>24560-182</b>	<b>24560-182</b>	<b>24560-182</b>	<b>24560-182</b>	-
Screw, M4 x 14, PU 100 pieces				-	-	-	-	<b>24560-130</b>

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



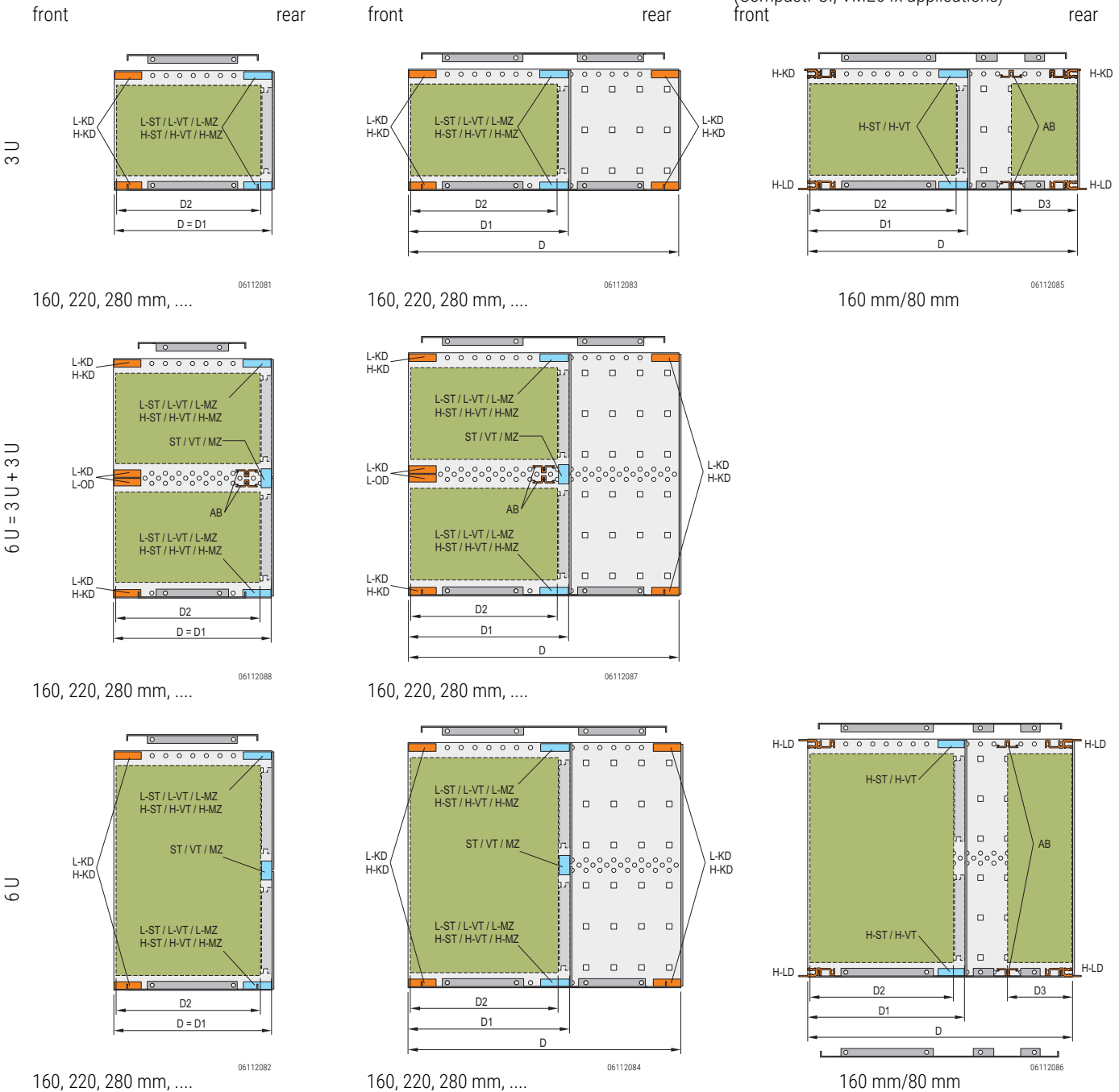
- Aluminium profile, surface anodised, conductive contact surfaces for EMC gaskets
- The horizontal rail is marked with sequential numbering (for sizes > 28 HP) to facilitate positioning of the guide rails
- Horizontal rails are fixed to the side panel using M4 bolts with torx 20 drive
- There are 3 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)





# Subracks – EuropacPRO

## FRONT HORIZONTAL RAILS

### Assembly 3 U, 2 x 3 U, 6 U

"light" (L)

"heavy" (H)

"heavy" (H)

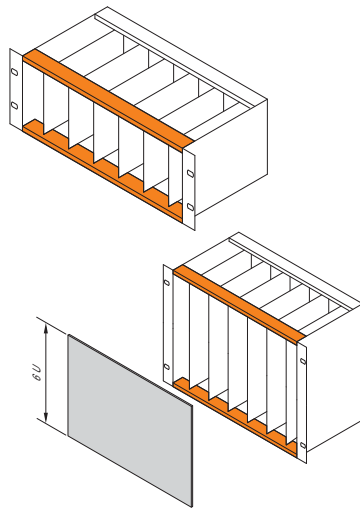


06197007

06197008

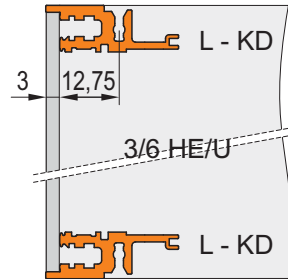
06197009

3 U/6 U



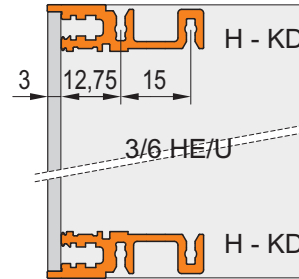
bza44980 bza44974

Short lip



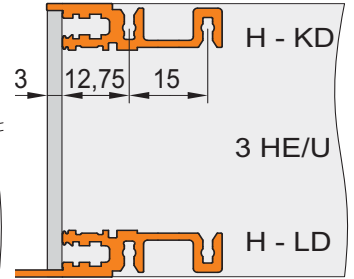
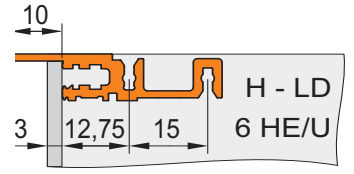
06105060

Short lip



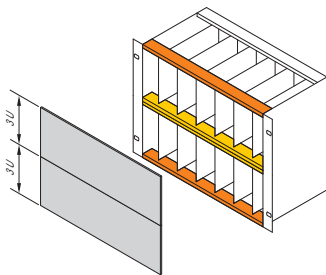
06105061

Long lip

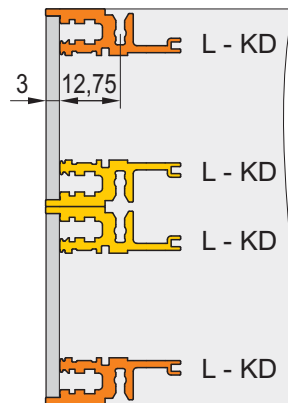


06108063

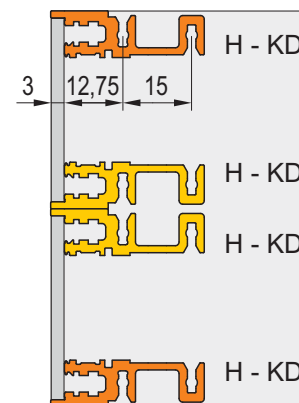
2 x 3 U



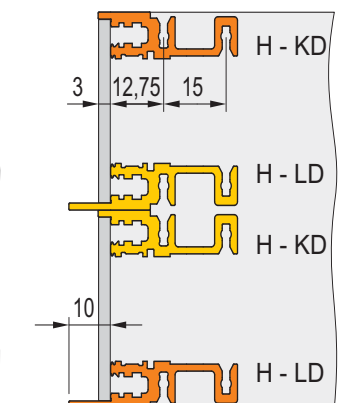
bza44972



06105062

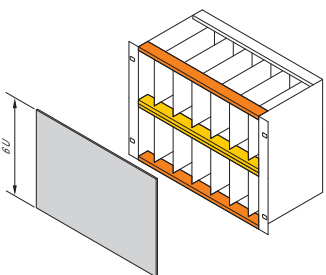


06105063

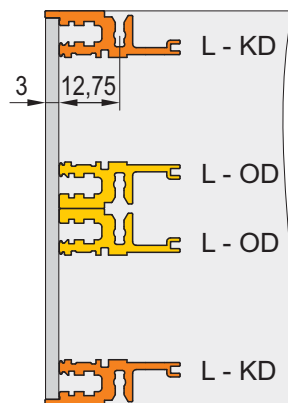


06108064

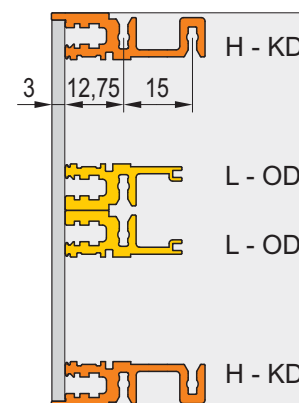
2 x 3 U, 6 U



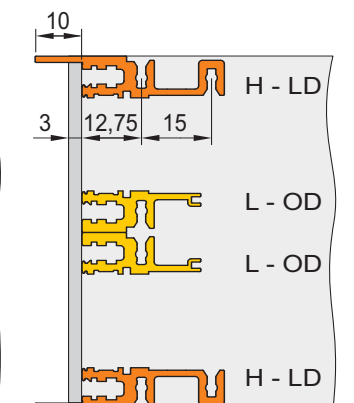
06105059



06105064



06105065



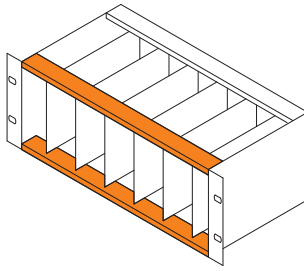



06108065

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
 <small>bza44980</small>		 <small>06197006</small>	 <small>06197007</small>	 <small>06197008</small>	 <small>06197009</small>
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) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
20	106.68	<b>34560-020</b>	<b>34560-120</b>	<b>34560-220</b>	<b>34560-320</b>
28	147.32	<b>34560-028</b>	<b>34560-128</b>	<b>34560-228</b>	<b>34560-328</b>
40	208.28	<b>34560-040</b>	<b>34560-140</b>	<b>34560-240</b>	<b>34560-340</b>
42	218.44	<b>34560-042</b>	<b>34560-142</b>	<b>34560-242</b>	<b>34560-342</b>
63	325.12	<b>34560-063</b>	<b>34560-163</b>	<b>34560-263</b>	<b>34560-363</b>
84	431.80	<b>34560-084</b>	<b>34560-184</b>	<b>34560-284</b>	<b>34560-384</b>
-	1000	<b>34560-001</b>	<b>34560-101</b>	<b>34560-201</b>	<b>34560-301</b>
Screw, M4 x 14, PU 100 pieces		<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		-	-	<b>24560-155</b>	<b>24560-155</b>
Threaded inserts see page		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)**



0440001

**Direct backplane mounting**



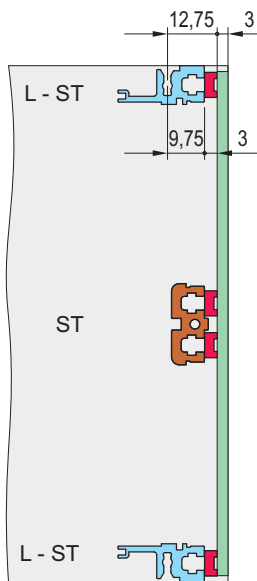
0440002

**Connector fitting with Z**

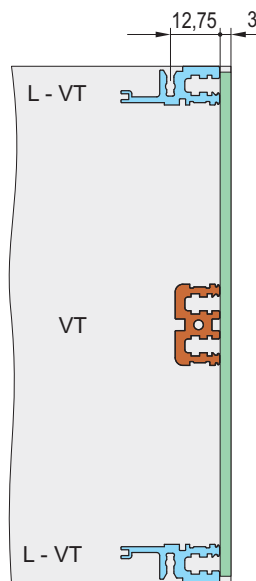


0440003

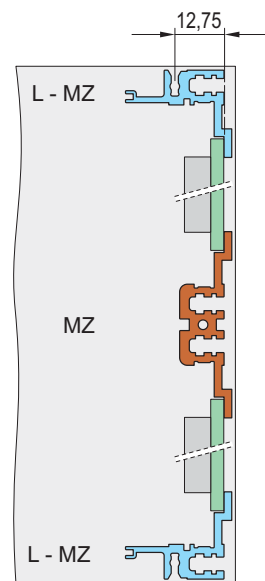
"light"



06105072

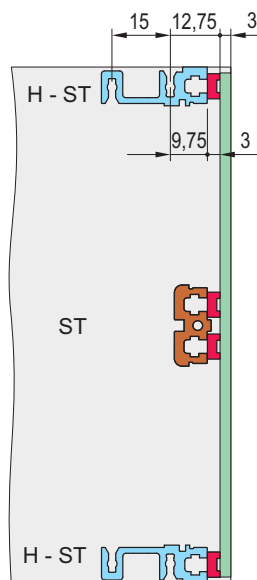


06105073

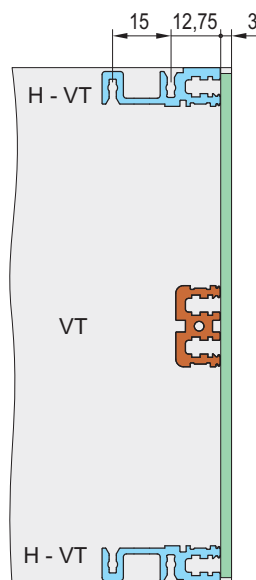


06105071

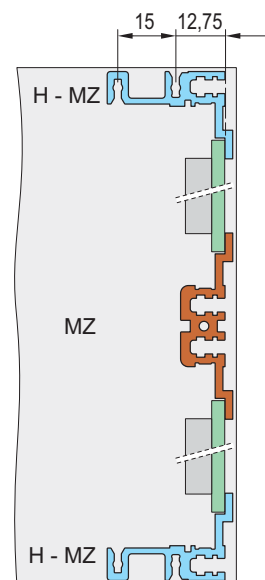
"heavy"



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)	
 <p>06105074</p> <p>With HP markings from 28 HP, Al extrusion, anodised finish, conductive surface</p>		 <p>04400001</p> <p>"light" Type L-ST standard</p>  <p>06197010</p> <p>"heavy" Type H-ST standard</p>		 <p>04400002</p> <p>"light" Type L-VT + 3 mm</p>  <p>06197011</p> <p>"heavy" Type H-VT + 3 mm</p>		 <p>04400003</p> <p>"light" Type L-MZ with Z-rail</p>  <p>06197014</p> <p>"heavy" Type H-MZ with Z-rail</p>	
Usable length HP	Length mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
20	106.68	<b>34560-420</b>	<b>34560-520</b>	<b>34560-620</b>	<b>34560-720</b>	<b>34560-820</b>	<b>34560-920</b>
28	147.32	<b>34560-428</b>	<b>34560-528</b>	<b>34560-628</b>	<b>34560-728</b>	<b>34560-828</b>	<b>34560-928</b>
40	208.28	<b>34560-440</b>	<b>34560-540</b>	<b>34560-640</b>	<b>34560-740</b>	<b>34560-840</b>	<b>34560-940</b>
42	218.44	<b>34560-442</b>	<b>34560-542</b>	<b>34560-642</b>	<b>34560-742</b>	<b>34560-842</b>	<b>34560-942</b>
63	325.12	<b>34560-463</b>	<b>34560-563</b>	<b>34560-663</b>	<b>34560-763</b>	<b>34560-863</b>	<b>34560-963</b>
84	431.80	<b>34560-484</b>	<b>34560-584</b>	<b>34560-684</b>	<b>34560-784</b>	<b>34560-884</b>	<b>34560-984</b>
–	1000	<b>34560-401</b>	<b>34560-501</b>	<b>34560-601</b>	<b>34560-701</b>	<b>34560-801</b>	–
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel		<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>
Screw, M4 x 10, required if guide rails are screwed to slot 1, PU 100 pieces		–	<b>24560-155</b>	–	<b>24560-155</b>	–	<b>24560-155</b>
Perforated rail for connector mounting with insulation strip see page		6.36	6.36	–	–	–	–
Z-rail for connector mounting without insulation strip see page		6.36	6.36	–	–	–	–
Insulation strips see page		6.35	6.35	–	–	–	–
Threaded inserts see page		6.35	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, 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)
 <p>06108090</p>		 <p>04400001</p> <p>Typ ST</p>  <p>06197016</p> <p>Al extrusion, anodised surface, conductive contact surface, without printed markings</p>	 <p>04400002</p> <p>Typ VT</p>  <p>06197017</p> <p>Al extrusion, anodised surface, conductive contact surface, without printed markings</p>	 <p>04400003</p> <p>Typ MZ</p>  <p>06197018</p> <p>Al extrusion, anodised surface, conductive contact surface, without printed markings</p>
Usable length HP	Length mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
20	106.68	<b>34561-020</b>	<b>34561-120</b>	<b>34561-220</b>
28	147.32	<b>34561-028</b>	<b>34561-128</b>	<b>34561-228</b>
40	208.28	<b>34561-040</b>	<b>34561-140</b>	<b>34561-240</b>
42	218.44	<b>34561-042</b>	<b>34561-142</b>	<b>34561-242</b>
63	325.12	<b>34561-063</b>	<b>34561-163</b>	<b>34561-263</b>
84	431.80	<b>34561-084</b>	<b>34561-184</b>	<b>34561-284</b>
-	1000	<b>34561-001</b>	<b>34561-101</b>	<b>34561-201</b>
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel		<b>24560-130</b>	<b>24560-130</b>	<b>24560-130</b>
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

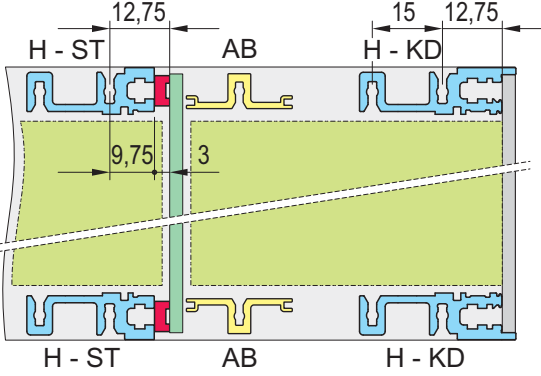


- All horizontal rails without printed markings
- 1000 mm version without M4 thread to front



# Subracks – EuropacPRO

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

### ORDER INFORMATION

		For CompactPCI in rear I/O area
 <p>06108069</p>		 <p>06108009</p> <p>Typ AB</p>  <p>06197019</p> <p>Al extrusion, anodised surface, conductive contact surface; horizontal rail type AB (AB = support) is required to fix the 80 mm rear I/O boards; without printed markings</p>
Usable length HP	Length mm	1 piece (SPQ 10) <sup>1)</sup>
20	106.68	<b>34561-520</b>
28	147.32	<b>34561-528</b>
40	208.28	<b>34561-540</b>
42	218.44	<b>34561-542</b>
63	325.12	<b>34561-563</b>
84	431.80	<b>34561-584</b>
–	1000	<b>34561-501</b>
Screw, M4 x 14, PU 100 pieces, for fastening horizontal rail to side panel		<b>24560-130</b>

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

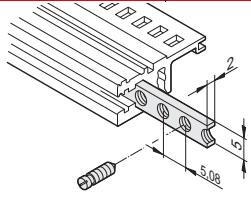
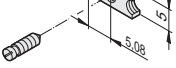
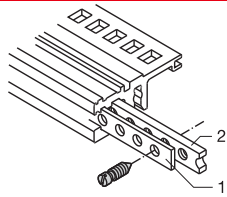
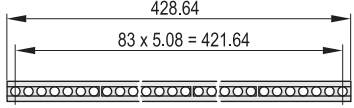
### NOTE

- 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	
							
	<p>required for fixing the front panel to the horizontal rail; St, zinc-plated; use collar screw 12.3 mm, see page 6.66</p>		<p>06103056</p>	<p>for centring shielded plug-in units, Al, 1 mm, please order grub screw separately</p>		<p>BZA45853</p> <p>for insulated backplane mounting; PBT UL 94 V-0, grey</p>	
Usable length HP	Threaded insert		Perforated strip		Insulation strip		
	Length mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	Length mm	1 piece (SPQ 10) <sup>1)</sup>	Length mm	PU 10 pieces
20	106.18	<b>34561-320</b>	–	106.48	<b>30845-189</b>	101.50	<b>24560-820</b>
28	146.82	<b>34561-328</b>	–	147.12	<b>30845-197</b>	144.20	<b>24560-828</b>
40	207.78	<b>34561-340</b>	–	208.08	<b>30845-209</b>	205.12	<b>24560-840</b>
42	217.94	<b>34561-342</b>	–	218.24	<b>30845-211</b>	210.40	<b>24560-842</b>
63	324.62	<b>34561-363</b>	–	324.92	<b>30845-232</b>	316.88	<b>24560-863</b>
84	431.30	<b>34561-384</b>	<b>34561-484</b>	431.60	<b>30845-253</b>	428.64	<b>24560-884</b>
196	1000.26	<b>34565-196</b>	–	1000.56	<b>34565-396</b>		–

#### Accessories

Grub screw M2.5 x 8, PU 100 pieces	<b>21100-276</b>	–		–		–
Grub screw M2.5 x 9, PU 100 pieces	–	–		<b>21101-359</b>		–
Grub screw M3 x 8, PU 100 pieces	–	<b>21100-646</b>		–		–

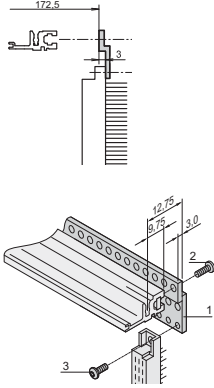
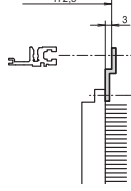
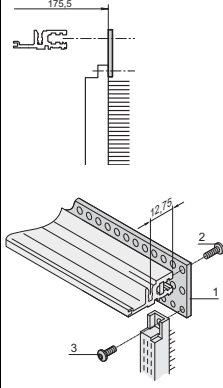
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

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

# Subracks – EuropacPRO

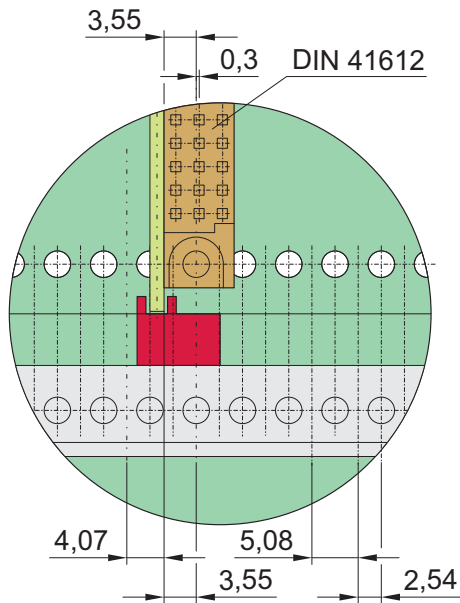
## Z-RAILS, PERFORATED RAILS

### 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
		 <p>BZA45849</p> <p>06708063</p> <p>for connector mounting on ST horizontal rails, please order threaded inserts and screw separately</p>	 <p>BZA45850</p> <p>for connector mounting on ST horizontal rails, please order threaded inserts and screw separately</p>	 <p>BZA45848</p> <p>06708051</p> <p>for connector mounting on VT horizontal rails, please order threaded inserts and screw separately</p>
Usable length HP	Length mm	1 piece	1 piece	PU 4 pieces
20	101.60	<b>30822-025</b>	–	<b>20822-051</b>
28	142.24	<b>30822-033</b>	–	<b>20822-049</b>
40	203.20	<b>30822-045</b>	<b>30819-763</b>	<b>20822-046</b>
42	213.36	<b>30822-047</b>	–	<b>20822-050</b>
60	304.80	<b>30822-065</b>	<b>30819-783</b>	<b>20822-047</b>
84	426.72	<b>30822-089</b>	<b>30819-808</b>	<b>20822-048</b>
Item 3, torx panhead screw to fix connector to perforated rail,, M2.5 x 7, PU 100 pieces		<b>24560-147</b>	<b>24560-147</b>	<b>24560-147</b>
Item 2, torx panhead screw, to fix perforated rails to horizontal rail, M2.5 x 10, PU 100 pieces		<b>24560-148</b>	<b>24560-148</b>	<b>24560-148</b>

# 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



06102001



06102002



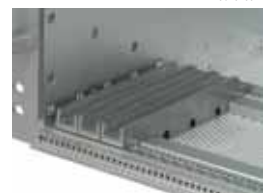
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06104009


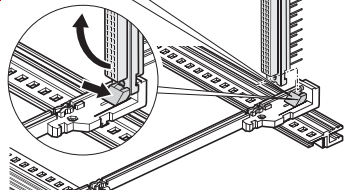


06112022

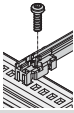
# Subracks – EuropacPRO

## 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
<b>Assembly</b> - can be clipped into Al extruded horizontal rails - can be clipped into 1.5 mm thick plates  <b>Storage temperature</b> 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 <sup>2)</sup>	1 piece (SPQ 50) <sup>1)</sup>	1 pair (SPQ 10) <sup>1)</sup>
70	2	red	–	<b>34579-230</b>	–
70	2	grey	–	<b>34579-231</b>	–
160	2	red	<b>24560-351</b>	<b>64560-001</b>	<b>64560-074</b>
220	2	red	<b>24560-353</b>	<b>64560-002</b>	<b>64560-075</b>
280	2	red	<b>24560-379</b>	–	–
340	2	red	<b>24560-380</b>	–	–
160	2.5	red	–	<b>64560-096</b>	–
220	2.5	red	–	<b>64560-098</b>	–

### Accessories

Retention screw, PU 100 pieces; Torque max. 0.2 Nm 	<b>24560-141</b>	–	<b>24560-141</b>
ESD clip, PU 50 pieces	<b>24560-255</b>		<b>24560-255</b>

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


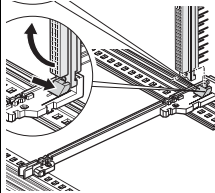
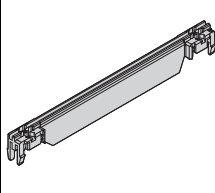

Description of accessories see from page 6.43



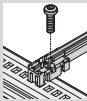
# Subracks – EuropacPRO

## 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	
<b>Assembly</b> - can be clipped into Al extruded horizontal rails - can be clipped into 1.5 mm thick plates  <b>Storage temperature</b> 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 <sup>2)</sup>	1 piece (SPQ 50)	PU 10 pairs <sup>2)</sup>	1 piece (SPQ 50)	1 piece (SPQ 10) <sup>1)</sup>
100	2	red	-	<b>64560-082</b>	-	-	-
160	2	red	<b>24560-373</b>	<b>64560-005</b>	24560-274	<b>64560-076</b>	-
160	2	grey/silver	-	<b>64560-055</b>	24560-276	-	<b>34562-881</b>
220	2	red	<b>24560-374</b>	<b>64560-006</b>	24560-275	<b>64560-078</b>	-
220	2	grey/silver	-	<b>64560-166</b>	24560-277	-	<b>34562-882</b>
280	2	red/silver	<b>24560-375</b>	-	-	<b>64560-080</b>	<b>34562-883</b>
340	2	red/silver	<b>24560-376</b>	-	-	-	<b>34562-884</b>
400	2	red/silver	-	-	-	-	<b>34562-885</b>
160	2.5	silver	-	-	-	-	<b>34564-881</b>
220	2.5	silver	-	-	-	-	<b>34564-882</b>
280	2.5	silver	-	-	-	-	<b>34564-883</b>
340	2.5	silver	-	-	-	-	<b>34564-884</b>
400	2.5	silver	-	-	-	-	<b>34564-885</b>

### Accessories

Retention screw, PU 100 pieces; torque max. 0.2 Nm		<b>24560-141</b>	<b>24560-141</b>	<b>24560-141</b>	<b>24560-141</b>	<b>24560-157</b>
ESD clip, PU 50 pieces		<b>24560-255</b>	<b>24560-255</b>	<b>24560-255</b>	<b>24560-255</b>	-
Board locking C, red, PU 10 pieces		<b>24560-377</b>	<b>24560-377</b>	<b>24560-377</b>	<b>24560-377</b>	-
Board handle C, red, PU 10 pieces		<b>24560-378</b>	<b>24560-378</b>	<b>24560-378</b>	<b>24560-378</b>	-
Identification strips for board handle, red, PU 1 sheet = 438 pieces		<b>60817-228</b>	<b>60817-228</b>	<b>60817-228</b>	<b>60817-228</b>	-
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	
<b>Assembly</b> - can be clipped into Al extruded horizontal rails - can be clipped into 1.5 mm thick plates  <b>Storage temperature</b> 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	Groove width	Colour	PU 10 pieces	1 piece (SPQ 50) <sup>1)</sup>	PU 10 pieces	1 piece (SPQ 50) <sup>1)</sup>	PU 10 pieces	1 piece (SPQ 50) <sup>1)</sup>
mm	mm	mm						
70	2	red	<b>24560-355</b>	<b>64560-085</b>	-	-	-	-
70	2	grey	<b>24560-360</b>	<b>64560-086</b>	-	-	-	-
160	2	red	<b>24560-356</b>	<b>64560-089</b>	-	-	<b>24560-361</b>	<b>64560-143</b>
160	2	grey	<b>24560-358</b>	<b>64560-090</b>	-	-	-	-
160	2	green	-	-	<b>24560-359</b>	<b>64560-071</b>	-	-
220	2	red	-	<b>64560-091</b>	-	-	<b>24560-362</b>	<b>64560-144</b>
220	2	grey	-	<b>64560-092</b>	-	-	-	-
220	2	green	-	-	-	<b>64560-072</b>	-	-
160	2.5	red	-	-	-	-	-	<b>64560-145</b>
220	2.5	red	<b>24561-330</b>	-	-	-	-	<b>64560-146</b>
220	2.5	grey	<b>24561-340</b>	-	-	-	-	-
280	2.5	red	<b>24561-331</b>	-	-	-	-	-
280	2.5	grey	<b>24561-341</b>	-	-	-	-	-
340	2.5	red	<b>24561-332</b>	-	-	-	-	-
340	2.5	grey	<b>24561-342</b>	-	-	-	-	-

### Accessories

ESD clip, PU 50 pieces	<b>24560-255</b>	<b>24560-255</b>	-	-	-	-
ESD clips, for alignment pin, PU 50 pieces	<b>24560-256</b>	<b>24560-256</b>	<b>24560-256</b>	<b>24560-256</b>	-	-
Retention screw, PU 100 pieces; torque max. 0.2 Nm	<b>24560-141</b>	<b>24560-141</b>	<b>24560-141</b>	<b>24560-141</b>	<b>24560-158</b>	<b>24560-158</b>
Coding peg, PU 100 pieces	<b>20817-501</b>	<b>20817-501</b>	<b>20817-501</b>	<b>20817-501</b>	-	-

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			
<p><b>PCBs:</b> Fixed lengths for 160, 220, 280, 340 mm; length 1000 mm for special dimensions</p> <p><b>Mounting:</b> pluggable into horizontal rails</p> <p><b>Storage temperature :</b> End piece -40°C ... +130°C PVC profile 0°C ... +60°C</p>			 <p>06106004</p> <p>end piece, PBT, UL 94 V-0, middle section Al extrusion</p>		 <p>06106005</p> <p>end piece, PBT, UL 94 V-0, middle section plastic extrusion Al extrusion</p>		 <p>06106006</p> <p>end piece, PBT, UL 94 V-0, middle section Al extrusion</p>		 <p>end piece, PBT, UL 94 V-0, middle section plastic extrusion (PVC, RAL 7035)</p>	
Description	Length mm	Groove width mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	
End piece, red, 1 pair		2	<b>64560-004</b>	<b>64560-004</b>	<b>64560-008</b>	<b>64560-008</b>	<b>64560-057</b>	<b>64560-057</b>	<b>64560-057</b>	
Al extrusion, for 160 mm board length	95	2	<b>34560-891</b>	<b>34564-891</b>	<b>34560-891</b>	<b>34564-891</b>	<b>34560-891</b>	<b>34564-891</b>	<b>34564-891</b>	
Al extrusion, for 220 mm board length	155	2	<b>34560-892</b>	<b>34564-892</b>	<b>34560-892</b>	<b>34564-892</b>	<b>34560-892</b>	<b>34564-892</b>	<b>34564-892</b>	
Al extrusion, for 280 mm board length	215	2	<b>34560-893</b>	<b>34564-893</b>	<b>34560-893</b>	<b>34564-893</b>	<b>34560-893</b>	<b>34564-893</b>	<b>34564-893</b>	
Al extrusion, for 340 mm board length	275	2	<b>34560-894</b>	–	<b>34560-894</b>	–	<b>34560-894</b>	–	–	
Al extrusion, for any board length	1000	2	<b>34560-900</b>	–	<b>34560-900</b>	–	<b>34560-900</b>	–	–	
Plastic extrusion, for any board length	1000	2	–	<b>34564-900</b>	–	<b>34564-900</b>	–	<b>34564-900</b>	<b>34564-900</b>	

### Accessories

ESD clip, PU 50 pieces	<b>24560-255</b>	<b>24560-255</b>	<b>24560-255</b>	<b>24560-255</b>	–	–
Retention screw, PU 100 pieces; torque max. 0.2 Nm	<b>24560-141</b>	<b>24560-141</b>	<b>24560-141</b>	<b>24560-141</b>	<b>24560-158</b>	<b>24560-158</b>
Board locking C, red, PU 10 pieces	–	–	<b>24560-377</b>	<b>24560-377</b>	–	–
Board handle C, red, PU 10 pieces	–	–	<b>24560-378</b>	<b>24560-378</b>	–	–
Identification strips for board handle, red, PU 1 sheet = 438 pieces	–	–	<b>60817-228</b>	<b>60817-228</b>	–	–
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

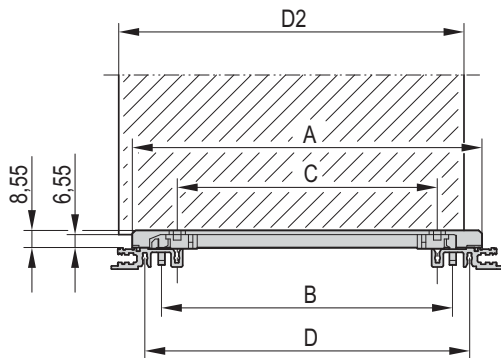
Description of accessories see from page 6.43

### NOTE

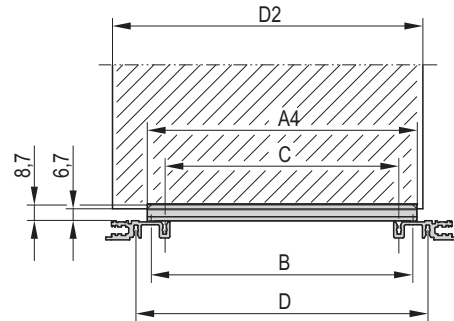
- Strengthening for middle section (plastic extrusion) available on request

# Subracks – EuropacPRO

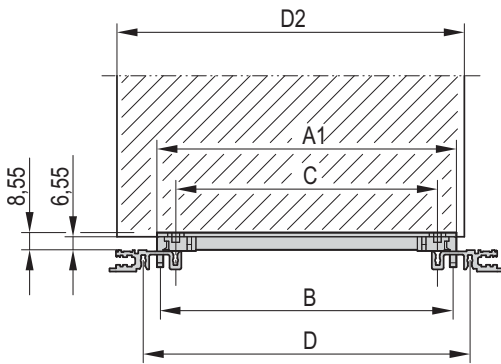
## DIMENSION DRAWINGS OF GUIDE RAILS

**Standard**


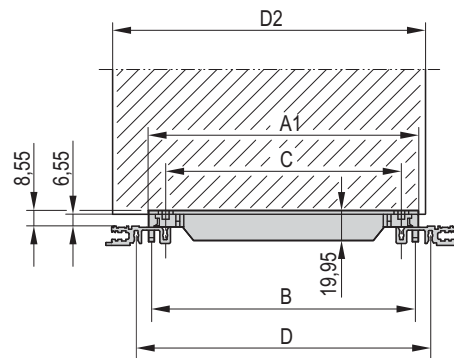
bza45808

**Robust version**


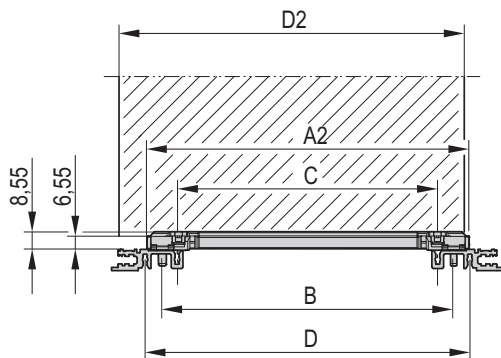
06105074

**For accessories**


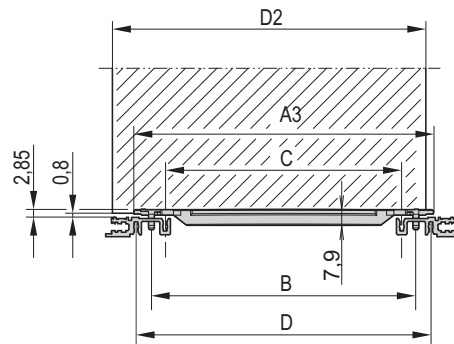
bza45808

**For accessories, strengthened**


bza46552

**CompactPCI, VME64x**


06105068

**4.4" (111.7 mm)**


06105069

**Dimensions table**

Board length	Dimensions							
L	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

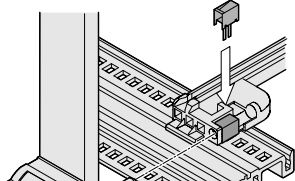
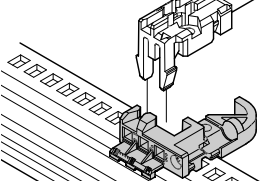
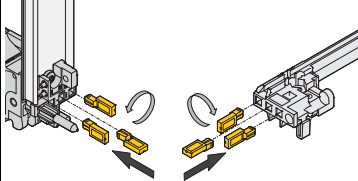
C: Pitch of guide rail retention screws

D: Pitch of horizontal rail retention screws

# Subracks – EuropacPRO

## GUIDE RAIL ACCESSORIES

### ORDER INFORMATION

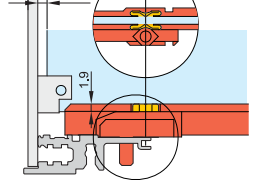
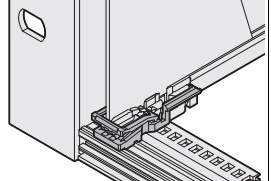
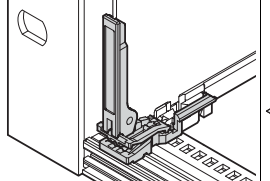
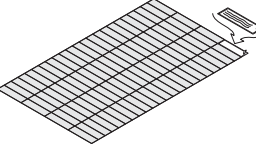
		ESD clips, CompactPCI/VME 64 alignment pin for guide rails	Coding for subracks	Keying/coding block for guide rails accessory type	Keying/coding for CompactPCI, VME64x handles to IEEE 1011.10 and IEC 60297-3-103
		 <p>06103052</p> <p>Spring steel, tin-plated, ESD clip, for alignment pin in accordance with IEEE; can be plugged into the guide rails with coding and into the keying/coding block; provides conductive contact between the alignment pin of the insertion/extractor handle (IEL or IET handle) and the horizontal rail</p>	 <p>06103051</p> <p>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</p>	 <p>04612052</p> <p>Keying/coding peg, PBTP, UL 94 V-0, RAL 7035 The keying/coding pegs prevent plug-in units to be mounted in wrong slots. They are inserted in the chambers of the codable card guides as well as in the insertion/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;</p>	
Assembly	Colour	PU 50 pieces	1 piece (SPQ 50)	PU 100 pieces	
above	red	-	<b>34579-232</b>	-	
	grey	-	<b>34579-233</b>	<b>20817-501</b>	
	silver	<b>24560-256</b>	-	-	
below	red	-	<b>34579-234</b>	-	
	grey	-	<b>34579-235</b>	<b>20817-501</b>	
	silver	<b>24560-256</b>	-	-	

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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
		 <p>04503050</p> <p>Spring steel, tin-plated, provides conductive contact between board and horizontal rail, on both the solder side and the component side</p>	 <p>04805050</p> <p>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</p>	 <p>04805051</p> <p>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</p>	 <p>06108076</p> <p>Polyester film, 31 x 4 mm, self-adhesive, white/matt (1 A4 sheet contains 438 pieces)</p>
Assembly	Colour	silver	red	red	white/matt
mm		PU 50 pieces	PU 10 pieces	PU 10 pieces	1 piece
above/below		<b>24560-255</b>	<b>24560-377</b>	<b>24560-378</b>	<b>60817-228</b>



# Subracks – EuropacPRO

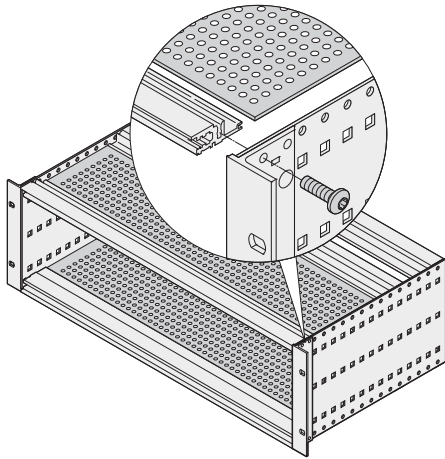
## SHIELDING FOR TOP AND BOTTOM

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

### 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



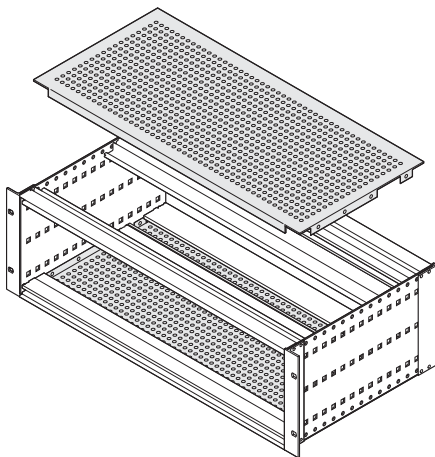
06108077

### 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

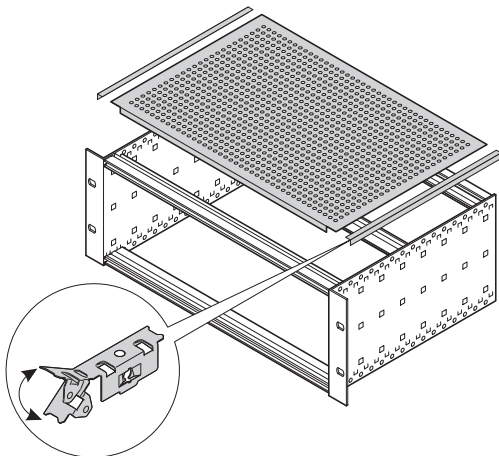


06102084

#### 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

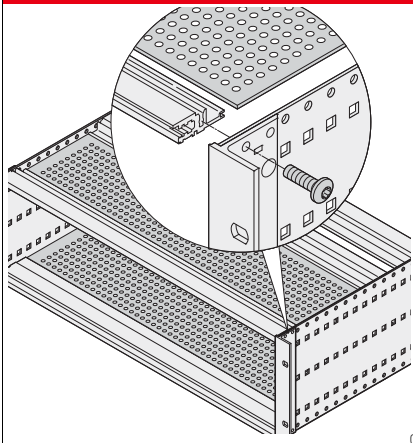
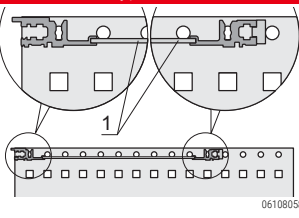


06105082

# 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	<b>24561-031</b>
63	175	160 mm board depth	<b>24561-041</b>
84	175	160 mm board depth	<b>24561-051</b>
84	235	220 mm board depth	<b>24561-052</b>

### NOTE

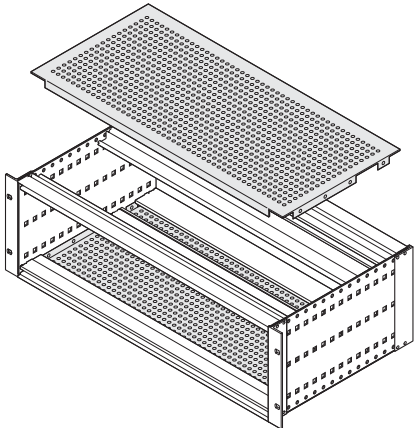
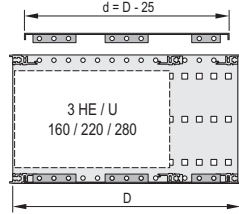
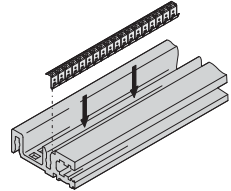
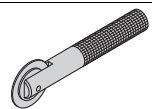
- Other dimensions on request

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

### NOTE

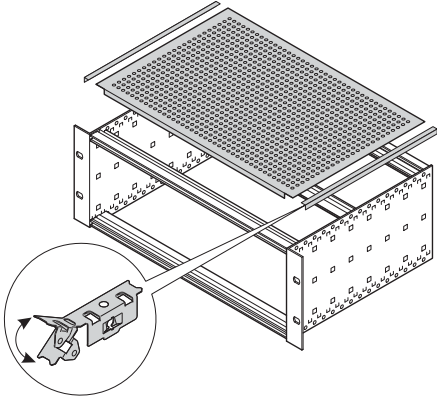
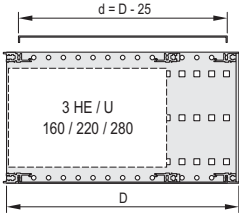
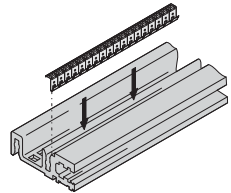
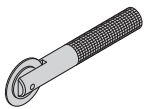
- Cover plates without perforation available on request

# Subracks – EuropacPRO

## UNIVERSAL EMC COVER PLATES AND MECHANICAL PROTECTION

- Used when PCBs with special dimensions are fitted

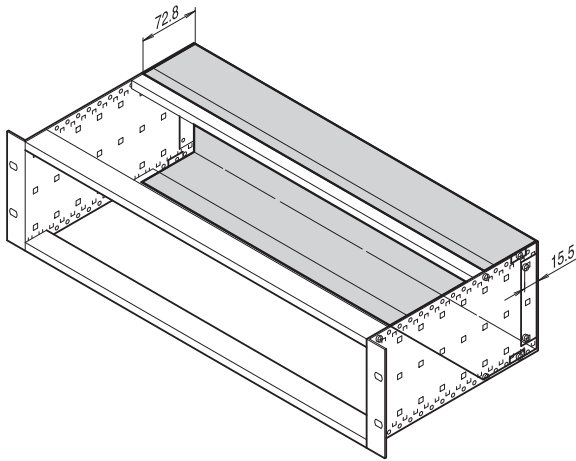
### ORDER INFORMATION

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

# Subracks – EuropacPRO

## COVER/SHIELDING TO FRONT AND REAR

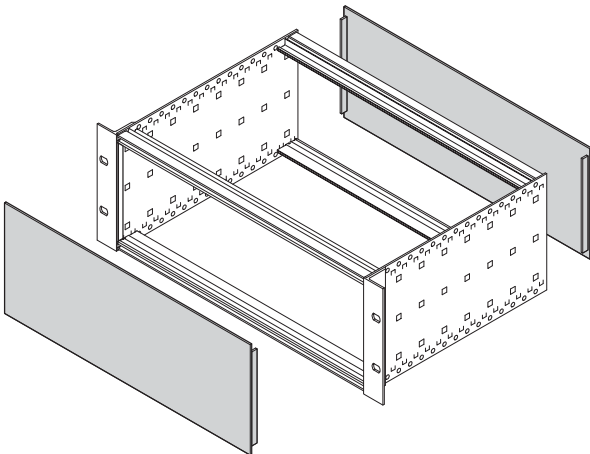
- The front and rear sides of the subrack can be shielded by a hinged front panel or by a fixed front panel and 19" brackets
- The rear can be shielded with a front panel and a corner profile



BZA45814

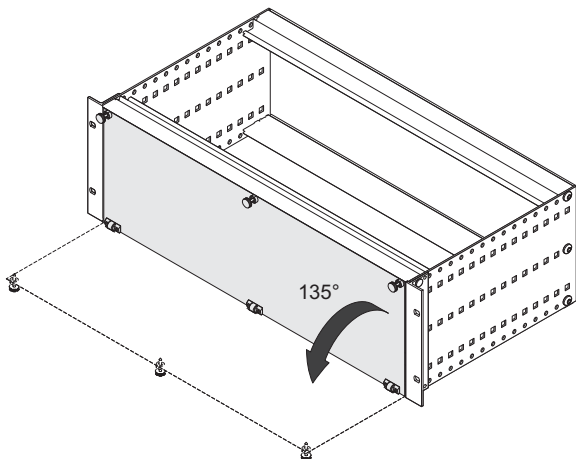
### Rear hood

### Front panel for front and rear



06112089

### Front panel, hinged/pivoted

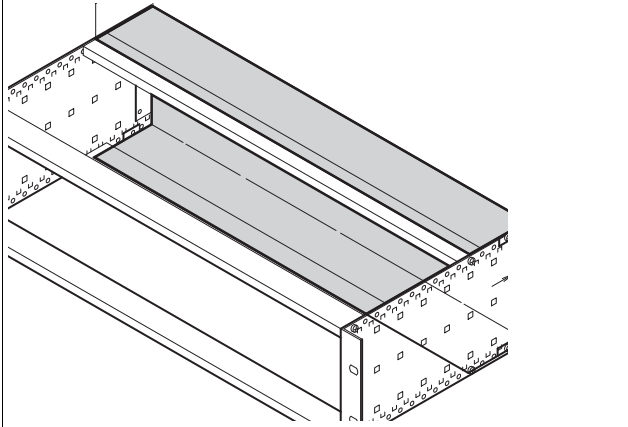
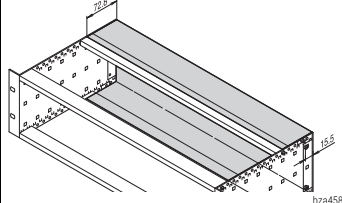
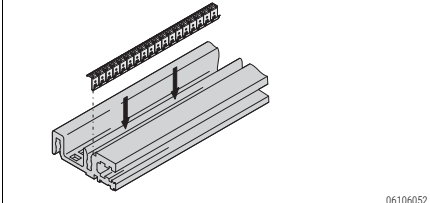
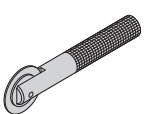


06112090

# 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	
				
		<p>Al, 1 mm, clear passivated; 60 mm additional side panel depth required (board depth + 60 mm); for shielding please order EMC gasket for horizontal rail separately; cannot be used simultaneously with rear corner profile</p>	<p>stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails</p>	
bza45814		bza45819		06106052
Height	Width	1 piece	PU 10 pieces	PU 100 pieces
U	HP			
3	42	<b>34561-750</b>	<b>24560-241</b>	–
3	84	<b>34561-752</b>	<b>24560-245</b>	<b>24560-246</b>
6	63	<b>34561-763</b>	<b>24560-243</b>	–
6	84	<b>34561-764</b>	<b>24560-245</b>	<b>24560-246</b>
<p>Torx panhead screw, M4 × 6, St, zinc-plated, PU 100 pieces</p>		<b>24560-135</b>	–	
<p>Assembly tool, for EMC gasket, stainless steel (horizontal rails), 1 piece</p>		–	<b>24560-271</b>	
				

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


\*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	
			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	
04292001						
Height U	Height mm	Width HP	1 piece	1 piece (SPQ 5) <sup>1)</sup>	PU 10 pieces	PU 100 pieces
2	84	84	<b>30846-588</b>	–	<b>21101-775</b>	<b>21101-776</b>
3	128.4	2	–	<b>30846-864</b>	21101-705	21101-706
3	128.4	3	–	<b>20846-425</b>		
3	128.4	4	–	<b>20846-426</b>		
3	128.4	5	–	<b>20846-427</b>		
3	128.4	6	–	<b>20846-428</b>		
3	128.4	7	–	<b>20846-429</b>		
3	128.4	8	–	<b>20846-430</b>		
3	128.4	10	–	<b>20846-431</b>		
3	128.4	12	–	<b>20846-432</b>		
3	128.4	14	–	<b>20846-433</b>		
3	128.4	21	–	<b>20846-434</b>		
3	128.4	28	–	<b>20846-436</b>		
3	128.4	42	<b>20846-437</b>	–		
3	128.4	63	<b>20846-438</b>	–		
3	128.4	84	<b>30846-676</b>	–		
4	172.9	42	<b>30846-681</b>	–	21101-713	21101-714
4	172.9	63	<b>30846-682</b>	–		
4	172.9	84	<b>30846-683</b>	–		
6	261.8	2	–	<b>30846-865</b>	21101-707	21101-708
6	261.8	4	–	<b>20846-443</b>		
6	261.8	5	–	<b>20846-444</b>		
6	261.8	6	–	<b>20846-445</b>		
6	261.8	7	–	<b>20846-446</b>		
6	261.8	8	–	<b>20846-447</b>		
6	261.8	10	–	<b>20846-448</b>		
6	261.8	12	–	<b>20846-449</b>		
6	261.8	14	–	<b>20846-450</b>		
6	261.8	16	–	<b>20846-456</b>		
6	261.8	21	–	<b>20846-451</b>		
6	261.8	28	–	<b>20846-452</b>		
6	261.8	42	<b>20846-453</b>	–		
6	261.8	63	<b>20846-454</b>	–		
6	261.8	84	<b>30846-771</b>	–		
9	395.1	84	<b>30846-859</b>	–	<b>21101-709</b>	<b>21101-710</b>
Assembly tool, for stainless steel EMC gasket					<b>24560-270</b>	


\*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)			
04292001			textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0			
Height U	Height mm	Width HP	1 piece	1 piece (SPQ 5) <sup>1)</sup>	PU 10 pieces	PU 100 pieces
2	84	84	<b>20848-262</b>	–	–	<b>21101-856</b>
3	128.4	2	–	<b>30849-001</b>	<b>21101-853</b>	<b>21101-854</b>
3	128.4	3	–	<b>30849-004</b>		
3	128.4	4	–	<b>30848-354</b>		
3	128.4	5	–	<b>30848-378</b>		
3	128.4	6	–	<b>30848-380</b>		
3	128.4	7	–	<b>30848-382</b>		
3	128.4	8	–	<b>30848-356</b>		
3	128.4	10	–	<b>30848-386</b>		
3	128.4	12	–	<b>30848-358</b>		
3	128.4	14	–	<b>20848-013</b>		
3	128.4	21	–	<b>20848-020</b>		
3	128.4	28	–	<b>20848-027</b>		
3	128.4	42	<b>20848-047</b>	–		
3	128.4	63	<b>20848-068</b>	–		
3	128.4	84	<b>20848-097</b>	–		
4	172.9	28	–	<b>20848-268</b>	<b>21101-858</b>	–
4	172.9	42	<b>20848-269</b>	–		
4	172.9	63	<b>20848-270</b>	–		
4	172.9	84	<b>20848-271</b>	–		
6	261.8	2	–	<b>30849-002</b>	<b>21101-855</b>	<b>21101-856</b>
6	261.8	4	–	<b>30848-355</b>		
6	261.8	5	–	<b>30848-379</b>		
6	261.8	6	–	<b>30848-381</b>		
6	261.8	7	–	<b>30848-383</b>		
6	261.8	8	–	<b>30848-357</b>		
6	261.8	10	–	<b>30848-387</b>		
6	261.8	12	–	<b>30848-359</b>		
6	261.8	14	–	<b>20848-106</b>		
6	261.8	16	–	<b>20848-108</b>		
6	261.8	21	–	<b>20848-113</b>		
6	261.8	28	–	<b>20848-120</b>		
6	261.8	42	<b>20848-139</b>	–		
6	261.8	63	<b>20848-160</b>	–		
6	261.8	84	<b>20848-189</b>	–		
9	395.1	84	<b>20848-280</b>	–		

•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	
				
		04295001	04295002	
		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	Width	1 piece		1 piece
U	HP			
3	28	<b>20848-608</b>	<b>20838-280</b>	–
3	42	<b>20848-599</b>	<b>20838-271</b>	–
3	63	<b>20848-600</b>	<b>20838-272</b>	–
3	84	<b>20848-601</b>	<b>20838-273</b>	<b>20848-611</b>
4	42	<b>20848-605</b>	<b>20838-277</b>	–
4	63	<b>20848-606</b>	<b>20838-278</b>	–
4	84	<b>20848-607</b>	<b>20838-279</b>	–
6	28	<b>20848-696</b>	–	–
6	42	<b>20848-602</b>	<b>20838-274</b>	–
6	63	<b>20848-603</b>	<b>20838-275</b>	–
6	84	<b>20848-604</b>	<b>20838-276</b>	<b>20848-617</b>

### NOTE

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

# Subracks – EuropacPRO

## SHIELDING IS REQUIRED BETWEEN THE FOLLOWING COMPONENTS OF A SUBRACK

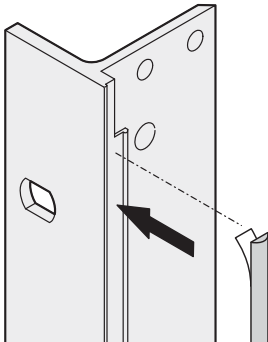
- Front panel/rear panel and horizontal rail, see page 6.55
- Front panel and 19" bracket/corner profile or in case of depth-offset installation, see page 6.55
- Cover plate/horizontal rail, see page 6.44
- Cover plate/side panel, see from page 6.44
- Horizontal rail/horizontal rail in combined mounting (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

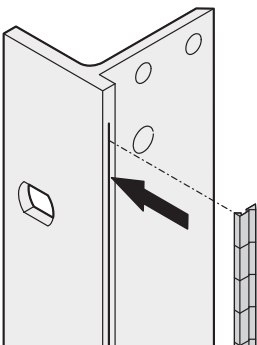
- The seal is affixed to the left-hand side of the subrack (viewed from front) or to the front panel profile, respectively
- An EMC gasket with CuNi coating assures a long-term high level of shielding, typically 40 dB at 2 GHz
- Temperature-resistant adhesive layer is protected by a removable film
- 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

### EMC shielding concept with stainless steel EMC gaskets

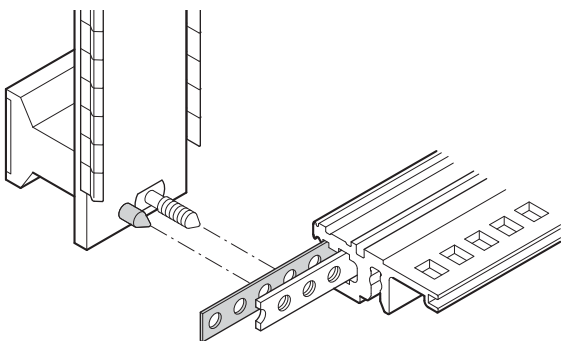
- Symmetrical arrangement of EMC gaskets on the left and right hand sides of subrack and front panel
- Shielding: typically 40 dB at 2 GHz
- Can be used for temperatures above +70° C
- **Note:** rear hood and corner profile cannot be used simultaneously



06108074

### 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)

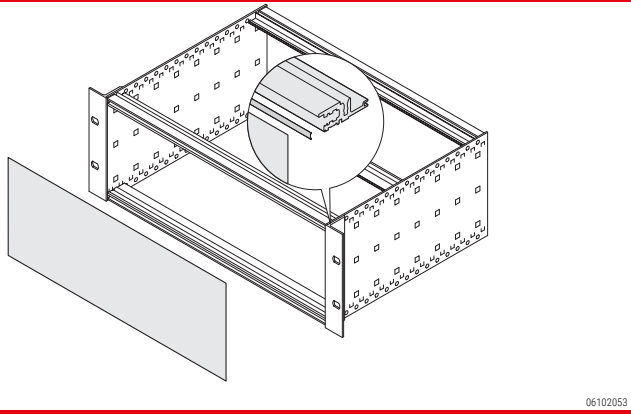
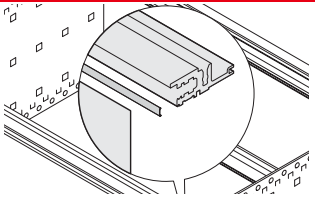


06112091

# Subracks – EuropacPRO

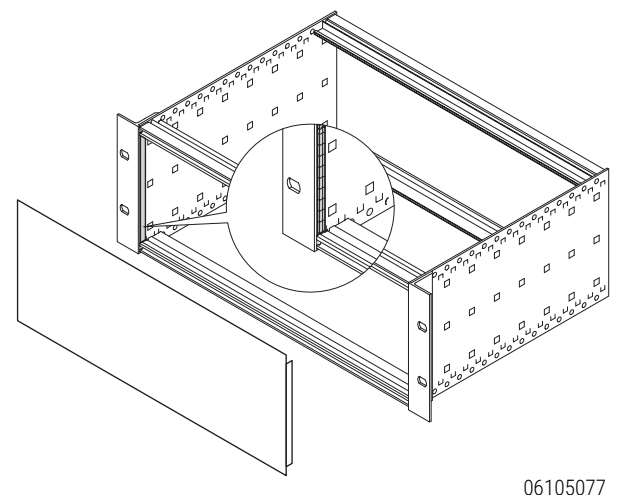
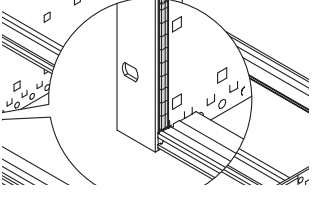
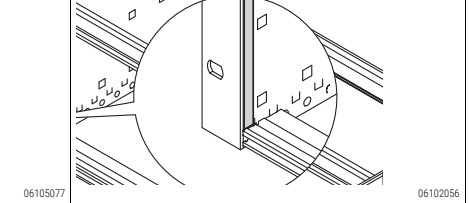
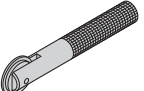
## EMC GASKETS BETWEEN FRONT/REAR PANEL AND HORIZONTAL RAIL

### ORDER INFORMATION

		Stainless steel EMC gasket between front panel/rear panel and horizontal rail	
			
<small>06102053</small>		<small>06102053</small> stainless steel; for front and rear horizontal rails (type VT)	
Width HP	Depth mm	PU 10 pieces	PU 100 pieces
28	131.8	<b>24560-229</b>	-
42	202.9	<b>24560-231</b>	-
63	304.5	<b>24560-233</b>	-
84	416.6	<b>24560-235</b>	<b>24560-236</b>

## EMC GASKETS BETWEEN FRONT PANEL AND 19" BRACKET/CORNER PROFILE

### ORDER INFORMATION

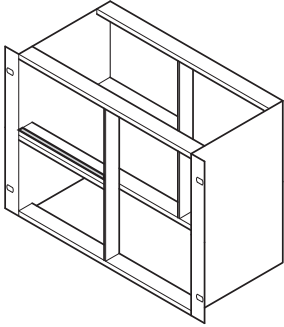
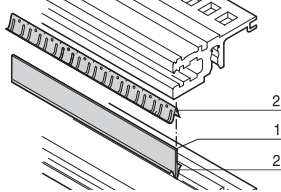
		Stainless steel EMC gasket between front panel/rear panel and 19" bracket/corner profile		Textile EMC gasket between front panel/rear panel and 19" bracket/corner profile	
					
<small>06105077</small>		<small>06105077</small> inserted laterally into the grooves of the front panel		<small>06108054</small> 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	<b>21101-705</b>	<b>21101-706</b>	<b>21101-853</b>	<b>21101-854</b>
4	142.5	<b>21101-713</b>	<b>21101-714</b>	<b>21101-858</b>	-
6	232.5	<b>21101-707</b>	<b>21101-708</b>	<b>21101-855</b>	<b>21101-856</b>
9	365.0	<b>21101-709</b>	<b>21101-710</b>	<b>21101-859</b>	<b>21101-904</b>
Assembly tool, for stainless steel EMC gasket 		<b>24560-270</b>		-	



# Subracks – EuropacPRO

## EMC GASKETS BETWEEN HORIZONTAL RAIL AND HORIZONTAL RAIL

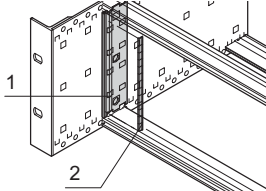
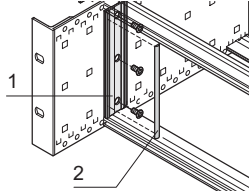
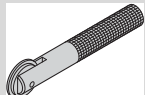
### ORDER INFORMATION

		Stainless steel EMC gasket between horizontal rail and horizontal rail	
		 <p>Item 1: cover strip, Al, 1 mm, item 2: 2 x EMC seals (stainless steel); for shielding of 2 horizontal rails positioned directly one above the other if assembly area is divided vertically</p>	
<p>Width HP</p>		<p>Depth mm</p>	
		PU 1 kit	
20	107.0	<b>24562-520</b>	
28	147.0	<b>24562-528</b>	
40	208.0	<b>24562-540</b>	
42	218.0	<b>24562-542</b>	
63	325.0	<b>24562-563</b>	
84	431.0	<b>24562-584</b>	

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)

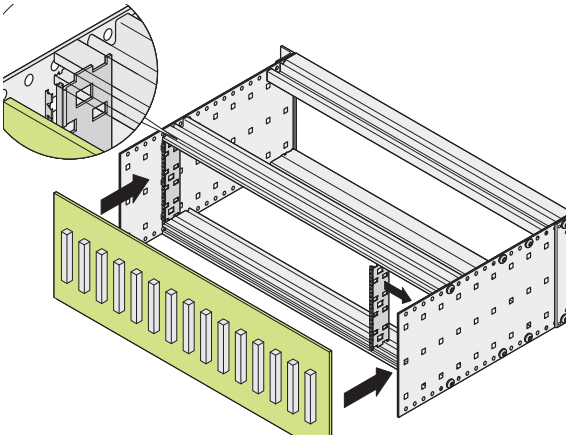
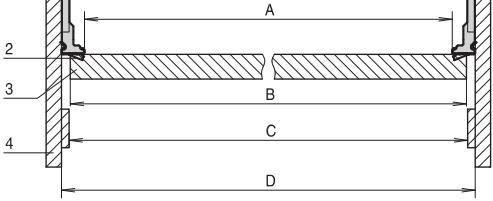
### ORDER INFORMATION

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

# Subracks – EuropacPRO

## EMC GASKETS BETWEEN BACKPLANE AND SIDE PANEL

### ORDER INFORMATION

		Stainless steel EMC gasket between backplane and side panel (depth-offset installation)	
			
		<p>2 x support profile, Al extrusion, 2 x EMC gasket (stainless steel) Fixing materials kit and user manual; for vertical EMC shielding between shielded backplane and side panel;</p> <p>dimensions (84 HP): A = 425.8 mm, B &lt; 429.9 mm, C = 429.8 mm, D = 431.8 mm</p>	
Height		PU 1 kit	
U		<b>24561-199</b>	
3		<b>24561-499</b>	
6		<b>24561-499</b>	

- 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

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- 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		Splitting extrusion for combined mounting item 2
		unshielded front panel, 6 U, 2 HP item 6	front panel for textile EMC gasket, 6 U, 2 HP item 6	
	<p>bpa46549</p> <p>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)</p>	<p>bpa46550</p> <p>Al, 2.5 mm, front anodised, rear iridescent green chromated</p>	<p>bpa46550</p> <p>Al, 2.5 mm, U-profile with notch, 6 U, 2 HP</p>	<p>bpa45857</p> <p>6 U, die-cast zinc; splitting extrusion is inserted in the grid holes of the horizontal rail; the splitting extrusion can be bolted</p>
Width pitch T1:T2 HP	PU 1 kit	1 (SPQ 5)	1 piece (SPQ 5) <sup>1)</sup>	1 piece
20:62	<b>24562-420</b>			
40:42	<b>24562-440</b>			
42:40	<b>24562-442</b>	<b>30847-472</b>	<b>30849-140</b>	<b>64560-010</b>
63:19	<b>24562-463</b>			
84:0	<b>24562-484</b>			
Torx countersunk screw M4 x 14, zinc-plated, PU 100 pieces to fix splitting extrusion/horizontal rail	-	-	-	<b>24560-145</b>
Panhead screw M2.5 x 10, St, zinc-plated, PU 100 pieces to fix horizontal rail/splitting extrusion	-	-	-	<b>24560-179</b>
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated, PU 100 pieces	-	<b>21101-101</b>	<b>21101-101</b>	-
Pozidrive/slotted collar screw M2.5, black, zinc-plated, PU 100 pieces	-	<b>21101-102</b>	<b>21101-102</b>	-
Washer 2.7 x 5 x 1, PA 6, PU 100 pieces	-	<b>21101-121</b>	<b>21101-121</b>	-
Textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0 PU 10 pieces	-	-	<b>21101-855</b>	-

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)

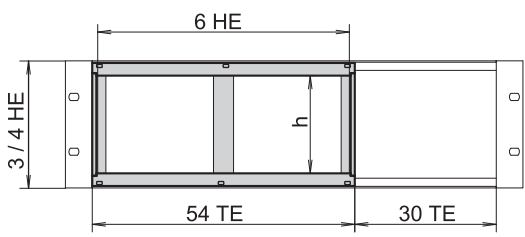
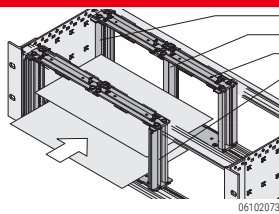
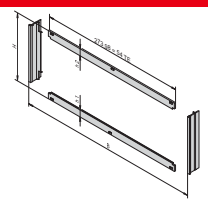







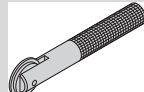
### NOTE

- 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
 <p>(1 TE = 1 HP, 1 HE = 1 U)</p> <p><small>bpa45914</small></p>				 <p><small>06102073</small></p> <p>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; <b>please order front frame for EMC shielding separately</b></p>	 <p><small>bpa45913</small></p> <p>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</p>	 <p><small>bza43061</small></p> <p>Al, 2.5 mm, clear anodised; front frame with cut-out, clear internal width w = 266.35 mm</p>
Height U	Usable height h HP	Mounting variants Horizontal rail, front    Horizontal rail, rear		PU 1 kit	PU 1 kit	1 piece
3	20			<b>24564-117</b>	<b>24564-109</b>	34564-108
3	20			<b>24564-118</b>	<b>24564-109</b>	34564-109
4	28			<b>24564-217</b>	<b>24564-209</b>	<b>34564-208</b>
Assembly tool, for stainless steel EMC gasket 				-	<b>24560-270</b>	-

\* For direct backplane mounting

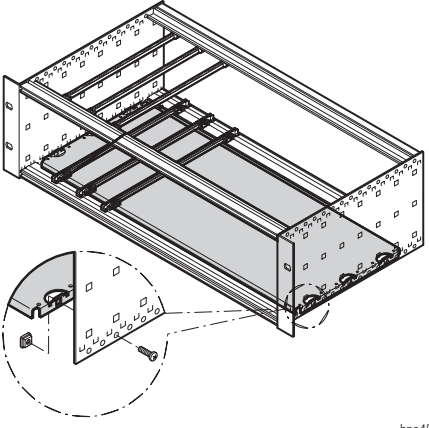
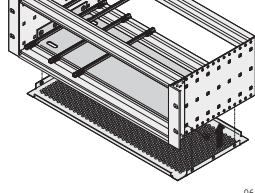
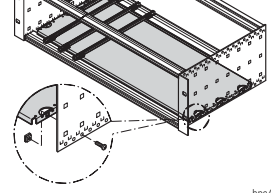
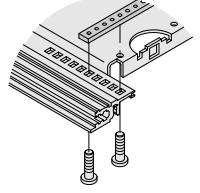
### NOTE

- 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
 <p style="text-align: right; font-size: small;">bpa45875</p>			 <p style="text-align: right; font-size: x-small;">06108080</p> <p>Al, 1.5 mm; mounting is only possible over the entire width between the side panels; width of mounting plate = W - 9.71 mm</p>	 <p style="text-align: right; font-size: x-small;">bpa45875</p> <p>Al, 1.5 mm; for mounting over partial width, please order fixing strips separately</p>	 <p style="text-align: right; font-size: x-small;">bpa46557</p> <p>St, 2.5 mm, zinc-plated; is bolted from front to rear onto the horizontal rails; to fix mounting plates</p>
Width W HP	W mm	Board length mm	1 piece	1 piece	1 piece
28	146.88	160	34563-001	<b>34562-745</b>	<b>30840-021</b>
28	146.88	220	<b>34563-009</b>	<b>34562-749</b>	<b>30840-033</b>
28	146.88	280	–	<b>34562-753</b>	<b>30840-045</b>
28	146.88	340	–	<b>34562-757</b>	<b>30840-057</b>
42	217.99	160	<b>34563-002</b>	<b>34562-746</b>	<b>30840-021</b>
42	217.99	220	<b>34563-014</b>	<b>34562-750</b>	<b>30840-033</b>
42	217.99	280	–	<b>34562-754</b>	<b>30840-045</b>
42	217.99	340	–	<b>34562-758</b>	<b>30840-057</b>
63	324.67	160	<b>34563-003</b>	<b>34562-747</b>	<b>30840-021</b>
63	324.67	220	<b>34563-019</b>	<b>34562-751</b>	<b>30840-033</b>
63	324.67	280	–	<b>34562-755</b>	<b>30840-045</b>
63	324.67	340	–	<b>34562-759</b>	<b>30840-057</b>
84	431.35	160	<b>34563-004</b>	<b>34562-748</b>	<b>30840-021</b>
84	431.35	220	<b>34563-024</b>	<b>34562-752</b>	<b>30840-033</b>
84	431.35	280	–	<b>34562-756</b>	<b>30840-045</b>
84	431.35	340	–	<b>34562-760</b>	<b>30840-057</b>
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			<b>24560-184</b>	<b>24560-184</b>	–
			–	–	<b>24560-146</b>

### 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

		<b>Central locking for PCBs without front panels</b>	
		<p>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</p>	
<b>Width</b> HP 84	<b>Length</b> mm 426.0	<b>1 piece</b> <b>24560-167</b>	

## DIVIDER PLATE

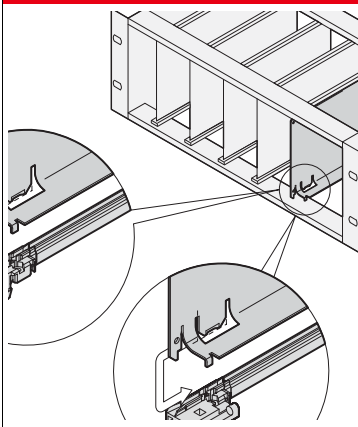
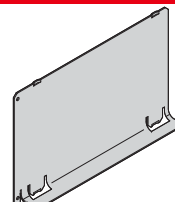
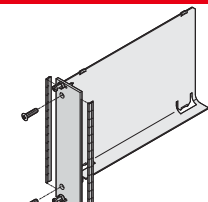
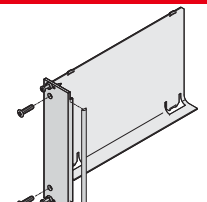
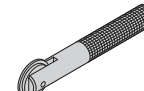
### ORDER INFORMATION

					<b>Divider plate</b>	
					<b>Mounting position when stainless steel EMC gasket is used</b>	<b>Mounting position when textile EMC gasket is used</b>
					<p>Stainless steel, 1 mm, is mounted by clipping onto horizontal rail, space requirement on component side 2 mm; mounting direction varies with shielding design (EMC stainless steel or textile gasket); retrofitting the divider plate in an already-assembled subrack/case will first require dismantling of the horizontal rails; where front panels are unshielded, both mounting directions are possible</p>	
<b>Height</b> U	<b>Depth</b> mm	<b>A</b> mm	<b>B</b> mm	<b>H</b> mm	<b>PU 10 pieces</b>	
3	160	158.3	135.0	113.5	<b>34562-761</b>	
3	220	218.3	195.0	113.5	<b>34562-762</b>	
6	160	158.3	135.0	246.9	<b>34562-763</b>	
6	220	218.3	195.0	246.9	<b>34562-764</b>	

# Subracks – EuropacPRO

## AIR BAFFLES FOR SLOTS

### ORDER INFORMATION

			Air baffle without front panel	Air baffle with front panel	
				Front panel with lateral groove for stainless steel EMC gasket	U front panel for textile EMC gasket
			 <p>06108085</p> <p>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</p>	 <p>06108087</p> <p>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</p>	 <p>06108088</p> <p>Air baffle, Al, 1 mm, front panel, Al extrusion, 2.5 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</p>
Depth mm	Width HP	Height U	1 piece	1 piece	1 piece
160	4	3	<b>34562-823</b>	<b>20848-712</b>	<b>20848-728</b>
160	4	6	<b>34562-826</b>	<b>20848-720</b>	<b>20848-736</b>
160	8	3	<b>34562-833</b>	20848-714	20848-730
160	8	6	<b>34562-836</b>	20848-722	20848-738
160	12	3	<b>34562-843</b>	20848-716	20848-732
160	12	6	<b>34562-846</b>	20848-724	20848-740
220	4	3	<b>34562-824</b>	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 			-	<b>24560-270</b>	-

### 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

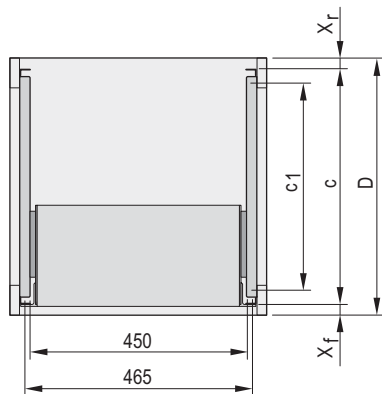


06101006

- 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



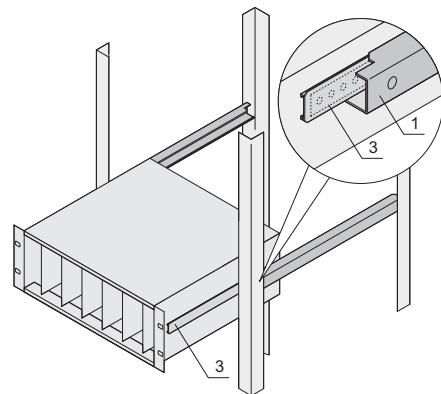
06108082

Description	Depth D mm	x <sub>f</sub> mm	x <sub>r</sub> mm	C mm	c1 mm	Part no.
VARISTAR	600	50	50	500	369	<b>24562-464</b>
VARISTAR	800	50	50	700	569	<b>24562-466</b>
VARISTAR	900	50	50	800	669	<b>24562-467</b>
VARISTAR	1000	50	50	900	769	<b>24562-468</b>
VARISTAR	1100	50	50	1000	869	<b>24562-472</b>
VARISTAR	1200	50	50	1100	969	<b>24562-473</b>
eurorack	600	60	60	480	397	<b>24562-449</b>
eurorack	800	60	60	680	597	<b>24562-451</b>
eurorack	900	60	60	780	697	<b>24562-452</b>
NOVASTAR	500	33	60	407	350	<b>24562-460</b>
NOVASTAR	600	33	60	507	450	<b>24562-461</b>
NOVASTAR	800	33	60	707	650	<b>24562-474</b>
Lab rack	250	0	0	250	162	<b>24562-446</b>

x<sub>f</sub>, x<sub>r</sub>: 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

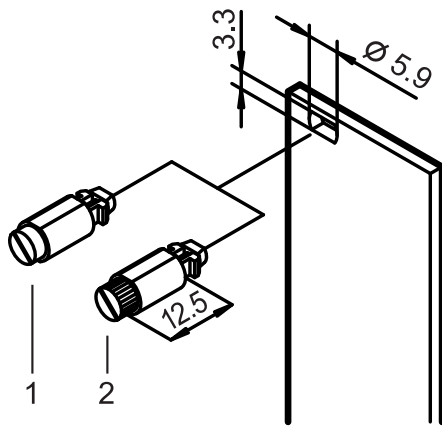
For subrack depth mm	Part no.
175	<b>24562-453</b>
235	<b>24562-454</b>
295	<b>24562-455</b>
355	<b>24562-456</b>
415	<b>24562-457</b>
475	<b>24562-458</b>

# 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

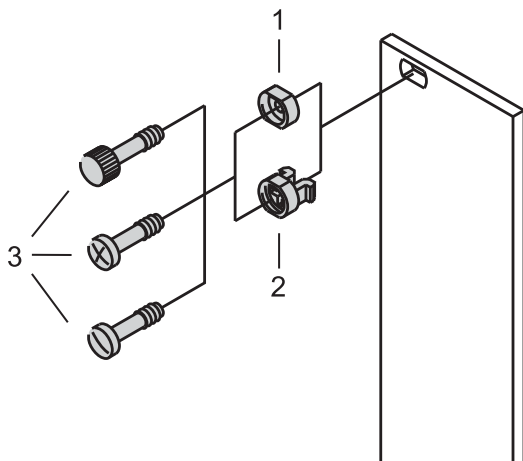
#### ORDER INFORMATION

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

#### NOTE

Quick-release fasteners: mounting without threaded inserts

### SLEEVES



06702061

#### ORDER INFORMATION

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

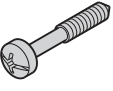
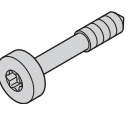
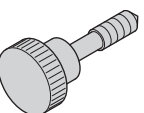
#### NOTE

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

# Subracks – EuropacPRO

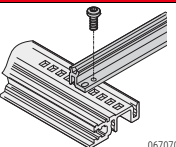
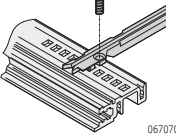
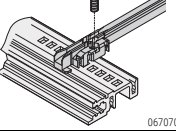
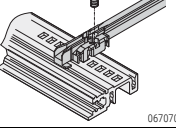
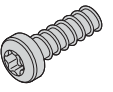
## COLLAR SCREWS

### ORDER INFORMATION

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

## TORX SCREWS, SELF-FORMING


### ORDER INFORMATION

	Description	Application	Material	Dimension	Qty/PU	Part no.
 <small>06707058</small>	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	<b>24560-157</b>
 <small>06707058</small>	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	<b>24560-158</b>
 <small>06707058</small>	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	<b>24560-141</b>
 <small>06707058</small>	Torx panhead screw, self-locking	For plastic guide rails on horizontal rails	St, zinc-plated	2.5 x 9.3	100	<b>21500-039</b>
 <small>06707058</small>	Torx panhead screw	For 6 U support member, backplane mounting, centre horizontal rail	St, zinc-plated	2.5 x 10	100	<b>24560-179</b>

# Subracks – EuropacPRO

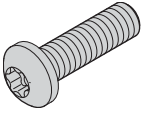

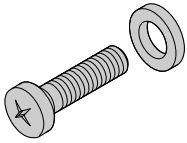
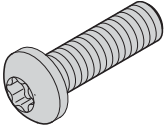
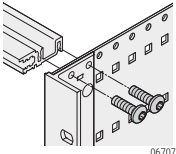
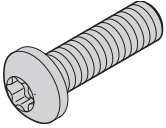
## COUNTERSUNK SCREWS

### ORDER INFORMATION

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

## TORX PANHEAD SCREWS

### ORDER INFORMATION

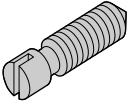
	Description	Application	Material	Dimension	Qty/PU	Part no.
 <small>a2a45040</small> Torx panhead screw		For Z-rails and connector assembly	St, nickel-plated	M2.5 x 7	100	<b>24560-147</b>
		For perforated rails	St, nickel-plated	M2.5 x 10	100	<b>24560-148</b>
		For backplane mounting	St, nickel-plated	M2.5 x 12	100	<b>24560-161</b>
			St, nickel-plated	M2.5 x 14	100	<b>24560-162</b>
 <small>a2a45178</small> Washer		For insulated backplane mounting	Plastic, PA	2.8 x 6.3 x 2	100	<b>21101-964</b>
 <small>a2a45040</small> Screw + plastic washer (PA)		For backplane mounting	St, nickel-plated	M2.5 x 12	100	<b>21100-777</b>
 <small>a2a45040</small> 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	<b>24560-135</b>
		To bolt-on cover plate or mounting plate, with GND/earthing function	St, zinc-plated	M4 x 6	100	<b>24560-151</b>
		To bolt-on cover plate or mounting plate, with GND/earthing function, self-forming thread	St, zinc-plated	M4 x 6	100	<b>21101-884</b>
 <small>06707058</small> Torx panhead screw		For horizontal rail on side panel if guide rails are bolted to slot 1	St, zinc-plated	M4 x 10	100	<b>24560-155</b>
 <small>a2a45040</small> Torx panhead screw		For horizontal rail on side panel, with GND/earthing function	St, zinc-plated	M4 x 14	10	<b>24560-131</b>
		For horizontal rail on side panel, with GND/earthing function	St, zinc-plated	M4 x 14	100	<b>24560-130</b>



# Subracks – EuropacPRO

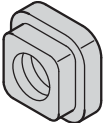
## GRUB SCREWS

### ORDER INFORMATION

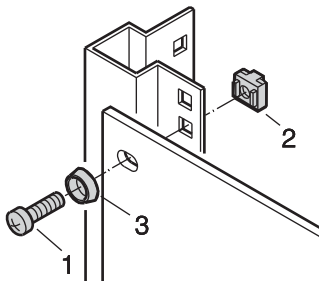
Description	Application	Material	Dimension	Qty/PU	Part no.
 Grub screw <small>06702053</small>	For threaded inserts M2.5 and perforated strips	Stainless steel	M2.5 x 9	100	<b>21101-359</b>
	For threaded inserts M2.5	St, nickel-plated	M2.5 x 8	100	<b>21100-276</b>
	For threaded inserts M3	St, zinc-plated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

## SQUARE NUTS

### ORDER INFORMATION

Description	Application	Material	Dimension	Qty/PU	Part no.
 Square nut <small>AZA45921</small>	For fixing: parts to side panels, support profiles, mounting plates	St, zinc-plated	M4	100	<b>24560-140</b>

## 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

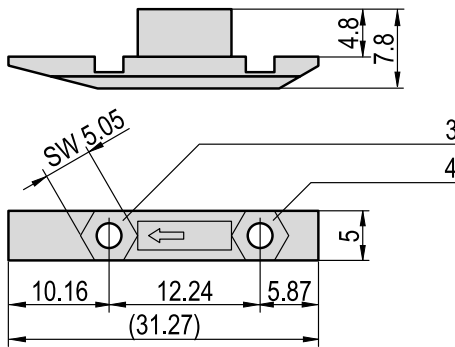
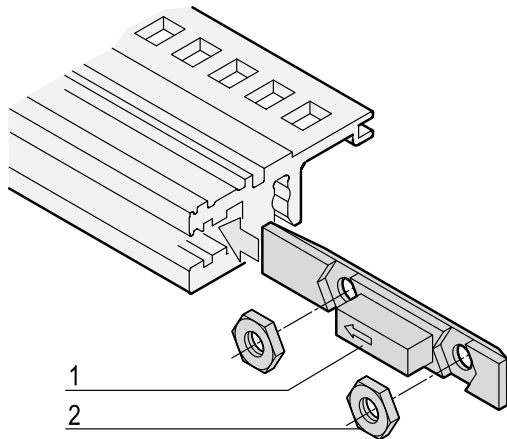
### ORDER INFORMATION

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

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

# Subracks – EuropacPRO

## SLIDE, TO ACCOMODATE 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	<b>24560-165</b>
Slide nut kit 2	12 slides/24 nuts	<b>24560-166</b>

### NOTE

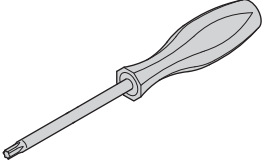
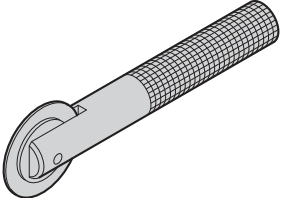
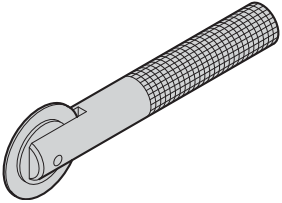
- Nuts used in item 3 suitable for:
  - hinged front panels, 84 HP
  - front or rear panels, 84 HP
- Nuts used in item 4 suitable for:
  - hinged front panels
- Nuts used in item 3 and 4 suitable for:
  - two front panels

06702060

# Subracks – EuropacPRO

## ASSEMBLY TOOLS

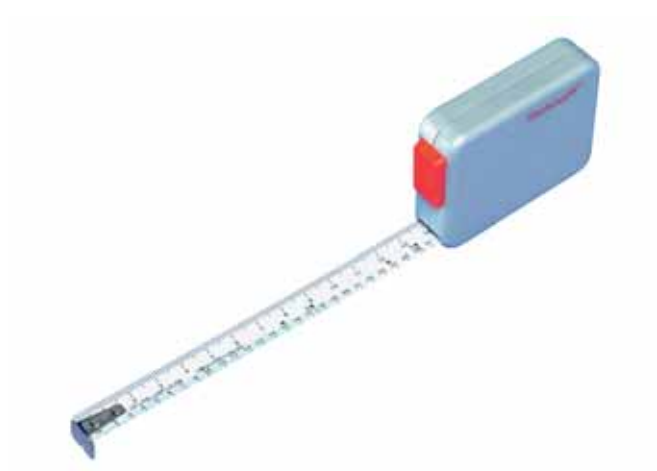
### ORDER INFORMATION

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

### 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	<b>89009-001</b>

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

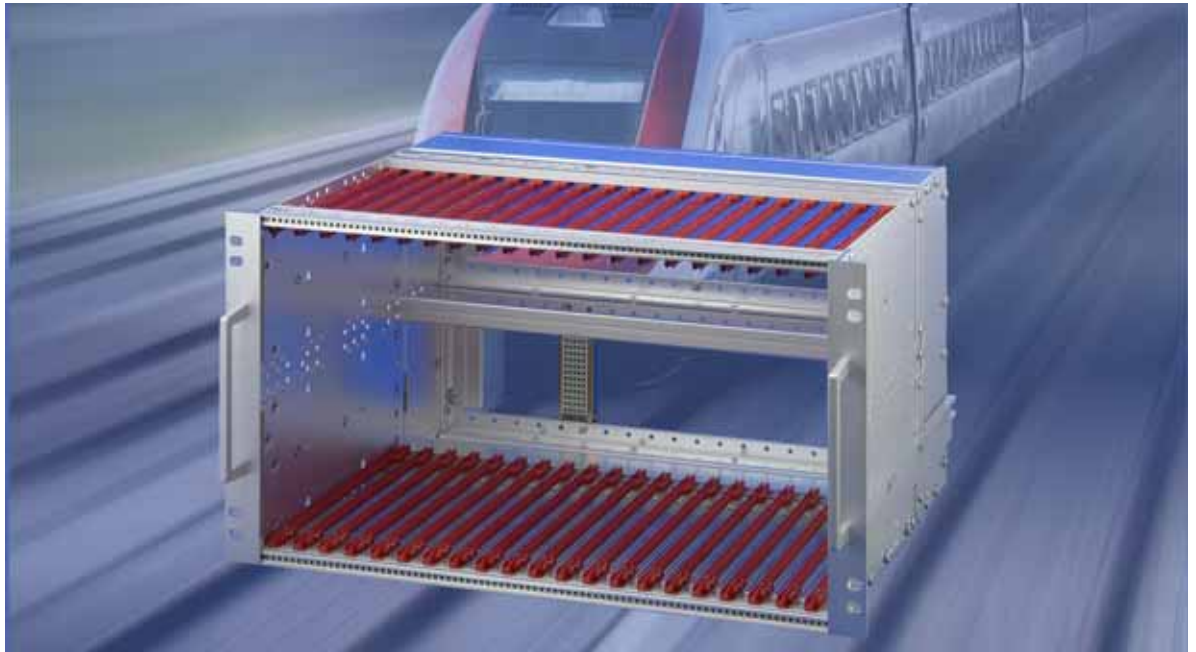
- Subrack with plastic cable ducting for fibre optic cables
- Terminal area at top

# Subracks – EuropacPRO

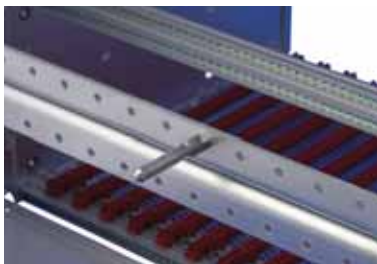
## OVERVIEW

### 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

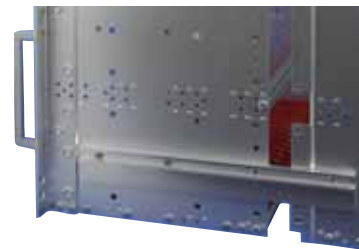


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06108013

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



06108014

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



06108015

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



06108016

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



06108017

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



06108015

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

# Subracks – EuropacPRO

## OVERVIEW

### 19" SUBRACK FOR MOBILE RAIL APPLICATIONS

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



06102008

#### BN 411002, 411003 SUBRACKS

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



BN 411002/-003 subracks  
unshielded . . . . . 6.73  
shielded . . . . . 6.74



06104006

#### EN 50155 SUBRACK

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

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



06104003

#### SNCF SUBRACK

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



SNCF subracks  
unshielded . . . . . 6.78  
shielded . . . . . 6.79  
shielded, for  
CompactPCI . . . . . 6.80

#### SERVICEPLUS

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

Accessories  
Guide rails . . . . . 6.81  
Cover plates . . . . . 6.82  
General accessories  
in europacPRO  
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Application  
examples . . . . . 6.84

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applications . . . . . 6.86  
europacPRO for  
rugged  
applications . . . . . 6.92



# Subracks – EuropacPRO

SUBRACK FOR MOBILE RAIL APPLICATIONS



### Solid mechanical construction

Electronics for mobile applications require robust mechanical construction that can withstand extreme environmental conditions. Our enclosure solutions protect the housed electronics thanks to their high mechanical strength and thus are an important element for secure and trouble-free operation of the entire system. Only dependability, down to the last detail, can make complex safety tasks achievable - and also economic.



### Shock and vibration resistance

Schroff products assure shock and vibration resistance in mobile applications e.g. by suitable material thicknesses and fixing elements. Tested with typical loads, they offer the best conditions for secure and reliable functioning in individual applications and projects.

### Certification of mechanics

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

### Note

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

### Railway Technology brochure

A large amount of general information on our railway systems solutions can be found in our "Railway Systems" brochure.



TÜV test report

30608002

# Subracks – EuropacPRO

**KIT, UNSHIELDED, 'HEAVY', FOR BACKPLANE MOUNTING**

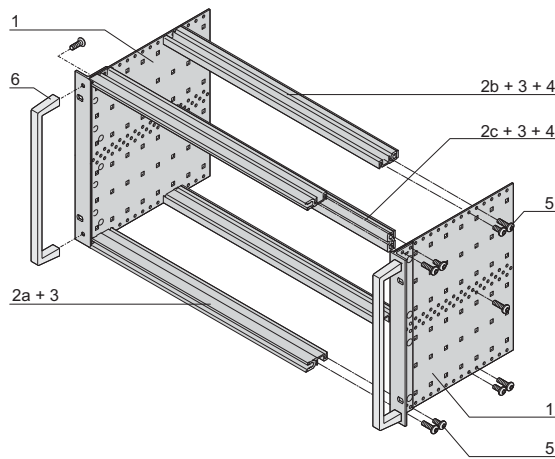


Without front handle

06102007

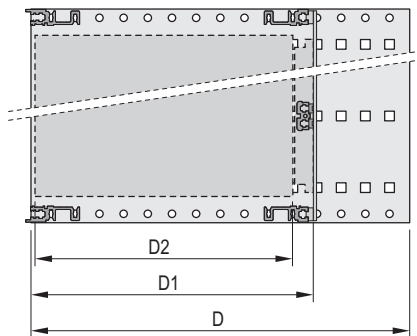
With front handle

06111003



6 U

06111057



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



### DELIVERY COMPRISES (Kit)

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

### ORDER INFORMATION

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

### Accessories

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

### Guide rails (standard), ESD clips

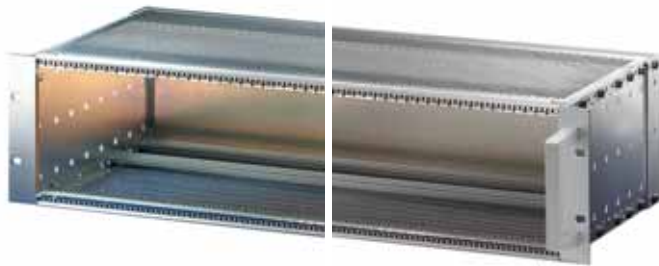
Depth D2 mm	Qty/PU pieces	Part no.
160	10	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>
340	10	<b>24560-380</b>
ESD clip for guide rails PU 50 pieces		<b>24560-255</b>
Torx panhead screw, for extra bolting of the guide rails, 2.5 × 9.3, zinc-plated, PU 100 pieces		<b>24560-141</b>

### NOTE

- Perforated rails, cover plates and assembly kit from page 6.36
- Textile EMC gaskets see page 6.21
- Further accessories from page 6.19

# Subracks – EuropacPRO

**KIT, SHIELDED, "HEAVY", FOR BACKPLANE MOUNTING**

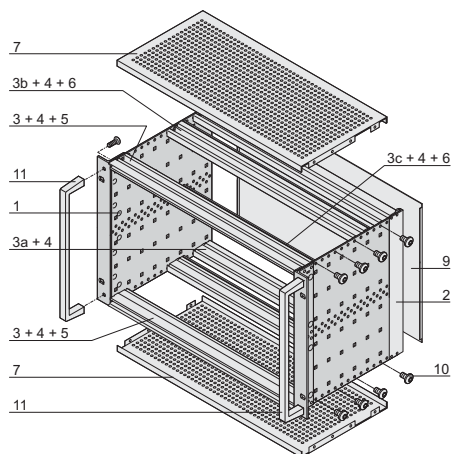


Without front handle

06102008

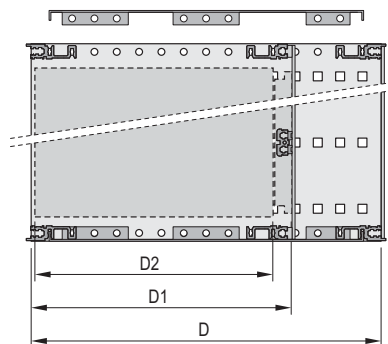
With front handle

0611001



6 U

0611058



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

06108060



04400001

Rear horizontal rail for backplane mounting with insulation strip

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



## 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
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 (H-ST)
4	6	8	Threaded insert (pre-fitted)
5	2	2	Perforated strip (pre-mounted)
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	<b>24567-172</b>	<b>24563-172</b>
3	84	295	175/235/295	<b>24567-173</b>	<b>24563-173</b>
3	84	355	175/235/295	<b>24567-174</b>	<b>24563-174</b>
6	84	235	175/235	<b>24567-472</b>	<b>24563-472</b>
6	84	295	175/235/295	<b>24567-473</b>	<b>24563-473</b>
6	84	355	175/235/295	<b>24567-474</b>	<b>24563-474</b>

## Accessories

19" assembly kit (screw, washer, nut) (8 × screws, 8 × plastic washers, 8 × cage nuts)		<b>21100-435</b>
<b>Guide rails (standard), ESD clips</b>		
Depth D2 mm	Qty/PU pieces	Part no.
160	10	<b>24560-351</b>
220	10	<b>24560-353</b>
280	10	<b>24560-379</b>
ESD clip for guide rails PU 50 pieces		<b>24560-255</b>
Torx panhead screw, for extra bolting of the guide rails, 2.5 × 9.3, zinc-plated, PU 100 pieces		<b>24560-141</b>

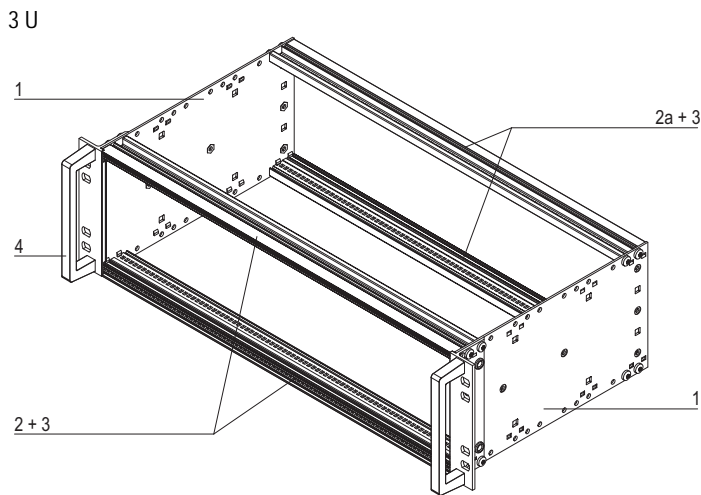
- Perforated rail for connectors see page 6.36
- Further accessories from page 6.19

# Subracks – EuropacPRO

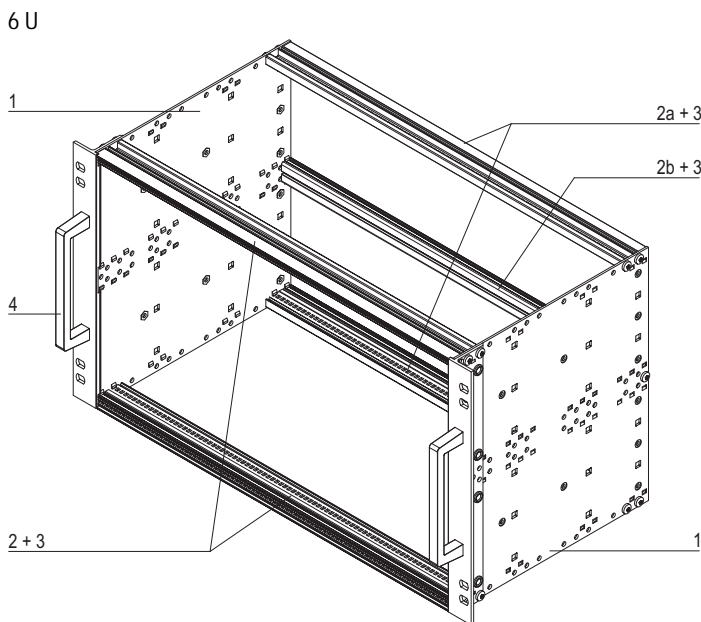
KIT, EN 50155, UNSHIELDED



06104005



06104056



06104057

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

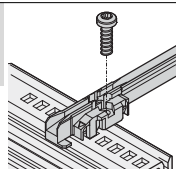
### DELIVERY COMPRISES (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H with 19" support bracket (tox-cold welded); prepared for EMC textile gasket
2	2	2	Front horizontal rail (H-KD)
2 a	2	2	Rear horizontal rail (H-VT)
2 b	-	1	Rear centre horizontal rail (VT)
3	4	6	Threaded inserts
4	2	2	Handles
5	1	1	Assembly kit with self-locking screws
6	1	1	User manual

### ORDER INFORMATION

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

### Accessories

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.38		<b>24560-353</b>
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		<b>21500-039</b>
ESD clip for guide rails PU 50 pieces		<b>24560-255</b>
Cover plate for screw-fixing onto side panel width 84 HP, depth 220 mm, PU 1 kit		<b>21500-037</b>
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		<b>24566-109</b>

### NOTE

- Test reports online
- Further accessories see from page 6.19



# Subracks – EuropacPRO

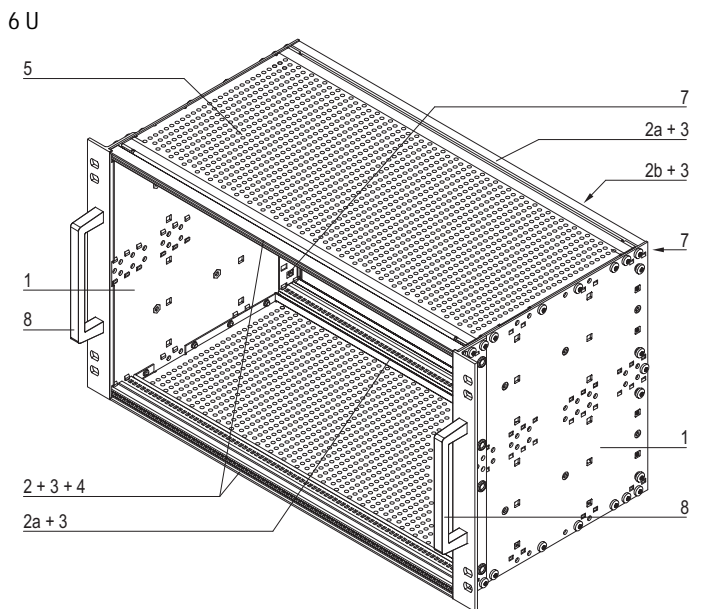
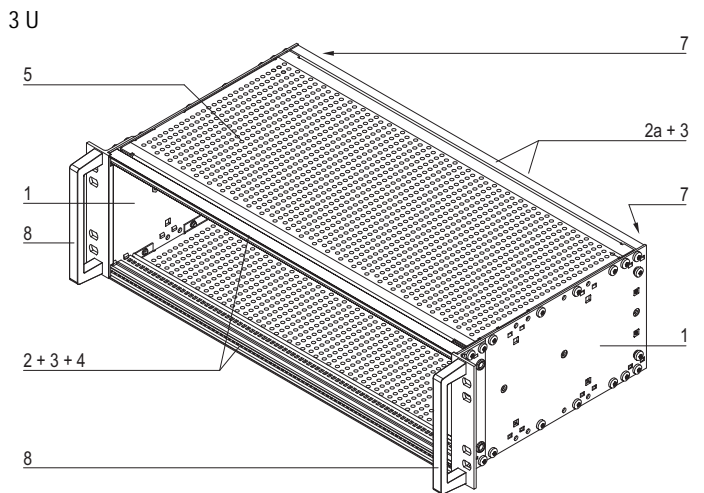
KIT, EN 50155, SHIELDED



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

## DELIVERY COMPRISES (kit)

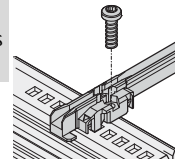
Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H with 19" support bracket (tox-cold welded); for textile EMC gasket
2	2	2	Front horizontal rail (H-KD)
2 a	2	2	Rear horizontal rail (H-VT)
2 b	-	1	Rear centre horizontal rail (VT)
3	4	6	Threaded inserts
4	2	2	Perforated strip
5	2	2	EMC cover plate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



## ORDER INFORMATION

Height U	Width HP	Depth mm	Part no.
3	84	235	21500-079
6	84	235	<b>21500-080</b>

### Accessories

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.38		<b>24560-353</b>
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		<b>21500-039</b>
ESD clip for guide rails PU 50 pieces		<b>24560-255</b>
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		<b>24566-109</b>

## NOTE

- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

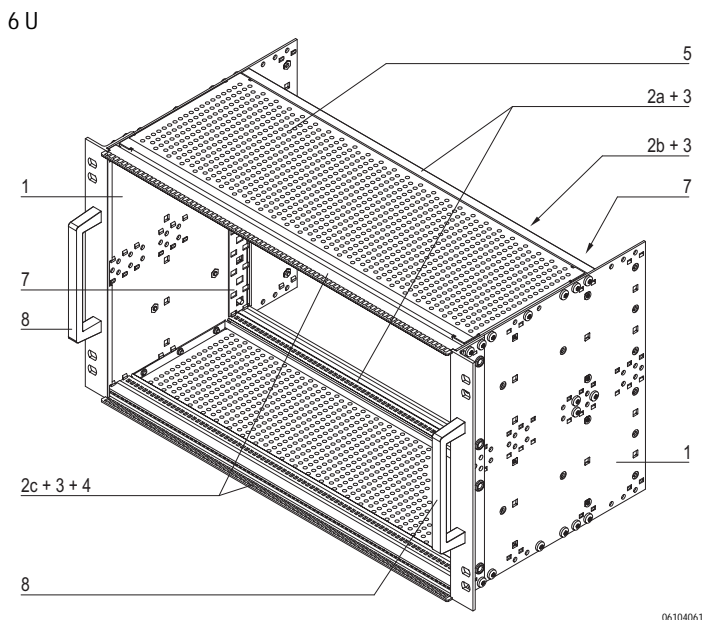
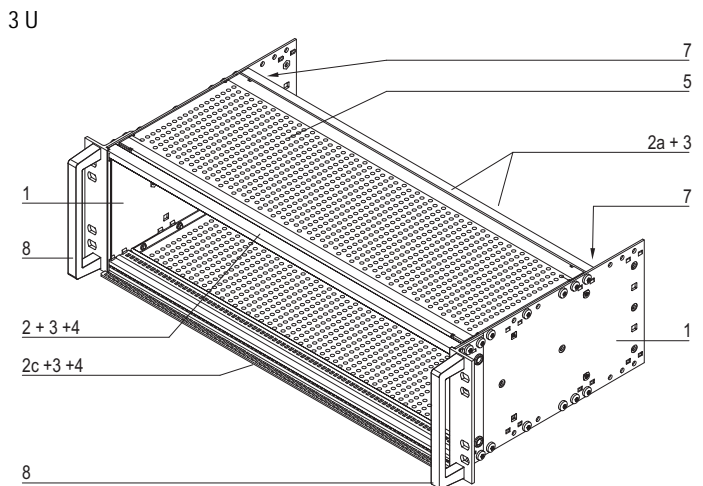
KIT, EN 50155, SHIELDED, FOR COMPACTPCI APPLICATIONS



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

### DELIVERY COMPRISES (kit)

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



### ORDER INFORMATION

Height U	Width HP	Depth mm	Part no.
3	84	235	21500-081
6	84	235	21500-082

### Accessories

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

### NOTE

- Please order guide rails and ESD clips separately, see page 6.81
- Test reports online
- Further accessories see from page 6.19

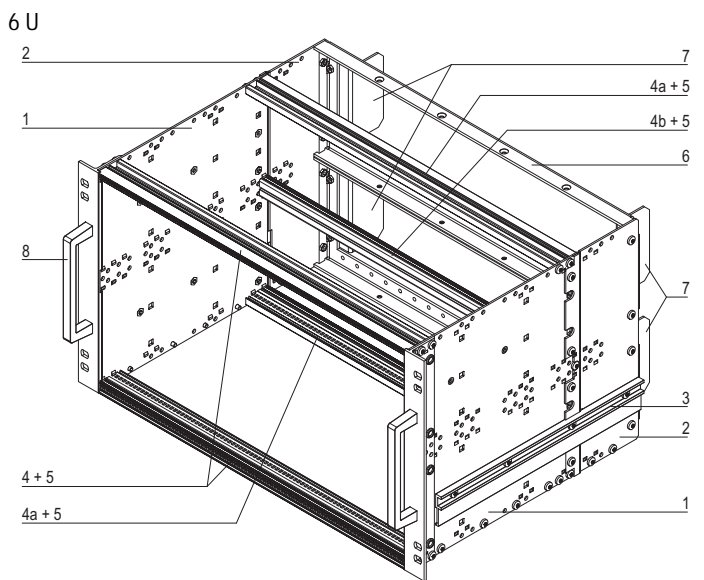
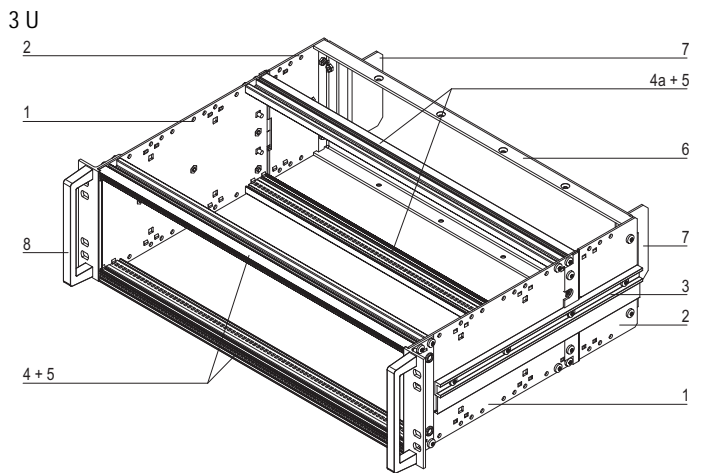
# Subracks – EuropacPRO

**KIT, SNCF, UNSHIELDED**


- Subrack, robust "heavy" version, 19" bracket is firmly connected to side panel (tox-cold welded)
- For mobile railway applications
- SNCF listed, europacPRO-fer, tested to NF F 61-005 and NF F 60-002
- 3 U and 6 U, 9 HP and 21 HP, 320 mm deep, for 220 mm board depth

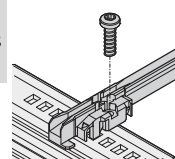
**DELIVERY COMPRISES (kit)**

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


**ORDER INFORMATION**

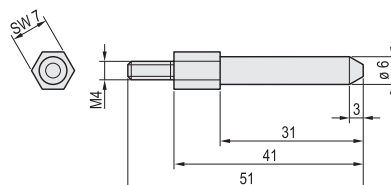
Width mm	Height U	Depth mm	Part no.
36 HP (9 T)	3	320	21500-067
36 HP (9 T)	6	320	21500-070
84 HP (21 T)	3	320	21500-029
84 HP (21 T)	6	320	21500-027

**Accessories**

<b>Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces</b> , see page 6.38		<b>24560-353</b>
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		<b>21500-039</b>
ESD clip for guide rails PU 50 pieces		<b>24560-255</b>
Coding peg for rear frame, St, white zinc-plated, 1 piece		<b>60895-018</b>
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		<b>24566-109</b>

**NOTE**

- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Receptacle/mounting frame for subracks, stainless steel, 9 T or 21 T on request
- Test reports online
- Cover plates for bolting on to side panel see page 6.82
- Further accessories see from page 6.19

**Coding peg**


06104062



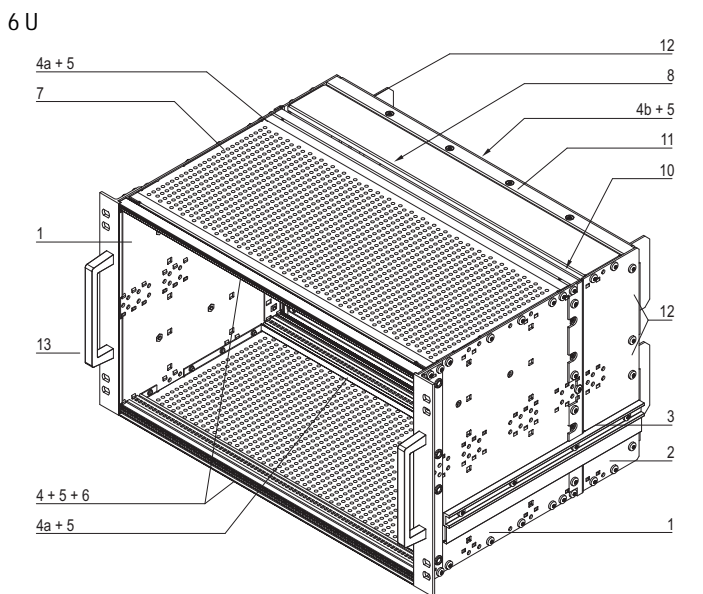
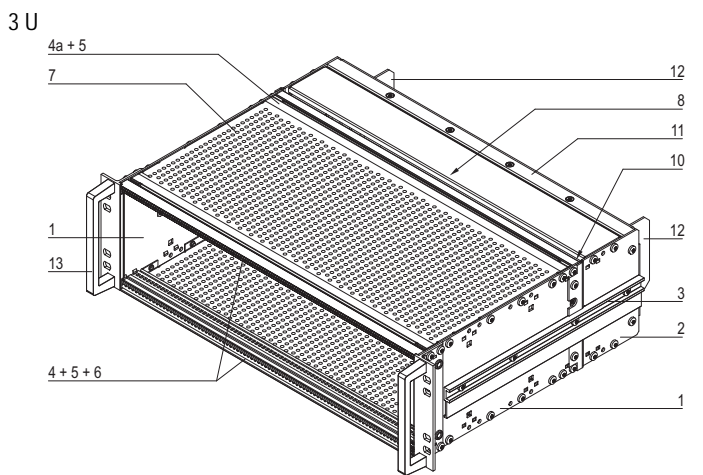
# Subracks – EuropacPRO

**KIT, SNCF, SHIELDED**


- Subrack, robust "heavy" version, 19" bracket is firmly fixed to side panel (tox-cold welded)
- For mobile railway applications
- SNCF listed, europacPRO-fer, tested to NF F 61-005 and NF F 60-002
- 3 U and 6 U, 9 T and 21 T, 320 mm deep, for 220 mm board depth

**DELIVERY COMPRISES (kit)**

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H with 19" support bracket (tox-cold welded); for textile EMC gasket
2	2	2	Side panel extension
3	2	2	Ducting external
4	2	2	Front horizontal rail (H-KD)
4 a	2	2	Rear horizontal rail (H-VT)
4 b	-	1	Rear centre horizontal rail (VT)
5	4	6	Threaded inserts
6	2	2	Perforated strip
7	2	2	EMC cover plate 235 T
8	2	2	Rear cover plate, 55 T
9	1	1	EMC gasketing kit
10	1	2	Backplane kit – EMC shielding material
11	1	2	Rear frame, 3 U, 21 T
12	2	4	Protective bracket SNCF
13	2	2	Handles
14	1	1	Assembly kit with self-locking screws
15	1	1	User manual

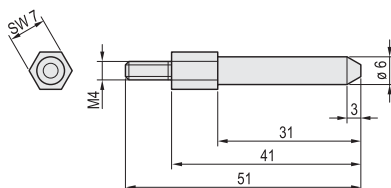

**ORDER INFORMATION**

Width	Height U	Depth mm	Part no.
36 HP (9 T)	3	320	21500-068
36 HP (9 T)	6	320	21500-071
84 HP (21 T)	3	320	21500-030
84 HP (21 T)	6	320	21500-028

**Accessories**

Guide rail, standard, 220 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.38		<b>24560-353</b>
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		<b>21500-039</b>
ESD clip for guide rails PU 50 pieces		<b>24560-255</b>
Coding peg for rear frame, St, white zinc-plated, 1 piece		<b>60895-018</b>
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit		<b>24566-109</b>

Coding peg


**NOTE**

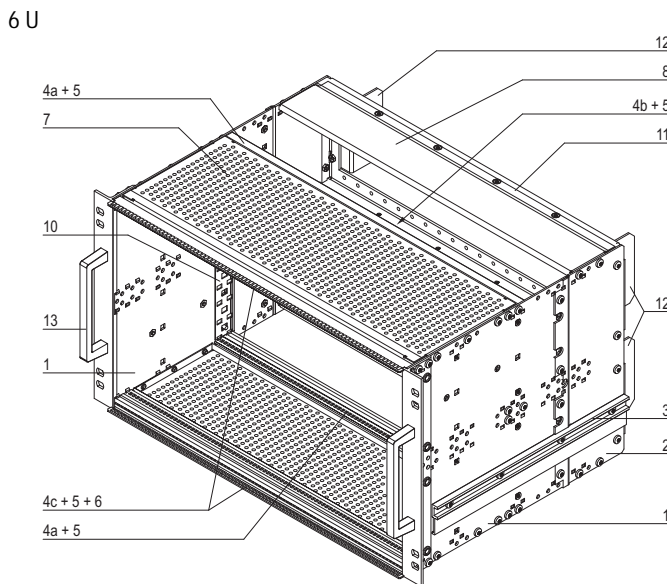
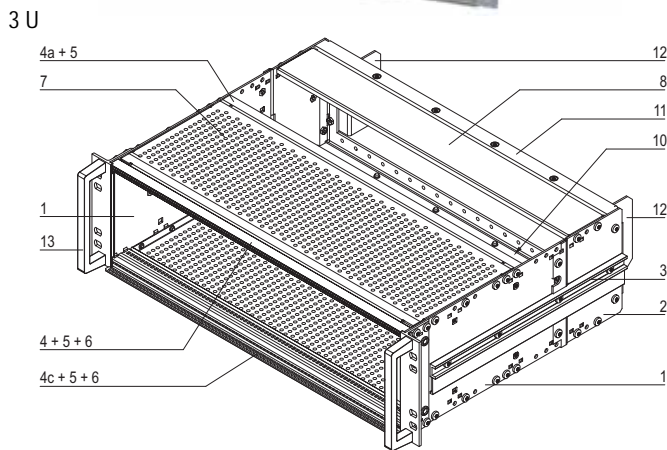
- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Receptacle/mounting frame for subracks, stainless steel, 9 T or 21 T on request
- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

KIT, SNCF, SHIELDED, FOR COMPACTPCI APPLICATIONS

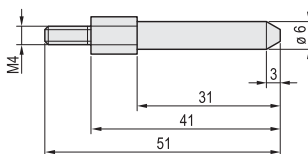


06104004



06104054

Coding peg



06104055

06104062

- Subrack, robust "heavy" version, 19" bracket is firmly fixed to side panel (tox-cold welded)
- For mobile railway applications
- SNCF listed, europacPRO-fer, tested to NF F 61-005 and NF F 60-002
- 3 U and 6 U, 9 HP and 21 HP, 320 mm deep, for 160 mm board depth
- CompactPCI subrack conforming to 1101.10



## DELIVERY COMPRISES (kit)

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

## ORDER INFORMATION

Width	Height	Depth	Part no.
	U	mm	
36 HP (9 T)	3	320	21500-069
36 HP (9 T)	6	320	21500-072
84 HP (21 T)	3	320	21500-047
84 HP (21 T)	6	320	21500-046

## Accessories

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

## NOTE

- Please order guide rails and ESD clips separately, see page 6.81
- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Receptacle/mounting frame for subracks, stainless steel, 9 T or 21 T on request
- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

## GUIDE RAILS

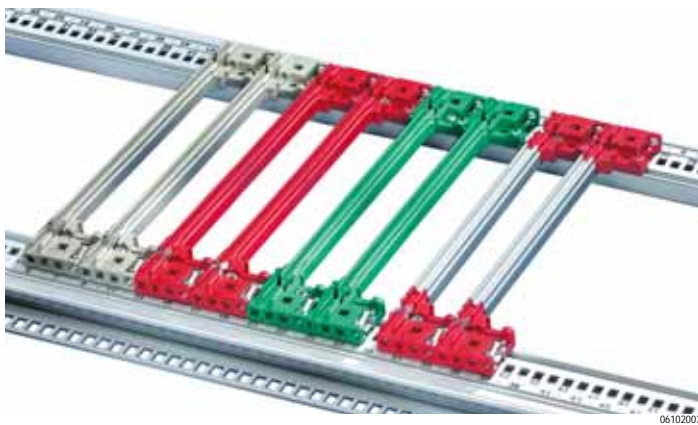


- Material PBT, UL 94 V-0, red, groove width 2 mm, for 1.6 mm board thickness

### ORDER INFORMATION

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

## GUIDE RAILS WITH CODING FOR COMPACTPCI AND VME64X

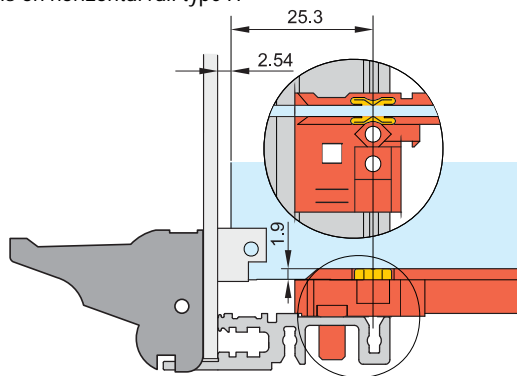


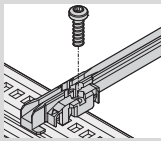
- The guide rails conform to IEC 60297-3-100 and IEEE 1101.10/11, are 4 HP wide and can be fitted with keying/coding pegs
- Material PBT UL 94 V-0, groove width 2 mm, for board thickness 1.6 mm
- Colour:
  - red (CPU board)
  - grey (periphery board)
  - green (CompactPCI power supply unit, 0.1" offset)

### ORDER INFORMATION

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

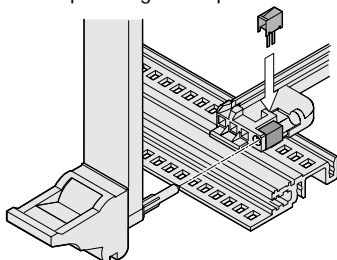
Guide rails on horizontal rail type H



Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces		<b>21500-039</b>
ESD clip for guide rails PU 50 pieces		<b>24560-255</b>
ESD clip for alignment pin of CPCI/VME64x handle PU 50 pieces		<b>24560-256</b>
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces		<b>20817-501</b>

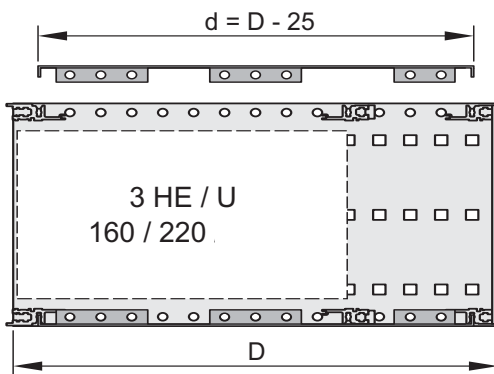
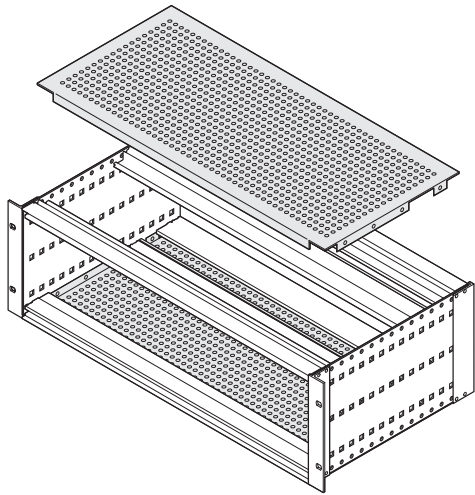
- More guide rails see page 6.38
- For inserter/extractor handle type IEL/IET for CompactPCI or VME64x applications see Subracks/Plug-in units section, page 7.18

ESD clip for alignment pin



# Subracks – EuropacPRO

## COVER PLATE FOR SCREW-FIXING ONTO SIDE PANEL



Side view for 175 mm and 235 mm depths

- Suitable for use with all horizontal rails
- Cover plate for mounting of 160 mm, 220 mm or 280 mm deep PCBs
- Lateral notch to mount the horizontal rails in depths of 160 mm or 220 mm
- Shielding by optional EMC stainless steel contact strips between cover plate and horizontal rail

### DELIVERY COMPRISES

Item	Qty	Description
1	2	Cover plate, Al, 1.0 mm, clear chromated, hole diameter 4.0 mm, (no perforation at 55 mm depth)
2	16/32	Torx M4 x 6 pentaform bolts, St, zinc-plated

### ORDER INFORMATION

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

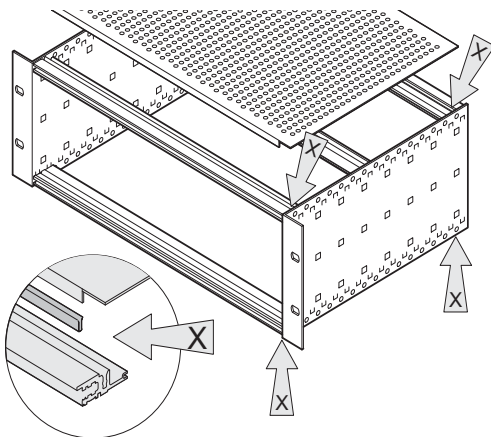
06102084

### NOTE

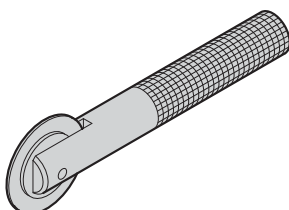
- 4 stainless steel EMC gaskets are necessary per subrack, see page 6.82

06102082

## EMC GASKET (STAINLESS STEEL) BETWEEN COVER PLATE AND HORIZONTAL RAIL



Assembly tool



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

### ORDER INFORMATION

Width HP	Length mm	Qty/PU pieces	Part no.
42	182.4	10	24560-241
63	284.0	10	24560-243
84	395.7	10	24560-245
84	395.7	100	24560-246

Assembly tool For mounting of EMC sealing, St, stainless, in horizontal rails, 1 piece **24560-271**

06102052

### NOTE

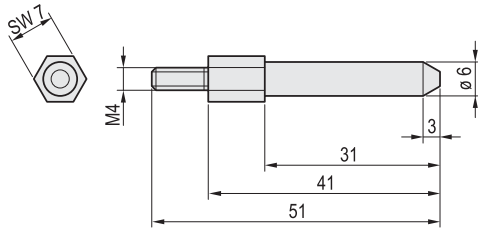
- When a rear hood is used, the stainless steel EMC gasket ensures the conductive connection between horizontal rail and rear hood

aza45938



# Subracks – EuropacPRO

## CODING PEG FOR REAR FRAME (NFF STANDARD)



06104062

### ORDER INFORMATION

Description	Qty/PU	Part no.
Coding peg, St, white zinc-plated	1	<b>60895-018</b>

## 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
Height	Width	1 piece	PU 10 pieces
U	HP		
3	42	<b>34561-750</b>	<b>24560-241</b>
3	84	<b>34561-752</b>	<b>24560-245</b>
6	63	<b>34561-763</b>	<b>24560-243</b>
6	84	<b>34561-764</b>	<b>24560-245</b>
Torx panhead screw, M4 × 6, St, zinc-plated, PU 100 pieces		<b>24560-135</b>	–
Assembly tool, For EMC gasket, stainless steel (horizontal rails), 1 piece		–	<b>24560-271</b>

### NOTE

- Other dimensions of rear hood available on request

# Subracks – EuropacPRO

## APPLICATION EXAMPLES



Application: Subrack receptacle/mounting frame

U6108006



Application: Automatic train control system

06108020



Application: Signalling control systems

41108002



Application: Mobile telephony system

41108001



Application: Control system

Usee\_DSUNZZ96



Application: Train control system

01004031

# Subracks – EuropacPRO



# Subracks – EuropacPRO for Industrial Applications

## 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



06112008

## WE PACKAGE YOUR EUROBOARDS - EVEN FOR APPLICATIONS IN HARSH INDUSTRIAL ENVIRONMENTS

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

## APPLICATIONS



06112009

Subracks for mounting on mounting plate incl. connection field



06112010

Subracks with special adaptation

# Subracks – EuropacPRO for Industrial Applications

## OVERVIEW

### SUBRACK FOR INDUSTRIAL APPLICATIONS

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

Overview . . . . . 6.86

Introduction . . . . . 6.4

Subrack for wall mounting . . . 6.88

Module support . . . . . 6.89

Bracket for panel mounting . . . 6.90

Accessories . . . . . 6.91

Application examples . . . . . 6.85

europacPRO . . . . . 6.6

Subracks for mobile railway applications . . . . . 6.70

europacPRO for rugged applications . . . . . 6.92



06112002

#### Subrack for mounting on a mounting plate

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



01494031

#### Module support

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



06197021

#### Bracket for mounting subracks in a panel

- Bracket widths 42 and 84 HP

#### Accessories

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

#### ServicePLUS

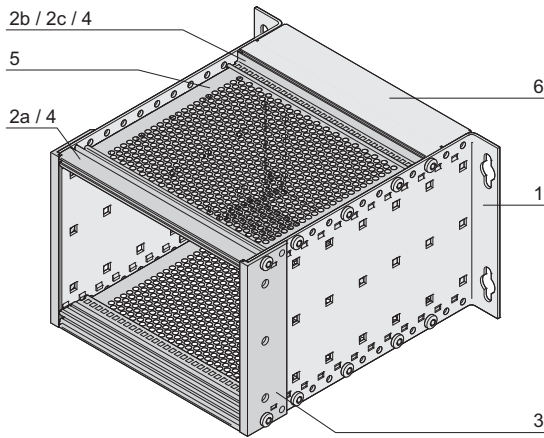
- e.g. modification (cut-outs)
- e.g. downloads (CAD drawings, user manuals, test reports)
- e.g. custom solutions (special depths, electromagnetically shielded applications)

# Subracks – EuropacPRO for Industrial

## EUROPACPRO SUBRACK, UNSHIELDED



Illustration shows subrack without rear hood



06112001

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

### DELIVERY COMPRISES

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

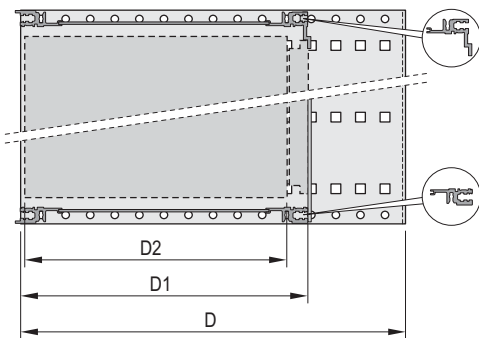
### ORDER INFORMATION

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

### Accessories

Guide rails, accessories, 160 mm deep PBT, UL 94 V-0, red, groove width 2 mm, PU 10 pieces	24560-351
Front panels	Page 7.5
Front panel with handle	Page 7.16

06112050



06112051

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



Horizontal rail to rear for connector mounting

04400003



Horizontal rail to rear for direct backplane mounting

04400002


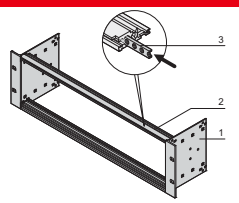
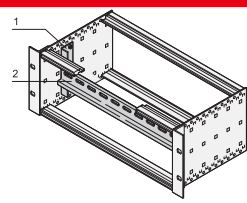
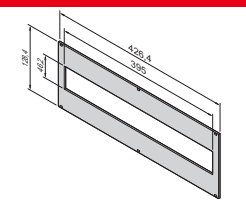
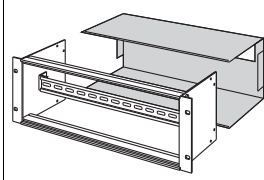
### NOTE

- EMC version on request

# Subracks – EuropacPRO for Industrial

19" MODULE SUPPORT, SUPPORT RAIL TO DIN 43880, HOOD

## ORDER INFORMATION

	19" module support to accommodate power distribution modules	Support rails to DIN 43880	Front panel for 19" module support	Hood
 <p>01494031</p>	 <p>bla43467</p> <p>3 U, 84 HP, 115.5 mm deep; 2 side panels Al, 2 mm; 2 horizontal rails with short lip (L-KD), Al extrusion, surface anodised, contact surfaces conductive; 2 threaded inserts, St, zinc-plated; GND/earthing kit; fixing material kit;</p> <p>Please order support rail separately</p>	 <p>06105080</p> <p>2 adaptor brackets, Al, 2 mm; support rail, St, zinc-plated, (35/7.5 mm); for width 84 HP (430.5 mm);</p> <p>Mounted in module support or subrack on the side panel</p>	 <p>06111053</p> <p>3 U, 84 HP, Al, 2.5 mm, front anodised, rear iridescent green chromated; GND/earth connection 6.3 mm FASTON; (cut-out 395 mm x 46.2 mm); two blanking plates, plastic, polyester, colour similar to RAL 7035; to cover unused module slots</p>	 <p>BLA43492</p> <p>Al, 1 mm, with brush strip; is bolted to the rear of the module support; GND/earthing kit</p>
	<b>PU 1 kit</b>	<b>PU 1 kit</b>	<b>1 piece</b>	<b>1 piece</b>
	<b>24563-100</b>	<b>24565-100</b>	<b>24563-096</b>	<b>24564-100</b>


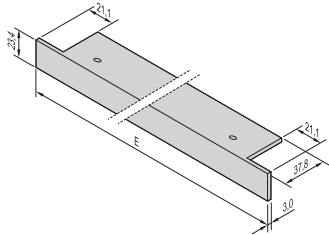
### Accessories

- Power distribution modules see page 3.34

# Subracks – EuropacPRO for Industrial

## BRACKET FOR PANEL MOUNTING

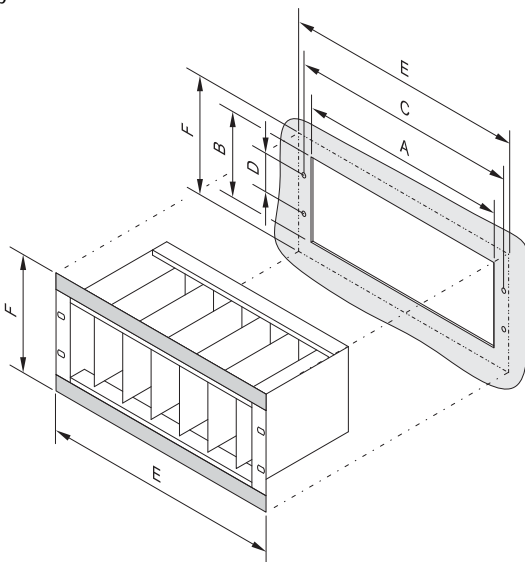
### ORDER INFORMATION

		Bracket (mounting angle)
		 <p>Al extrusion, anodised; serves as front visual cover of subrack at top and bottom when fitted into a panel; screwed in from the front with the horizontal rail; 2 brackets and 4 screws are required per subrack</p>
Usable width HP	Length mm	1 piece
42	269.2	34561-777
84	482.6	34561-779
Torx panhead screw 2.5 × 9.3, zinc-plated, PU 100 pieces		24560-141

### NOTE

- Further widths available on request

### Assembly cut-out



### Dimensions table

	Usable width (HP)	Length (mm)	Width (mm)	Height (mm)	Height to top rail (mm)	Height to bottom rail (mm)	Height of subrack (mm)
3	42	237.0	145.0	252.0	57.15	269.2	179.4
3	63	343.0	145.0	358.5	57.15	375.9	179.4
3	84	450.0	145.0	465.0	57.15	482.6	179.4
6	42	237.0	278.5	252.0	190.5	269.2	312.7
6	63	343.0	278.5	358.5	190.5	375.9	312.7
6	84	450.0	278.5	465.0	190.5	482.6	312.7

# Subracks – EuropacPRO for Industrial

## ADAPTOR FOR HORIZONTAL RAIL MOUNTING

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



### DELIVERY COMPRISES

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

### ORDER INFORMATION

Description	Part no.
Adaptor for horizontal rail mounting	<b>11000-002</b>

04812021



Example: Lipped horizontal rail adaptor for 19" PSU

11395007



# Subracks – EuropacPRO Rugged

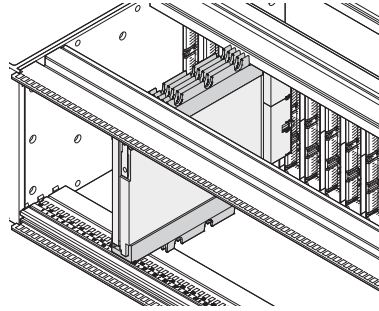
## OVERVIEW

### 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



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



Special adaptor rails allow conducted cooled assemblies to be fitted



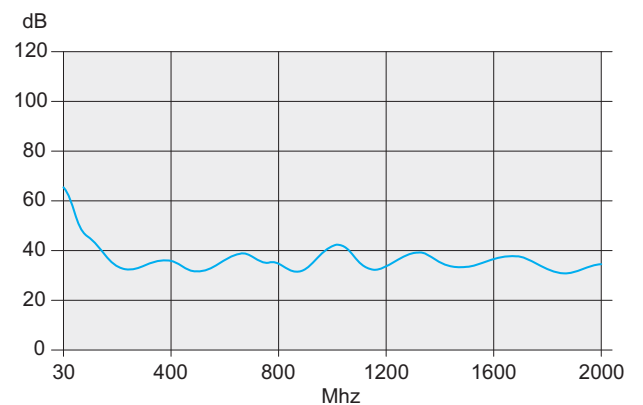
Shock and vibration resistant in all three axial directions

### Standards/Approvals

- Internal and external dimensions in accordance with:  
IEC 60297-3-100, -101, -102, -103, -104, -105,  
IEEE 1101.1, IEEE 1101.10/11
- Type of protection IP 20, in accordance with IEC 60529
- EMC testing to IEC 61587-3
- Shock and vibration test report;  
MIL 167, IEC 61587 DL 3,  
MIL 810 G, MIL 901

### Note

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



EMC curve



# Subracks – EuropacPRO Rugged

## OVERVIEW

### 19" SUBRACKS

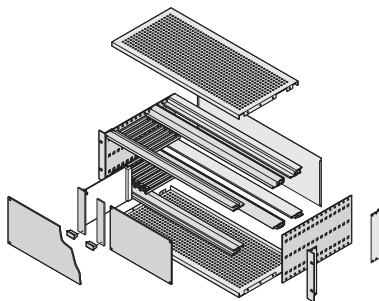
- Shock and vibration resistant up to 25 g
- Kits or individually configured subracks
- A product and accessory platform for the most different customers' requirements and applications
- Suitable for CompactPCI and VMEbus insertion and extractor handles
- EMC shielding can easily be retrofitted
- 3D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



06112017

#### Kits

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



06105058

#### ServicePLUS individual configuration

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

#### ServicePLUS

**e.g. modification (cut-outs)**

**e.g. downloads (CAD drawings, user manuals, test reports)**

**e.g. custom solutions (special depths, electromagnetically shielded applications)**

Overview ..... 6.92

Introduction . . . . 6.4

Kits ..... 6.94

Individual configuration . . . 6.97

ServicePLUS . . . . 6.95  
Application examples ..... 6.71

europacPRO . . . . 6.6

Subracks for mobile railway applications . . . . 6.70

europacPRO for industrial applications . . . . 6.86

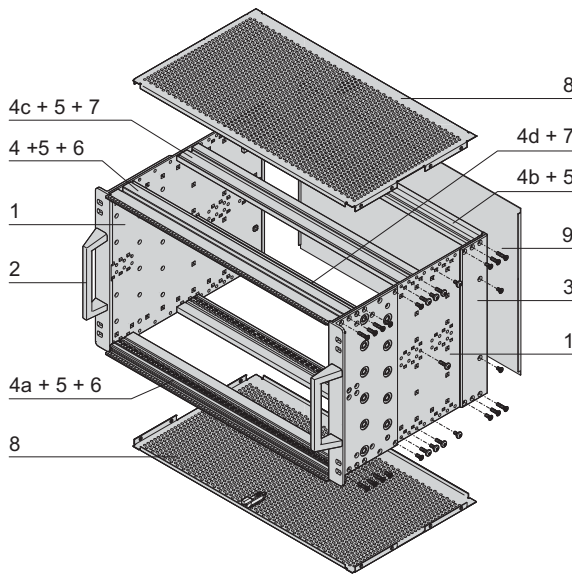
# Subracks – EuropacPRO Rugged

## KIT, RUGGED, SHIELDED, FOR BACKPLANE MOUNTING



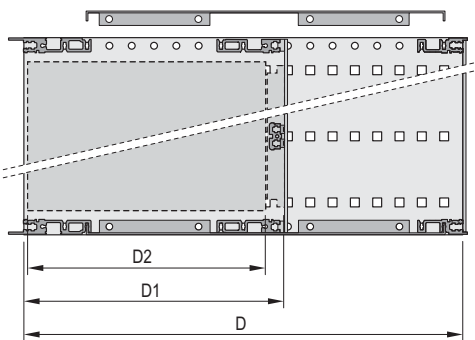
Illustration shows 3 U subrack

06112017



6 U

06112055



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

06112054



04400001

Rear horizontal rail for backplane mounting with insulation strip

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

### DELIVERY COMPRISES (Kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type R, Al, 3 mm, clear passivated, with 19" support bracket 3.5 mm (tox-cold welded); for EMC gasketing (textile)
2	2	2	Front handle incl. fixing material kit
3	2	2	Rear corner profile for EMC gasketing (textile)
4	1	-	Front horizontal rail (R-KD)
4a	1	2	Front horizontal rail (R-LD)
4b	2	2	Rear horizontal rail (H-KD)
4c	2	2	Rear horizontal rail, centre (R-ST)
4d	-	1	Rear horizontal rail, centre (ST)
5	6	8	Threaded insert (pre-fitted)
6	2	2	Perforated strip (pre-fitted)
7	2	4	Insulation strip (pre-fitted)
8	2	2	EMC cover plate, rugged, with top cover locking
9	1	1	EMC rear panel
10	1	1	EMC gasketing material, fixing material kit, user manual

### ORDER INFORMATION

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

#### Accessories

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

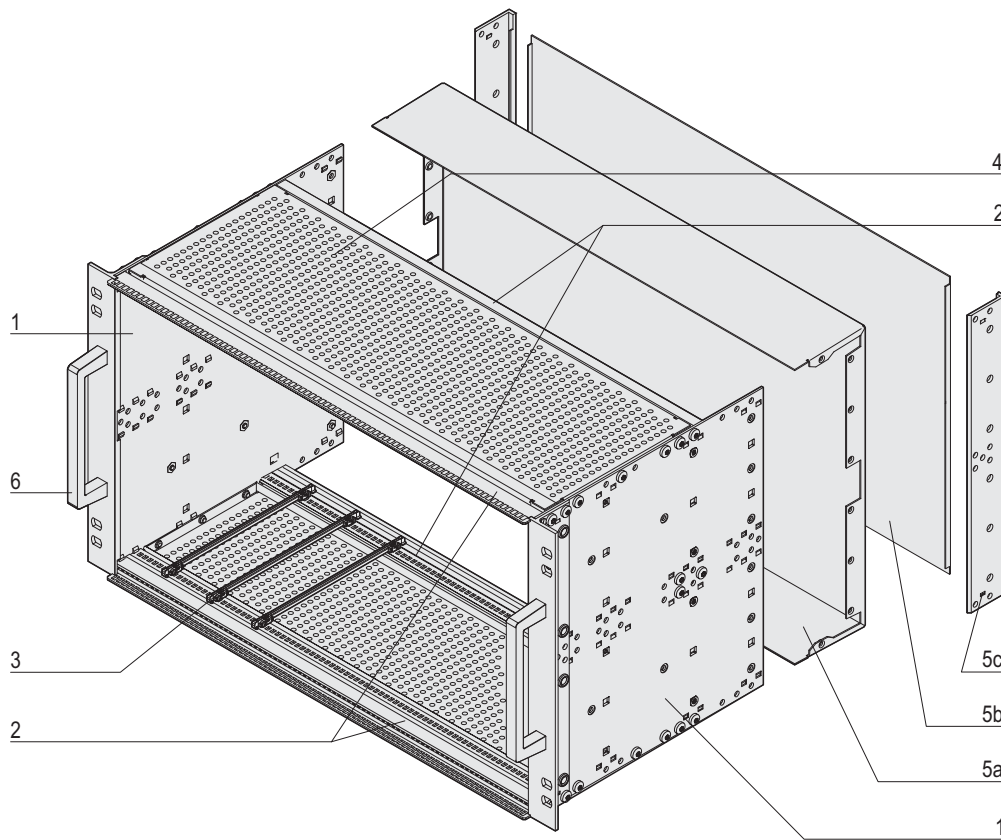
### NOTE

- Test reports online
- For further accessories see from page 6.19

# Subracks – EuropacPRO Rugged

# Subracks – EuropacPRO Rugged

## OVERVIEW OF INDIVIDUAL COMPONENTS FOR SHIELDED OR UNSHIELDED SUBRACKS



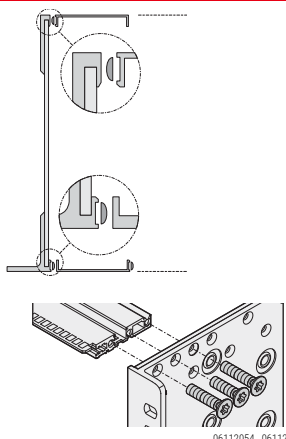
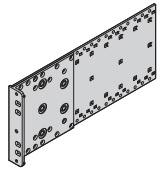
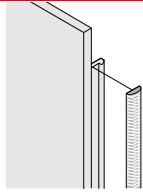
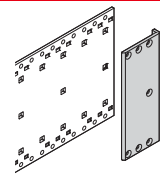
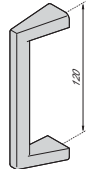
06108086

Item	Description	Description	page
Item 1	Side panels	Establish the height and depth of the subrack; Al, 3 mm, with universal hole positions for mounting of accessories	6.97
Item 2	Horizontal rails	Establish the width of the subrack; Al extrusion, with defined hole positions for guide rails, grooves for threaded inserts, M4 thread at front, functional rail shapes, basically differing with regard to their mechanical loading capacity: rugged loading up to 15 kg	6.98
Item 3	Guide rails	Guide rails act as interface between subracks and boards, for different board formats, are available in plastic or metal, optionally codable and optionally can be fitted with ESD clip to allow electrostatic discharge	6.105
Item 4	Cover plates	Provide mechanical protection and/or EMC shielding and are perforated	6.108
Item 5	Rear/front	Rear hood (5a) or front panel (5b) with corner profile (5c) as support for EMC shielding gaskets used in conjunction with shielded front panels; Note: rear hood and corner profile cannot be fitted simultaneously	6.49
Item 6	Handles	Handles can be mounted on the 19" brackets	6.97
-	EMC shielding (without illustration)	Extensive component range for specific shielding of subrack according to your application	6.110
-	Internal mounting (without illustration)	Universal assemblies, e.g. for horizontal and vertical mounting and for mounting plates	6.109 6.60

# Subracks – EuropacPRO Rugged

## SIDE PANEL TYPE R, EMC SEALING, CORNER PROFILE, FRONT HANDLE

### ORDER INFORMATION

		Side panel type R for textile gasket	EMC textile gasket	Corner profile, rugged	Front handle
		 <p>06112059</p> <p>Side panel, Al 3 mm, tox-cold welded with 19" Al bracket, 3.5 mm with handle hole, clear passivated, front anodised; please order front handles separately</p>	 <p>04602054</p> <p>Textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C</p>	 <p>06112058</p> <p>Al extrusion, 3 mm, finish clear passivated; with lateral grooves for EMC stainless steel gasket; rear hood cannot be used simultaneously</p>	 <p>06112057</p> <p>Die-cast Al profile, powder-coated, RAL 9006; load-carrying capacity 30 kg, fixing material kit</p>
Height U	Depth mm	PU 1 pair	PU 10 pieces	PU 1 pair	PU 1 kit
3	175	24568-145	<b>21101-853</b>	24566-199	24566-010
3	235	24568-147			
3	275	24568-143			
3	277.75	24568-144			
3	295	24568-149			
3	355	24568-151			
6	175	24568-445	<b>21101-855</b>	24566-499	24566-010
6	235	24568-447			
6	275	24568-443			
6	277.75	24568-444			
6	295	24568-449			
6	355	24568-451			

Fixing material kits see page 6.103

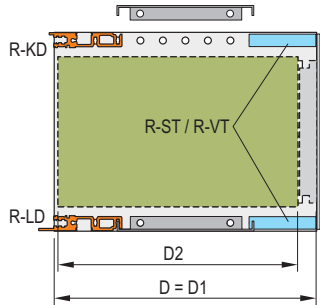
### SIDE PANEL, TYPE R

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

# Subracks – EuropacPRO Rugged

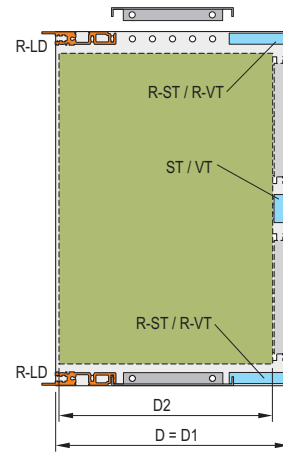
## MOUNTING POSITION OF HORIZONTAL RAIL/CENTRAL RAILS

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



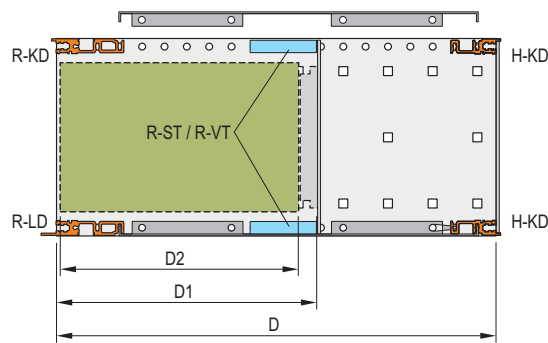
06112061

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



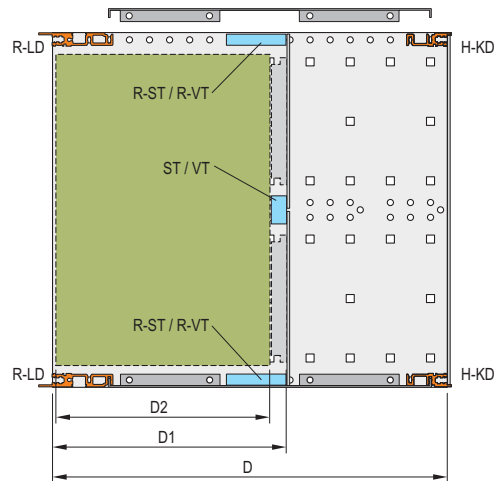
06112062

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



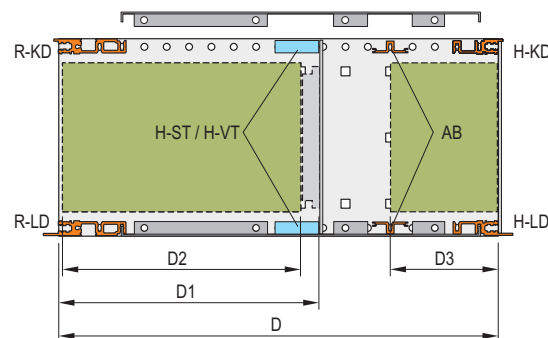
06112063

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



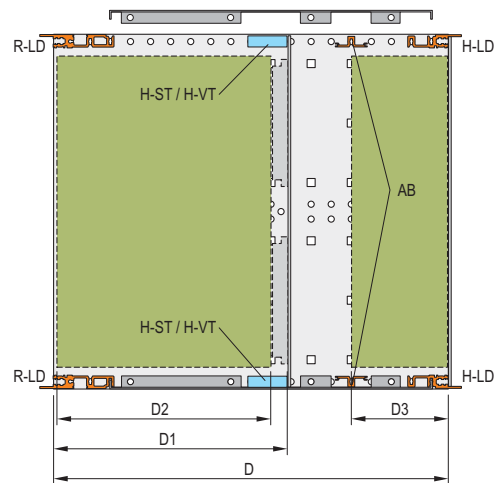
06112064

3 U (for CompactPCI/VME64x applications)



06112065

6 U (for CompactPCI/VME64x applications)



06112066

### Horizontal rails

R-ST



06112070

R-VT



06112071

H-ST



06112072

H-VT



06112073

ST



06112074

VT



06112075

# Subracks – EuropacPRO Rugged

## FRONT HORIZONTAL RAILS

### ORDER INFORMATION

		With long lip for insertion/ extraction of CompactPCI and VME64x boards	With long lip for insertion/ extraction of CompactPCI and VME64x boards	With short lip	With short lip
 <p>With HP markings from 28 HP, Al extrusion, anodised finish, conductive contact surface</p> <p>bza44980</p>		<p>"rugged" Type R-LD long lip</p>  <p>06112004</p> <p>Al extrusion, anodised finish, conductive contact surface, with HP markings</p>	<p>"heavy" Type H-LD long lip</p>  <p>06197009</p> <p>Al extrusion, anodised finish, conductive contact surface, with HP markings</p>	<p>"rugged" Type R-KD short lip</p>  <p>06112013</p> <p>Al extrusion, anodised finish, conductive contact surface, with HP markings</p>	<p>"heavy" Type H-KD short lip</p>  <p>06197008</p> <p>Al extrusion, anodised finish, conductive contact surface, with HP markings</p>
Usable length HP	Length mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
20	106.68	34566-320	<b>34560-320</b>	34566-220	<b>34560-220</b>
28	147.32	34566-328	<b>34560-328</b>	34566-228	<b>34560-228</b>
40	208.28	34566-340	<b>34560-340</b>	34566-240	<b>34560-240</b>
42	218.44	34566-342	<b>34560-342</b>	34566-242	<b>34560-242</b>
63	325.12	34566-363	<b>34560-363</b>	34566-263	<b>34560-263</b>
84	431.80	34566-384	<b>34560-384</b>	34566-284	<b>34560-284</b>
-	1000	34566-301	<b>34560-301</b>	34566-201	<b>34560-201</b>
<p>Cover strips to cover the horizontal rail perforations Al, untreated, 0.8 mm, length 431.5 mm, 1 piece (SPQ 10)</p> 		<b>34566-184</b>	-	<b>34566-184</b>	-
Threaded inserts see page		6.104	6.104	6.104	6.104
Fixing material kits see page		6.103	6.103	6.103	6.103

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

### NOTE

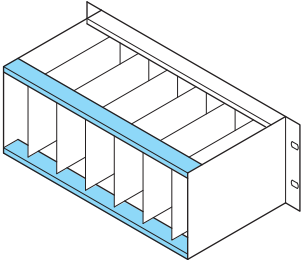






- 1000 mm version without M4 thread to front, without printing and without notch for 19"-bracket
- EMC gasket see page 6.56
- For further horizontal rails see page 6.29



# Subracks – EuropacPRO Rugged

## REAR HORIZONTAL RAILS

### ORDER INFORMATION

		For indirect backplane fixing with insulation strip		For direct backplane fixing		For direct fixing of connectors in accordance with EN 60603-2 (DIN 41612)
 <p>06105074</p> <p>With HP markings from 28 HP, Al extrusion, anodised finish, conductive contact surface</p>		 <p>04400001</p> <p>"rugged" Type R-ST Standard</p>  <p>06112005</p> <p>Al extrusion, anodised finish, conductive contact surface, with HP markings</p>		 <p>04400002</p> <p>"rugged" Type R-VT recessed installation</p>  <p>06112006</p> <p>Al extrusion, anodised finish, conductive contact surface, with HP markings</p>		 <p>04400003</p> <p>"heavy" Type H-MZ with Z-rail</p>  <p>06197013</p> <p>Al extrusion, anodised finish, conductive contact surface, with HP markings</p>
Usable length HP	Length mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
20	106.68	34566-520	<b>34560-520</b>	34566-720	<b>34560-720</b>	<b>34560-920</b>
28	147.32	34566-528	<b>34560-528</b>	34566-728	<b>34560-728</b>	<b>34560-928</b>
40	208.28	34566-540	<b>34560-540</b>	34566-740	<b>34560-740</b>	<b>34560-940</b>
42	218.44	34566-542	<b>34560-542</b>	34566-742	<b>34560-742</b>	<b>34560-942</b>
63	325.12	34566-563	<b>34560-563</b>	34566-763	<b>34560-763</b>	<b>34560-963</b>
84	431.80	34566-584	<b>34560-584</b>	34566-784	<b>34560-784</b>	<b>34560-984</b>
–	1000	34566-501	<b>34560-501</b>	34566-701	<b>34560-701</b>	–
Insulation strips see page		6.104	6.104	–	–	–
Threaded inserts see page		6.104	6.104	6.104	6.104	6.104
Fixing material kits see page		6.103	6.103	6.103	6.103	6.103

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

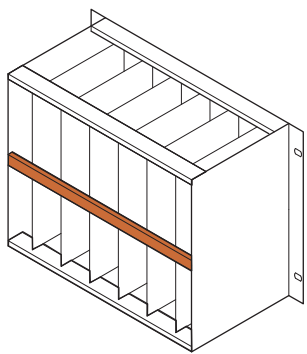






### NOTE

- 1000 mm version without M4 thread to front, without printing and without notch for 19"-bracket
- EMC gasket see page 6.56
- For further horizontal rails see page 6.29

# Subracks – EuropacPRO Rugged

## REAR HORIZONTAL RAILS, CENTRE, FOR 6 U

### ORDER INFORMATION

		For indirect backplane fixing with insulation strip	For direct backplane fixing	For direct fixing of connectors in accordance with EN 60603-2 (DIN 41612)
 <p>06108090</p>		 <p>04400001</p> <p>Type ST</p>  <p>06197016</p> <p>Al extrusion, finish anodised, conductive contact surface; without markings</p>	 <p>04400002</p> <p>Type VT</p>  <p>06197017</p> <p>Al extrusion, finish anodised, conductive contact surface; without markings</p>	 <p>04400003</p> <p>Type MZ</p>  <p>06197018</p> <p>Al extrusion, finish anodised, conductive contact surface; without markings</p>
Usable length HP	Length mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
20	106.68	<b>34561-020</b>	<b>34561-120</b>	<b>34561-220</b>
28	147.32	<b>34561-028</b>	<b>34561-128</b>	<b>34561-228</b>
40	208.28	<b>34561-040</b>	<b>34561-140</b>	<b>34561-240</b>
42	218.44	<b>34561-042</b>	<b>34561-142</b>	<b>34561-242</b>
63	325.12	<b>34561-063</b>	<b>34561-163</b>	<b>34561-263</b>
84	431.80	<b>34561-084</b>	<b>34561-184</b>	<b>34561-284</b>
–	1000	<b>34561-001</b>	<b>34561-101</b>	<b>34561-201</b>
Insulation strips see page		6.104	–	–
Threaded inserts see page		6.104	6.104	6.104
Fixing material kits see page		6.103	6.103	6.103

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

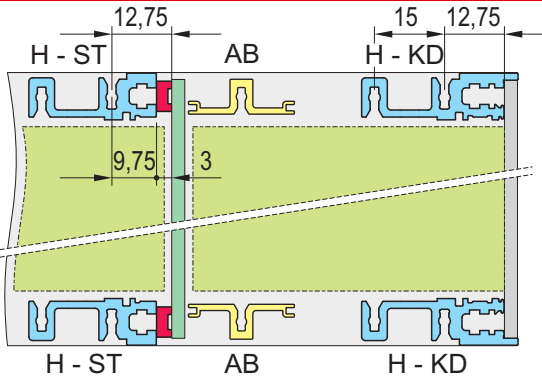


### NOTE

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

# Subracks – EuropacPRO Rugged

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

### ORDER INFORMATION

		For CompactPCI in rear I/O area
		 <p>06108009</p> <p>Type AB</p>  <p>06197019</p>
<p>Usable length HP</p> <p>Length mm</p>		1 piece (SPQ 10) <sup>1)</sup>
20	106.68	<b>34561-520</b>
28	147.32	<b>34561-528</b>
40	208.28	<b>34561-540</b>
42	218.44	<b>34561-542</b>
63	325.12	<b>34561-563</b>
84	431.80	<b>34561-584</b>
–	1000	<b>34561-501</b>
Fixing material kits see page		6.103

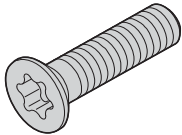
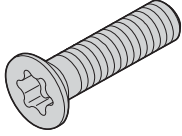
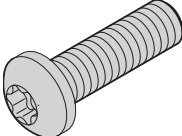
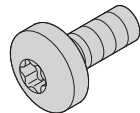
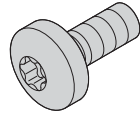
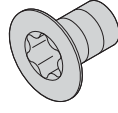
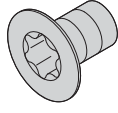
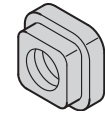
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
 "heavy" load > 7.5 kg; "rugged" load > 15 kg;

### NOTE

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

# Subracks – EuropacPRO Rugged

## SCREWS OVERVIEW

	Description	Material	Dimension	Qty/PU	Part no.
 <small>06712051</small>	Countersunk screw, with thread locking compound <b>Application:</b> Rugged side panel to horizontal rail; for area of tox-cold welded brackets and corner profiles except when guide rail is fitted to slot 1	Stainless steel	M4 x 18	100	24566-100
 <small>06712051</small>	Countersunk screw, with thread locking compound <b>Application:</b> Rugged side panel to horizontal rail; for area of tox-cold welded brackets and corner profiles if guide rail is fitted to slot 1	Stainless steel	M4 x 14	100	24566-101
 <small>az245940</small>	Panhead screw, with thread locking compound <b>Application:</b> Rugged side panel to horizontal rail; not for area of tox-cold welded brackets and corner profiles except when guide rail is fitted to slot 1	Stainless steel	M4 x 14	100	24566-102
 <small>06712053</small>	Panhead screw, with thread locking compound <b>Application:</b> Rugged side panel to horizontal rail; not for area of tox-cold welded brackets and corner profiles if guide rail is fitted to slot 1	Stainless steel	M4 x 10	100	24566-103
 <small>06712053</small>	Panhead screw, with thread locking compound <b>Application:</b> Rugged side panel to cover plate, not for area of tox-cold welded brackets and corner profiles	Stainless steel	M4 x 8	100	24566-104
 <small>06708053</small>	Torx countersunk screw, with thread locking compound <b>Application:</b> Rugged side panel to cover plate, for area of tox-cold welded brackets and corner profiles	Stainless steel	M4 x 10	100	24566-106
 <small>06708053</small>	Torx countersunk screw, with thread locking compound <b>Application:</b> Rugged side panel to corner profile; in EMC-shielded subracks and to increase robustness	Stainless steel	M4 x 7	100	24566-105
 <small>AZA45921</small>	Square nut <b>Application:</b> Rugged side panel to corner profile; in EMC-shielded subracks and to increase robustness	Zinc-plated steel	M4	100	<b>24560-140</b>

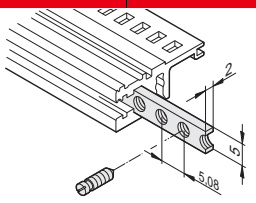
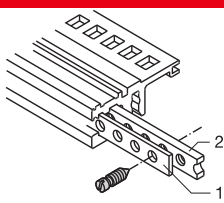
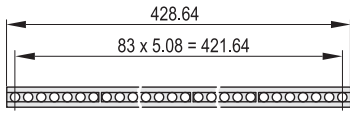
### NOTE

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

# Subracks – EuropacPRO Rugged

## THREADED INSERTS, PERFORATED STRIPS, INSULATION STRIPS

### ORDER INFORMATION

	Threaded insert		Perforated strip		Insulation strip		
	M2.5	M3	Item 1				
	 <p>06103056</p> <p>required for fixing the front panel to the horizontal rail; St, zinc-plated; use collar screw 12.3 mm, see page 6.66</p>		 <p>BZA45853</p> <p>for centring shielded plug-in units, Al, 1 mm, please order grub screw separately</p>		 <p>BZ6749</p> <p>for insulated mounting of backplane; PBT UL 94 V-0, grey</p>		
Usable length HP	Threaded insert Length mm	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	Perforated strip Length mm	1 piece (SPQ 10) <sup>1)</sup>	Insulation strip Length mm	PU 10 pieces
20	106.18	<b>34561-320</b>	–	106.48	<b>30845-189</b>	101.50	<b>24560-820</b>
28	146.82	<b>34561-328</b>	–	147.12	<b>30845-197</b>	144.20	<b>24560-828</b>
40	207.78	<b>34561-340</b>	–	208.08	<b>30845-209</b>	205.12	<b>24560-840</b>
42	217.94	<b>34561-342</b>	–	218.24	<b>30845-211</b>	210.40	<b>24560-842</b>
63	324.62	<b>34561-363</b>	–	324.92	<b>30845-232</b>	316.88	<b>24560-863</b>
84	431.30	<b>34561-384</b>	<b>34561-484</b>	431.60	<b>30845-253</b>	428.64	<b>24560-884</b>
196	1000.26	<b>34565-196</b>	–	1000.26	<b>34565-396</b>		–

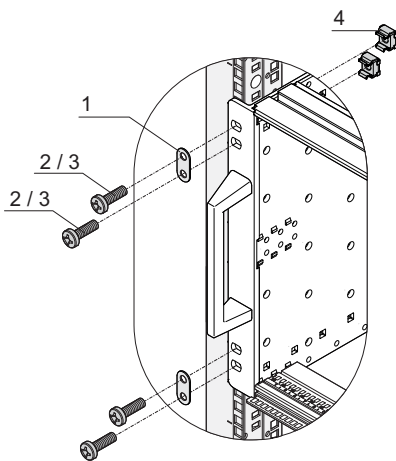
### Accessories

Grub screw M2.5 x 8, PU 100 pieces	<b>21100-276</b>	–	–	–	–	–	–
Grub screw M2.5 x 9, PU 100 pieces	–	–	–	–	<b>21101-359</b>	–	–
Grub screw M3 x 8, PU 100 pieces	–	<b>21100-646</b>	–	–	–	–	–

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

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

### 19" DUAL FIXING MATERIALS KIT



06113052

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

### DELIVERY COMPRISES

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


### ORDER INFORMATION

Description	Part no.
19" dual fixing materials kit	<b>24566-109</b>

# Subracks – EuropacPRO Rugged

## ADAPTOR TO ACCOMMODATE CONDUCTION COOLED ASSEMBLIES (CCA)


### ORDER INFORMATION

			Adaptor to accommodate conduction cooled assemblies (CCA) in subracks	
				
			<p>Al die-cast, silver, can be screw-fixed, 0.8" pitch; suitable for heavy and rugged horizontal rails, incl. fixing material kit</p>	
Board length mm			VPX PU 1 pair	CompactPCI PU 1 pair
160			24566-004	24566-005

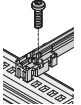
2) Part no. includes one packing unit (PU); delivery is exclusively made in PU

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

### ORDER INFORMATION

			For plug-in units and frame type plug-in units "Standard"	
<b>Assembly</b> Plastic guide rail - can be clipped into Al extruded horizontal rails - can be clipped into 1.5 mm thick plates  <b>Storage temperature</b> from -40 °C ... 130 °C				
			<p>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</p>	
Board length mm	Groove width mm	Colour mm	PU 10 pieces <sup>2)</sup>	1 piece (SPQ 50) <sup>1)</sup>
70	2	red	–	<b>34579-230</b>
70	2	grey	–	<b>34579-231</b>
160	2	red	<b>24560-351</b>	<b>64560-001</b>
220	2	red	<b>24560-353</b>	<b>64560-002</b>
280	2	red	<b>24560-379</b>	–
340	2	red	<b>24560-380</b>	–
160	2.5	red	–	<b>64560-096</b>
220	2.5	red	–	<b>64560-098</b>

### Accessories

Retention screw, PU 100 pieces; Torque max. 0.2 Nm		<b>24560-141</b>	<b>24560-141</b>
ESD clip, PU 50 pieces		<b>24560-255</b>	<b>24560-255</b>

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

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

Description of accessories see from page 6.107

# Subracks – EuropacPRO Rugged

## GUIDE RAILS FOR HEAVY ASSEMBLIES, COMPACTPCI, VME64X

### 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 heavy modules, Al extrusion, silver, robust version	
<b>Assembly</b> - can be clipped into Al extruded horizontal rails - can be clipped into 1.5 mm thick plates  <b>Storage temperature</b> from -40 °C ... 130 °C			 06106001 <b>One-piece</b> for groove width 2 mm, PBT, UL 94 V-0; <b>multi-piece</b> for groove width 2.5 mm, end piece PBT, UL 94 V-0, middle section Al extrusion		 06106002 PBT, UL 94 V-0, for installation of power supplies in CompactPCI systems or plug-in units with SMD placement		 06102005 Al extrusion; is screwed to horizontal rail "heavy" with retention screws	
<b>Board length</b>	<b>Groove width</b>	<b>Colour</b>	. PU 10 pieces. <sup>2)</sup>		. PU 10 pieces. <sup>2)</sup>		1 piece (SPQ 10) <sup>1)</sup>	
<b>mm</b>	<b>mm</b>	<b>mm</b>						
70	2	red	<b>24560-355</b>		-		-	
70	2	grey	<b>24560-360</b>		-		-	
160	2	red	<b>24560-356</b>		-		-	
160	2	grey	<b>24560-358</b>		-		<b>34562-881</b>	
160	2	green	-		<b>24560-359</b>		-	
220	2	grey	-		-		<b>34562-882</b>	
220	2	green	-		-		<b>34562-883</b>	
160	2.5	grey	-		-		<b>34564-881</b>	
220	2.5	red	<b>24561-330</b>		-		-	
220	2.5	grey	<b>24561-340</b>		-		<b>34564-882</b>	
280	2.5	red	<b>24561-331</b>		-		-	
280	2.5	grey	<b>24561-341</b>		-		<b>34564-883</b>	

### Accessories

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

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

2) Order number includes one packaging unit (PU); delivery is exclusively made in PU

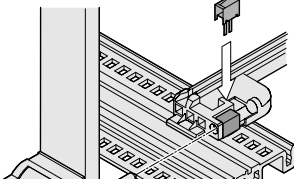
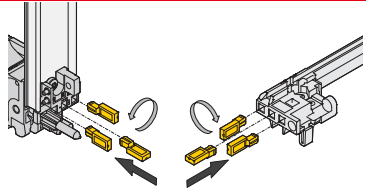
Description of accessories see from page 6.107



# Subracks – EuropacPRO Rugged

## GUIDE RAIL ACCESSORIES

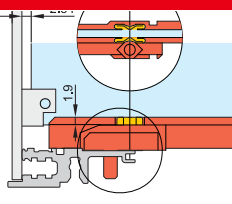
### ORDER INFORMATION

		ESD clips, CompactPCI/VME 64 alignment pin for guide rails	Coding for plug-in components Keying/coding for CompactPCI, VME64x handles to IEEE 1011.10 and IEC 60297-3-103
		 <p>06103052</p> <p>Spring steel, tin-plated, ESD clip, for alignment pin in accordance with IEEE; can be plugged into the guide rails with coding and into the keying/coding block; provides conductive contact between the guide pin of the inserter/extractor handle (IEL or IET handle) and the horizontal rail</p>	 <p>04612052</p> <p>Keying/coding peg, PBTP, UL 94 V-0, RAL 7035: The keying/coding pegs prevent plug-in units to be mounted in wrong slots. They are inserted in the chambers of the codable card guides as well as in the insertion/extraction handles IEL or IET (4 possible positions), resulting in 64 codings per card guide; when coding the upper and lower card guide, 4096 codings will result;</p>
<b>Assembly</b>		. PU 50 pieces. <sup>2)</sup>	. PU 100 pieces. <sup>2)</sup>
At the top/ at the bottom	<b>24560-256</b>		<b>20817-501</b>

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

## GUIDE RAIL ACCESSORIES

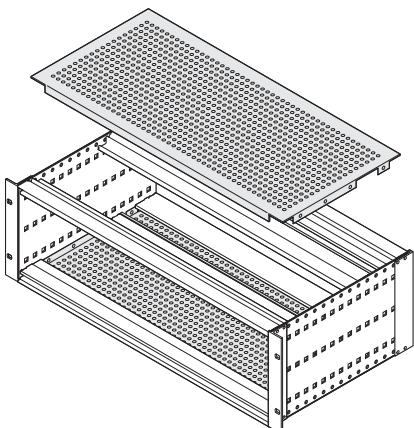
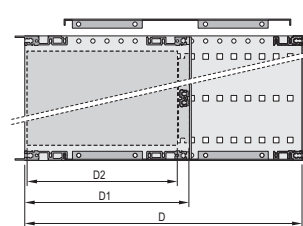
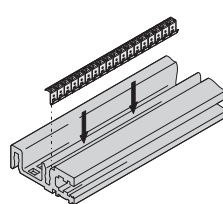
### ORDER INFORMATION

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


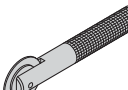
# Subracks – EuropacPRO Rugged

## COVER PLATES FOR BOLTING TO RUGGED SIDE PANEL

### ORDER INFORMATION

			Cover plate for bolting to side panel	Stainless steel EMC gasket, between cover plate and horizontal rail	
			 <p>06112054</p> <p>Perforated Al plate, 1.2 mm, hole diameter 4.0 mm, passivated, perforation ratio 58 %, incl. retention screws;</p> <p>4 stainless steel EMC contact strips per subrack are required for shielding, please order separately</p>	 <p>06106052</p> <p>Stainless steel EMC gasket, clips into the horizontal rail and forms the contact with the cover plate; suitable for all horizontal rails</p>	
Width HP	Depth D mm	Application	PU 1 pair	PU 10 pieces	PU 100 pieces
84	175	160 mm board depth (D2)	24568-004	<b>24560-245</b>	<b>24560-246</b>
84	235	220 mm board depth (D2)	24568-008		
84	295	280 mm board depth (D2)	24568-012		
84	275	160 mm board depth (D2) CompactPCI, 80 mm rear I/O	24568-032		
84	277.75	160 mm board depth (D2) VME, VME64, 80 mm rear I/O	24568-036		
84	295	160 mm board depth (D2), approx. 120 mm clearance behind backplane	24568-016		
84	355	220 mm board depth (D2), approx. 120 mm clearance behind backplane	24568-020		

### Accessories

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

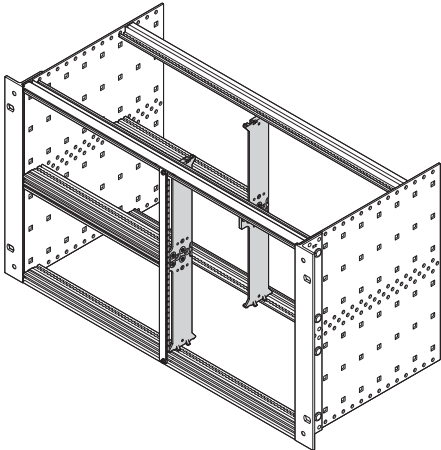
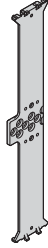
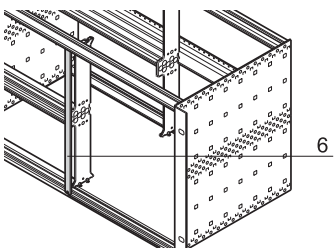
### NOTE

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

# Subracks – EuropacPRO Rugged

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

### ORDER INFORMATION

	Rugged struts for combined mounting	Front panel for textile EMC gasket, 6 U, 2 HP . Item. 6.
 <p style="text-align: right; font-size: small;">06112076</p>	 <p style="text-align: center;">6 U, die-cast zinc; fixing material kit</p> <p style="text-align: right; font-size: small;">06112077</p>	 <p style="text-align: right; font-size: small;">bpa46550</p> <p style="text-align: center;">Al, 2.5 mm, U-profile with notch, 6 U, 2 HP</p>
Height U 6	PU 2 pieces 24566-400	1 piece (SPQ 5) <sup>1)</sup> <b>30849-140</b>

### Accessories

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

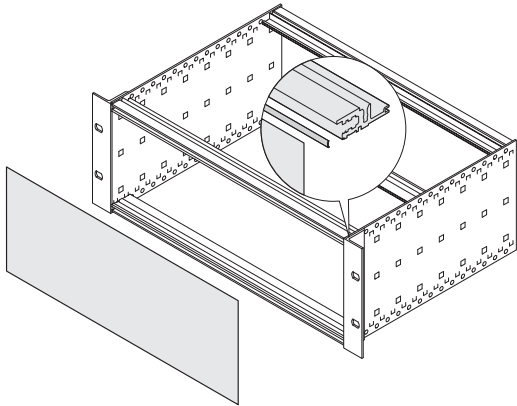
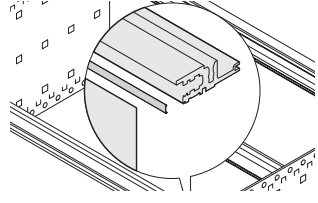
### NOTE

- Rugged horizontal rails in various lengths, see page 6.99

# Subracks – EuropacPRO Rugged

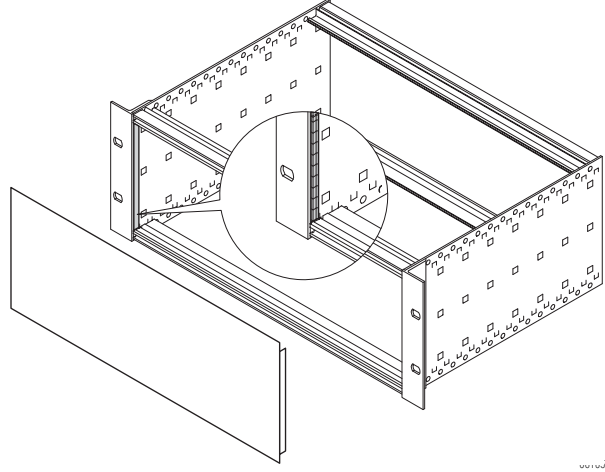
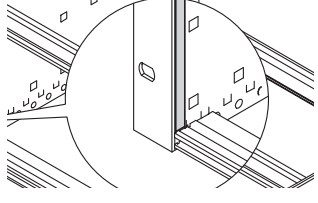
## EMC GASKETS BETWEEN FRONT/REAR PANEL AND HORIZONTAL RAIL

### ORDER INFORMATION

		Stainless steel EMC gasket between front panel/rear panel and horizontal rail	
			
		stainless steel; for front and rear horizontal rails (type VT)	
		06102053	
Width HP	Depth mm	PU 10 pieces	PU 100 pieces
28	131.8	<b>24560-229</b>	–
42	202.9	<b>24560-231</b>	–
63	304.5	<b>24560-233</b>	–
84	416.6	<b>24560-235</b>	<b>24560-236</b>

## EMC GASKETS BETWEEN FRONT PANEL AND 19" BRACKET/CORNER PROFILE

### ORDER INFORMATION

		Textile EMC gasket between front panel/rear panel and 19" bracket/corner profile	
			
		textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0C	
		06102056	
		06108054	
Height U	Depth mm	PU 10 pieces	PU 100 pieces
3	97.5	<b>21101-853</b>	<b>21101-854</b>
6	232.5	<b>21101-855</b>	<b>21101-856</b>

# Subracks – EuropacPRO Rugged

## EMC GASKET BETWEEN HORIZONTAL RAIL AND COVER PLATE

### ORDER INFORMATION

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

## EMC GASKET BETWEEN BACKPLANE AND SIDE PANEL

### ORDER INFORMATION

		Stainless steel EMC gasket between backplane and side panel (depth-offset installation)	
		<p>2 x support profile, Al extrusion, 2 x stainless steel EMC gasket; for vertical EMC shielding between depth-offset shielded backplane and side panel: dimensions for 84 HP A = 425.8 mm, B &lt; 429.9 mm, C = 429.8 mm, D = 431.8 mm</p>	
Height U	Depth mm	PU 1 kit	
3	97.5	<b>24561-199</b>	
6	187.5	<b>24561-499</b>	
Torx countersunk screw M4 x 7, St, zinc-plated, PU 100 pieces		24566-105	
Square nut M4, St, zinc-plated, PU 100 piece		<b>24560-140</b>	

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

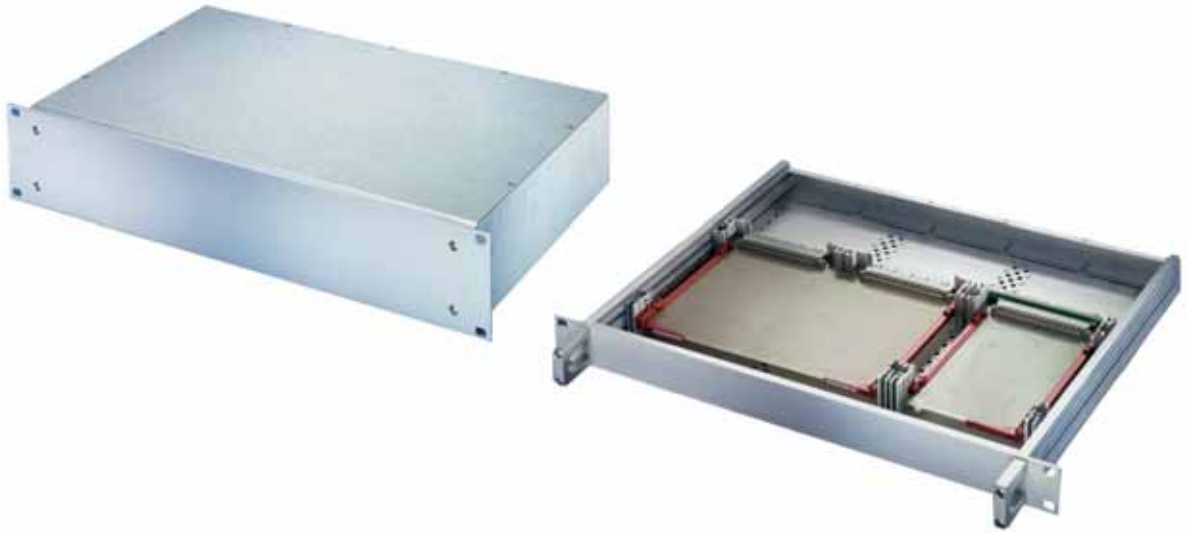
For vertical contact the support profile can be fixed in the standard way to the europacPRO side panel (depth grid 30 mm)

# 19" chassis – MultipacPRO

## 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



06005001

## STANDARDS/CERTIFICATIONS

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



06008009

Handles can be bolted on from front



06008010

High stability with aluminium profile side panel



06008011

Mounting plate for fitting heavy components

## Top cover and base plate in 3 versions



06008003

Plain



06008005

Perforated



06008004

For standardised board mounting



# 19" chassis – MultipacPRO

## OVERVIEW

### THE IDEAL SOLUTION FOR ELECTRONIC DEVICES IN THE MOST COMPACT DIMENSIONS

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



06008005

#### 19" COMPLETE CHASSIS

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



06008001

#### 19" CHASSIS, INDIVIDUALLY CONFIGURED FROM SEPARATE PARTS

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

#### 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 (special sizes)

Overview . . . . . 6.112

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

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

Accessories  
Guide rails . . . . . 6.124  
Telescopic slides  
1 U . . . . . 6.125  
Telescopic slides  
2 U . . . . . 6.126

Application examples . . . . . 6.127

# 19" chassis – MultipacPRO

## 19" COMPLETE CHASSIS FROM STEEL WITH PLAIN TOP COVER AND BASE PLATE



06002003

- Complete chassis, St (AlZn coated) with Al extrusion front panel
- Detachable rear panel for easy machining
- EMV shielding approx. 20 dB(A) at 1 GHz without additional shielding; > 40 dB(A) at 1 GHz with optional EMC gasketing
- In accordance with standard IEC 60297-3-101
- In the 1 U version 19" and ATX power supplies can be assembled up to a clearance of 40 mm

### DELIVERY COMPRISES (Kit)

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

### ORDER INFORMATION

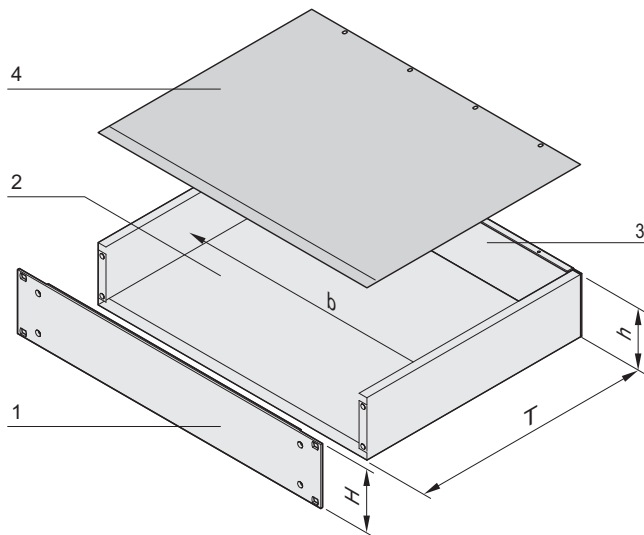
Height U	Height H mm	Depth T mm	Part no.
1	43.7	220	20860-120
1	43.7	280	20860-121
1	43.7	340	20860-122
2	88.1	280	20860-126
2	88.1	340	20860-127

### Accessories

Front handles incl. assembly kit for 1 U, Al extrusion, anodised, PU 2 pieces	20860-256
Front handles incl. assembly kit for 2 U, Al extrusion, anodised, PU 2 pieces	20860-257
EMC sealing to close the gap at the front between case and front panel, 2 saw tooth gaskets, stainless steel, PU 1 piece	20860-132

### NOTE

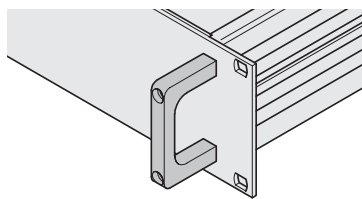
- Further versions with steel front panel (pizza box) available on request
- Telescopic slides cannot be used
- No special EMC version available
- Standardised internal mounting kits cannot be used



06002051

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

b = clear installation width



06002052

Front handle

# 19" chassis – MultipacPRO

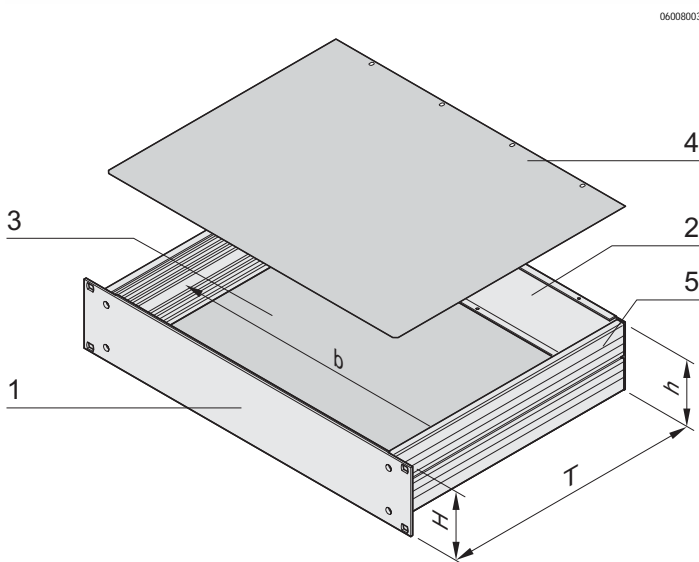
## 19" COMPLETE CHASSIS FROM ALUMINIUM WITH PLAIN TOP COVER AND BASE PLATE



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

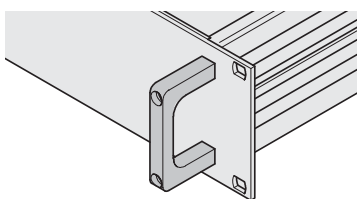
### DELIVERY COMPRISES (Kit)

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



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

b = clear installation



Front handle

### ORDER INFORMATION

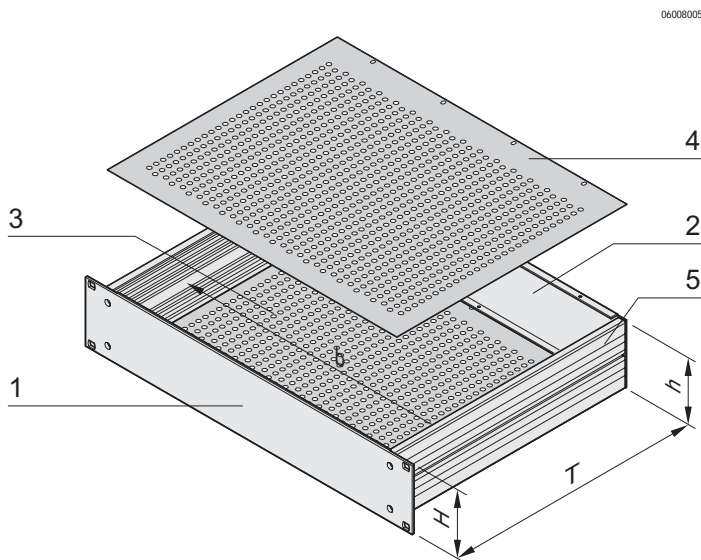
Height U	Height H mm	Depth T mm	Part no. Kit
1	43.7	220	<b>20860-601</b>
1	43.7	280	<b>20860-602</b>
2	88.1	280	<b>20860-605</b>
2	88.1	340	<b>20860-606</b>
3	132.6	280	<b>20860-607</b>
3	132.6	340	<b>20860-608</b>
3	132.6	400	<b>20860-609</b>
4	177.0	340	<b>20860-612</b>
4	177.0	400	<b>20860-613</b>
4	177.0	460	<b>20860-614</b>
5	221.5	460	<b>20860-615</b>
EMC gasketing kit Silicone/nickel gasket 2100 mm for contacting side panel/cover plate; seal, stainless steel, for front panel/cover plate, 1 kit			<b>20860-130</b>
Front handles incl. assembly kit for 1 U, Al extrusion, anodised, PU 2 pieces			<b>20860-256</b>
Front handles incl. assembly kit for 2 U, Al extrusion, anodised, PU 2 pieces			<b>20860-257</b>
Front handles incl. assembly kit for 3 U, Al extrusion, anodised, PU 2 pieces			<b>20860-258</b>
Front handles incl. assembly kit for 4 U, Al extrusion, anodised, PU 2 pieces			<b>20860-259</b>
Front handles incl. assembly kit for 5 U, Al extrusion, anodised, PU 2 pieces			<b>20860-260</b>

### NOTE

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

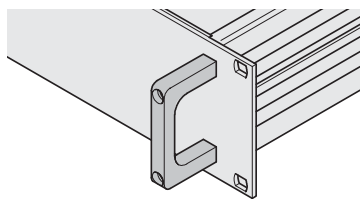
# 19" chassis – MultipacPRO

## 19" COMPLETE CHASSIS FROM ALUMINIUM WITH PERFORATED TOP COVER AND BASE PLATE



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

b = clear installation



Front handle

06002052

06008005

06008051

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

### DELIVERY COMPRISES (kit)

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

### ORDER INFORMATION

Height U	Height H mm	Depth T mm	Part no.
1	43.7	220	20860-621
1	43.7	280	20860-622
2	88.1	280	20860-625
2	88.1	340	20860-626
3	132.6	280	20860-627
3	132.6	340	20860-628
3	132.6	400	20860-629
4	177.0	340	20860-632
4	177.0	400	20860-633
4	177.0	460	20860-634
5	221.5	460	20860-635
EMC gasketing kit Silicone/nickel gasket 2100 mm for contacting side panel/cover plate; seal, stainless steel, for front panel/cover plate, 1 kit			20860-130
Front handles incl. assembly kit for 1 U, Al extrusion, anodised, PU 2 pieces			20860-256
Front handles incl. assembly kit for 2 U, Al extrusion, anodised, PU 2 pieces			20860-257
Front handles incl. assembly kit for 3 U, Al extrusion, anodised, PU 2 pieces			20860-258
Front handles incl. assembly kit for 4 U, Al extrusion, anodised, PU 2 pieces			20860-259
Front handles incl. assembly kit for 5 U, Al extrusion, anodised, PU 2 pieces			20860-260

### NOTE

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

# 19" chassis – MultipacPRO

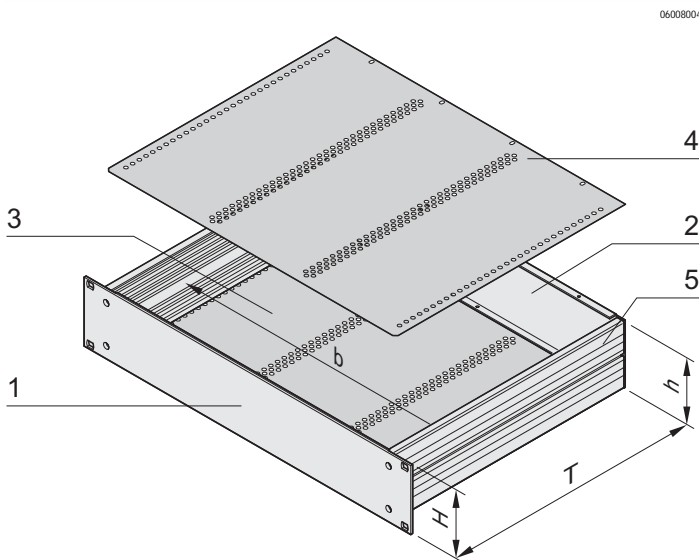
## 19" COMPLETE CHASSIS FROM ALUMINIUM, FOR ASSEMBLY OF EUROBOARDS



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

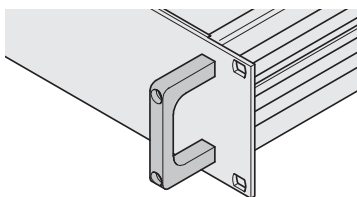
### DELIVERY COMPRISES (Kit)

Item	Qty	Description
1	1	Front panel Al extrusion, 3 mm; in 1 U: front anodised, rear etched; from 2 U: front and rear side of front panels clear passivated
2	1	Rear panel, Al, 2 mm, etched
3	1	Base plate, Al, 1 mm; with drilled holes for horizontal mounting of euroboards
4	1	Cover plate, Al, 1 mm; with drilled holes for horizontal mounting of euroboards
5	2	Side panel, Al extrusion, raw; with grooves for threaded insert (2 × 7)
6	1	Assembly kit



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

b = clear installation



Front handle

### ORDER INFORMATION

Height U	Height H mm	Depth T mm	Part no.
1	43.7	220	20860-641
1	43.7	280	20860-642
2	88.1	280	20860-645
EMC gasketing kit PU 1 kit			<b>20860-130</b>
Front handles for 1 U PU 2 pieces			<b>20860-256</b>
Front handles for 2 U PU 2 pieces			<b>20860-257</b>
Euroboard mounting kit for EN 60603 connector for 1 U PU 1 kit			<b>20860-115</b>
Euroboard mounting kit for EN 60603 connector for 2 U PU 1 kit			<b>20860-117</b>
Euroboard mounting kit for insulated backplane mounting for 1 U PU 1 kit			<b>20860-116</b>
Euroboard mounting kit for insulated backplane mounting for 2 U PU 1 kit			<b>20860-118</b>

### NOTE

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

# 19" chassis – MultipacPRO





# 19" chassis – MultipacPRO

## HOW TO CONFIGURE 19" ALUMINIUM CHASSIS

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

### FOR NON-STANDARDISED ASSEMBLIES (1 ... 5 U)



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

#### NOTE

- Non-standardised assemblies see from page 6.120

06006001



### FOR STANDARDISED ASSEMBLIES (1, 2 U) IN ACCORDANCE WITH IEC 60297 -3-100, -101, -105

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

#### NOTE

- Standardised assemblies from page 6.122

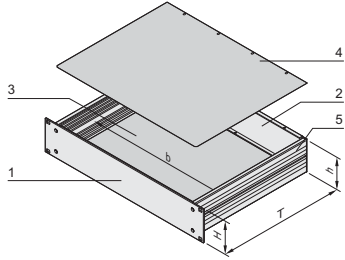

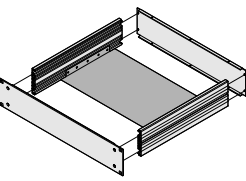
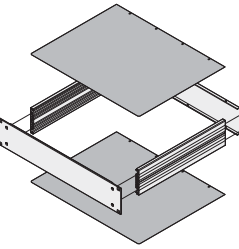
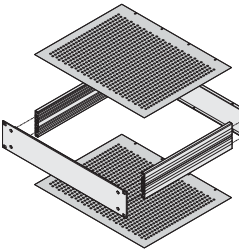
06002001

# 19" chassis – MultipacPRO

## INDIVIDUAL COMPONENTS 19" CHASSIS FOR NON-STANDARDISED ASSEMBLIES

- Please select:
  - Height and depth of basic kit (1 ... 5 U, item 1+2+5)
  - Mounting plate
  - Top cover/base plate (item 3+4)
  - Front handles
  - EMC gasketing kit
  - Telescopic slides
- In accordance with IEC 60297-3-105

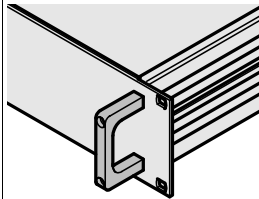
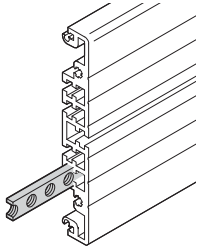
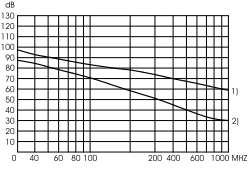

### ORDER INFORMATION

				Basic kit	Mounting plate	Top cover/base plate		
						plain	perforated	
 <p>h = clear height (overall) (H - 8.1 mm) b = clear installation width = 403 mm</p>				 <p>06002004</p>	 <p>06002058</p>	 <p>06002053</p>	 <p>06007050</p>	
				<p>1 x Al front panel, 3 mm; 2 x extruded Al side panels; 1 x Al rear panel, 2 mm, incl. fixing material kit</p>	<p>Al plate, 2 mm; for heavy fixtures, 405.5 mm width, 2 x threaded inserts, St, 2 mm, galvanized, 7 mm height, 55.38 mm length, 2 x threaded inserts, St, 2 mm, galvanized, 7 mm height, 156.98 mm length, threaded inserts with M3 threads, hole clearance 1 HP = 5.08 mm</p>	<p>is inserted into the basic kit, Al, 1 mm, passivated; please order EMC gasketing kit separately</p>	<p>is inserted into the basic kit, Al, 1 mm, passivated; hole diameter 4 mm, perforation ratio 58 %</p>	
Height U	Height mm	Width HP	Depth mm	PU 1 kit	Depth mm	1 piece	1 piece	1 piece
1	43.7	84	220	20860-201	150	20860-107	30860-501	30860-510
1	43.7	84	280	20860-202	210	20860-108	30860-502	30860-511
1	43.7	84	340	20860-203	270	20860-109	30860-503	30860-512
2	88.1	84	220	20860-210	150	20860-107	30860-501	30860-510
2	88.1	84	280	20860-211	210	20860-108	30860-502	30860-511
2	88.1	84	340	20860-212	270	20860-109	30860-503	30860-512
3	132.6	84	280	20860-219	210	20860-108	30860-502	30860-511
3	132.6	84	340	20860-220	270	20860-109	30860-503	30860-512
3	132.6	84	400	20860-221	330	20860-110	30860-504	30860-513
3	132.6	84	460	20860-222	390	20860-111	30860-505	30860-514
4	177.0	84	280	20860-228	210	20860-108	30860-502	30860-511
4	177.0	84	340	20860-229	270	20860-109	30860-503	30860-512
4	177.0	84	400	20860-230	330	20860-110	30860-504	30860-513
4	177.0	84	460	20860-231	390	20860-111	30860-505	30860-514
5	221.5	84	460	20860-240	390	20860-111	30860-505	30860-514

# 19" chassis – MultipacPRO

INDIVIDUAL COMPONENTS 19" CHASSIS FOR NON-STANDARDISED ASSEMBLIES

## ORDER INFORMATION

				Front handles	Threaded insert M3 for extruded side panel	EMC gasketing kit Shielding upgrade of approx. 30 dB	Assembly kit for telescopic slides
				 <p>06002052</p> <p>Al extrusion, anodised, incl. assembly kit see page 5.108</p>	 <p>06007051</p> <p>St, 2 mm, zinc-plated, height 7 mm, length 431.3 mm, M3 hole clearance 1 HP = 5.08 mm</p>	 <p>esa44237</p> <p>Gasket 2100 mm, silicone/nickel, for contacting side panel/ top cover and base plate; sawtooth gasket 400 mm; stainless steel, for contacting front panel/ top cover and base plate</p>	 <p>06094004</p> <p>Assembly kit and adaptor bracket for the cabinets VARISTAR, eurorack, minirack; for mounting the 19in. chassis on telescopic slides; please order telescopic slides separately see page 6.125</p>
Height U	Height mm	Width HP	Depth D mm	PU 2 pieces	1 piece	PU 1 kit	PU 1 kit
1	43.7	84	220	<b>20860-256</b>			
1	43.7	84	280				
1	43.7	84	340				
2	88.1	84	220	<b>20860-257</b>			
2	88.1	84	280				
2	88.1	84	340				
3	132.6	84	280	<b>20860-258</b>	<b>30821-589</b>	<b>20860-130</b>	<b>20860-131</b>
3	132.6	84	340				
3	132.6	84	400				
3	132.6	84	460				
4	177.0	84	280	<b>20860-259</b>			
4	177.0	84	340				
4	177.0	84	400				
4	177.0	84	460				
5	221.5	84	460	<b>20860-260</b>			

### NOTE

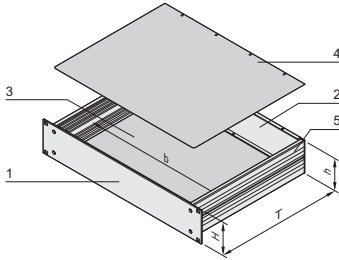

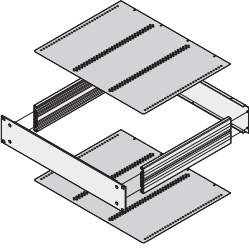
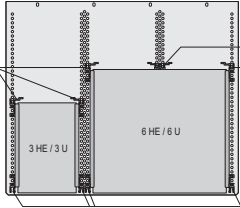
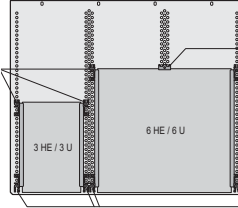
- Further sizes available on request
- Al extrusion side panels up to 1000 mm length available on request
- Telescopic slides see page 6.125

# 19" chassis – MultipacPRO

INDIVIDUAL COMPONENTS 19" CHASSIS FOR STANDARDISED 19" ASSEMBLIES

- Please select
  - Height and depth of basic kit (1, 2 U, items 1+2+5)
  - Top cover/base plate for horizontal board mounting (items 3+4)
  - Internal mounting for connector or backplane
  - Front handles
  - EMC gasketing kit
  - Telescopic slides
- In accordance with IEC 60297-3-100, 101, 105

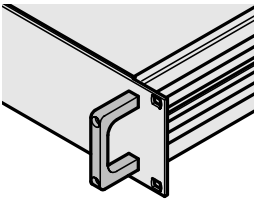
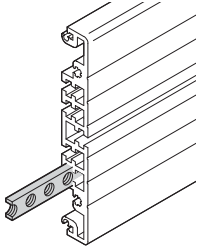
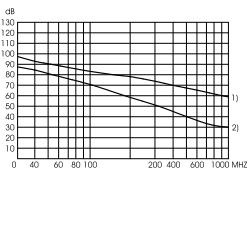

## ORDER INFORMATION

					Basic kit	Mounting of euroboards Top cover/base plate	for EN 60603 connectors	for insulated backplane assembly																																																								
 <p>06008052</p> <p>h = clear height (overall) (H - 8.1 mm) b = clear installation width = 403 mm</p>					 <p>06002004</p> <p>1 x Al front panel, 3 mm; 2 x extruded Al side panels; 1 x Al rear panel, 2 mm, incl. fixing material kit</p>	 <p>06008053</p> <p>Al, 1 mm; with drilled holes for horizontal mounting of euroboards</p>	 <p>06003050</p> <p>2 x front horizontal rails, 2 x rear horizontal rails with Z, 2 x threaded inserts;  Sufficient for one 3 U board or one 6 U board</p>	 <p>06003051</p> <p>2 x front horizontal rails, 2 x rear horizontal rails, 4 x threaded inserts, 4 x insulation strips PBT, UL 94;  Sufficient for one 3 U board or one 6 U board (6 HP for 1 U, 15 HP for 2 U)</p>	Height U	Height mm	Width HP	Depth D mm	PU 1 kit	1 piece	PU 1 kit	PU 1 kit	1	43.7	84	220	<b>20860-201</b>	<b>30860-519</b>	<b>20860-115</b>	<b>20860-116</b>	1	43.7	84	280	<b>20860-202</b>	<b>30860-520</b>	<b>20860-115</b>	<b>20860-116</b>	1	43.7	84	340	<b>20860-203</b>	<b>30860-521</b>	<b>20860-115</b>	<b>20860-116</b>	2	88.1	84	220	<b>20860-210</b>	<b>30860-519</b>	<b>20860-117</b>	<b>20860-118</b>	2	88.1	84	280	<b>20860-211</b>	<b>30860-520</b>	<b>20860-117</b>	<b>20860-118</b>	2	88.1	84	340	<b>20860-212</b>	<b>30860-521</b>	<b>20860-117</b>	<b>20860-118</b>
Height U	Height mm	Width HP	Depth D mm	PU 1 kit	1 piece	PU 1 kit	PU 1 kit																																																									
1	43.7	84	220	<b>20860-201</b>	<b>30860-519</b>	<b>20860-115</b>	<b>20860-116</b>																																																									
1	43.7	84	280	<b>20860-202</b>	<b>30860-520</b>	<b>20860-115</b>	<b>20860-116</b>																																																									
1	43.7	84	340	<b>20860-203</b>	<b>30860-521</b>	<b>20860-115</b>	<b>20860-116</b>																																																									
2	88.1	84	220	<b>20860-210</b>	<b>30860-519</b>	<b>20860-117</b>	<b>20860-118</b>																																																									
2	88.1	84	280	<b>20860-211</b>	<b>30860-520</b>	<b>20860-117</b>	<b>20860-118</b>																																																									
2	88.1	84	340	<b>20860-212</b>	<b>30860-521</b>	<b>20860-117</b>	<b>20860-118</b>																																																									

# 19" chassis – MultipacPRO

INDIVIDUAL COMPONENTS 19" CHASSIS FOR STANDARDISED 19" ASSEMBLIES

## ORDER INFORMATION

				Front handles	Threaded insert M3 for extruded side panel	EMC gasketing kit for shielding upgrade of approx. 30 dB	Assembly kit for fixing on telescopic slides
				 <p>06002052</p> <p>Al extrusion, anodised, incl. assembly kit see page 5.108</p>	 <p>06007051</p> <p>St, 2 mm, zinc-plated, height 7 mm, length 431.3 mm, M3 hole clearance 1 HP = 5.08 mm</p>	 <p>esa44237</p> <p>Gasket 2100 mm, silicone/nickel, for contacting side panel/ top cover and base plate; sawtooth gasket 400 mm; stainless steel, for contacting front panel/ top cover and base plate</p>	 <p>06094004</p> <p>Assembly kit and adaptor bracket for the cabinets VARISTAR, eurorack, minirack; for mounting the 19in. chassis on telescopic slides; please order telescopic slides separately see page 6.125</p>
Height U	Height mm	Width HP	Depth D mm	PU 2 pieces	1 piece	PU 1 kit	PU 1 kit
1	43.7	84	220	<b>20860-256</b>	<b>30821-589</b>	<b>20860-130</b>	<b>20860-131</b>
1	43.7	84	280				
1	43.7	84	340				
2	88.1	84	220	<b>20860-257</b>	<b>30821-589</b>	<b>20860-130</b>	<b>20860-131</b>
2	88.1	84	280				
2	88.1	84	340				



### NOTE

- Further sizes available on request
- Al extrusion side panels up to 1000 mm length available on request
- Telescopic slides see page 6.125

# 19" chassis – MultipacPRO

## GUIDE RAILS FOR BOARDS WITHOUT FRONT PANELS, ONE-PIECE, GROOVE WIDTH 2 MM

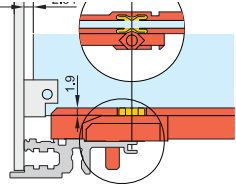
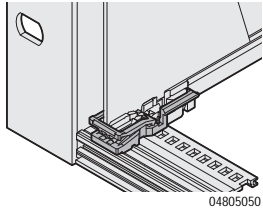
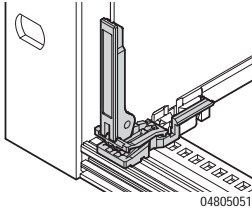
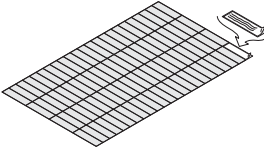
### ORDER INFORMATION

			Guide rails "Accessories"
Assembly - can be clipped into horizontal rails in Al extrusion - can be clipped into 1.5 mm thick plate  Storage temperature from -40 °C ... +130 °C			 up to 280 mm length, PBT, UL 94 V-0; > 280 mm length, multi-piece, end piece PBT, UL 94 V-0, middle section Al extrusion
Board length mm	Groove width mm	Colour mm	PU 10 pieces <sup>2)</sup>
160	2	red	<b>24560-373</b>
220	2	red	<b>24560-374</b>
280	2	red	<b>24560-375</b>
340	2	red	<b>24560-376</b>
Retention screw, PU 100 pieces			<b>24560-141</b>

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

### GUIDE RAIL ACCESSORIES

### ORDER INFORMATION

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

# 19" chassis – MultipacPRO

## UNIVERSAL 1 U TELESCOPIC SLIDE



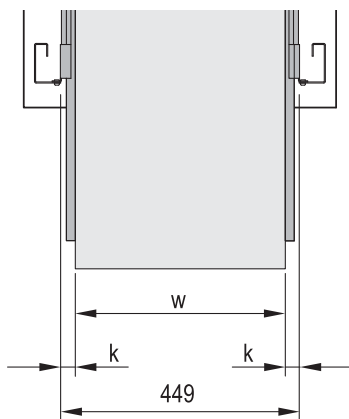
- Static load-carrying capacity per pair 23 - 39 kg
- Lateral mounting on the 19" uprights (19" plane remains free for fixing the extension/drawer)
- Can be removed
- Extension length > 100 %
- Rail width  $k = 9.7$  mm, max. installation width of extension/drawer  $w = 429$  mm

### DELIVERY COMPRISES

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

### ORDER INFORMATION

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



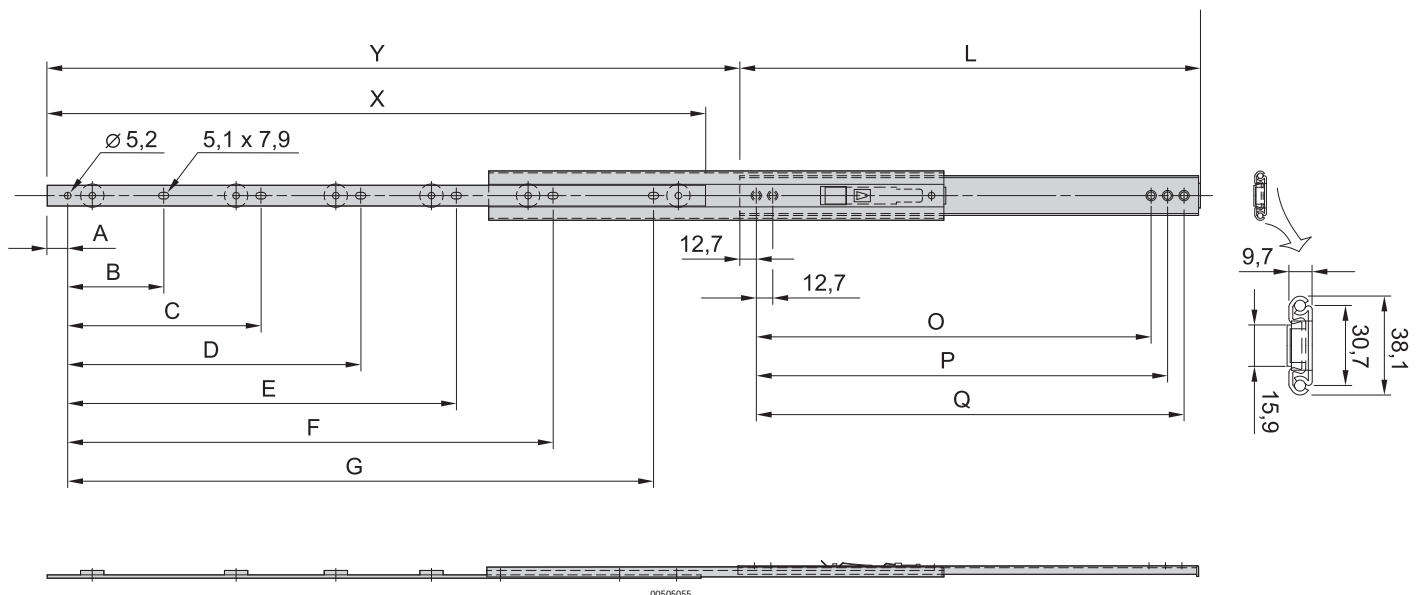
00505011

00505060

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

### Dimensions table

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



00505055

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



# 19" chassis – MultipacPRO

## UNIVERSAL 2 U, SLIM TELESCOPIC SLIDE



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

### DELIVERY COMPRISES

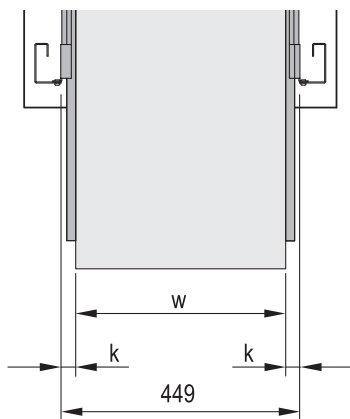
Item	Qty	Description
1	2	Telescopic slide, St, zinc-plated

### ORDER INFORMATION

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

### Accessories

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



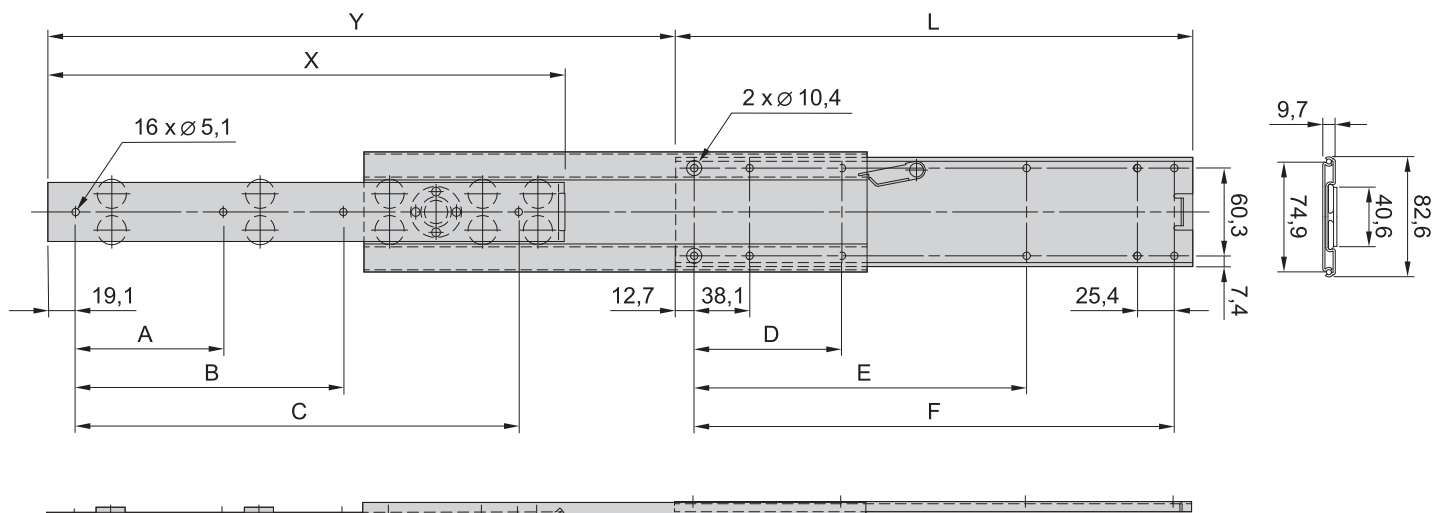
$k$  = rail width,  $w$  = max. installation width

### Dimensions table

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

### NOTE

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



# 19" chassis – MultipacPRO

CUSTOMISED SOLUTIONS



Application: Different cut-outs

06002006



Application: Combined 3 U and 6 U assembly

06002007



Application: 2 U version with 2 x 3 U assembly

06002005



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

06008006



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

06108007



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

06101008

# 19" chassis – Inpac

## 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

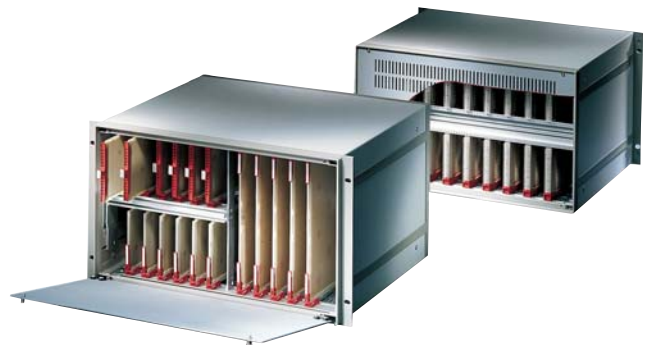


U2192001



Robust 19" chassis, also for board assembly

02192005



Assembly with boards and hinged front panel

02196001

## STANDARDS

- External dimensions in accordance with:  
IEC 60297-3-101
- Ingress protection IP 20 to IEC 60529
- GND/earthing connectors to:  
DIN EN 50178/VDE 0160  
DIN EN 60950/VDE 0805  
DIN EN 61010-1/VDE 0411 part 1  
DIN EN 61010-1A2/VDE 0411 part 1/A1

# 19" chassis – Inpac

## OVERVIEW

### 19" CHASSIS WITH HIGH MECHANICAL STABILITY

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



02192002

#### 19" CHASSIS/DESK-TOP ENCLOSURE

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



02192003

#### INPAC BUILT INTO 19" CABINET

#### SERVICEPLUS

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

Overview ..... 6.128

inpac  
19" chassis ..... 6.130

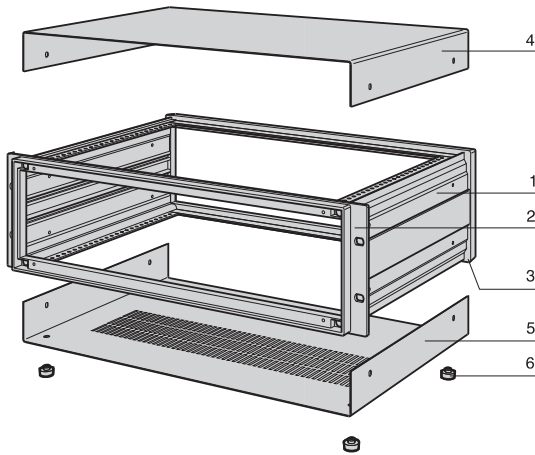
Accessories  
Full-width front panels ..... 6.131  
Full-width rear panels ..... 6.131  
Support rails ..... 6.132  
Horizontal rails ... 6.132  
Front handles ..... 6.133  
GND/earthing kit ... 6.133  
Guide rails ..... 6.134  
Dimensions ..... 6.136

# 19" chassis – Inpac

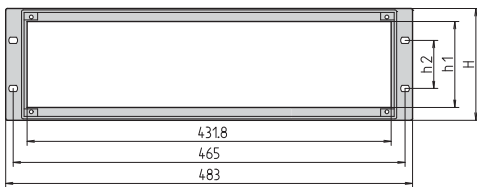
## 19" CHASSIS



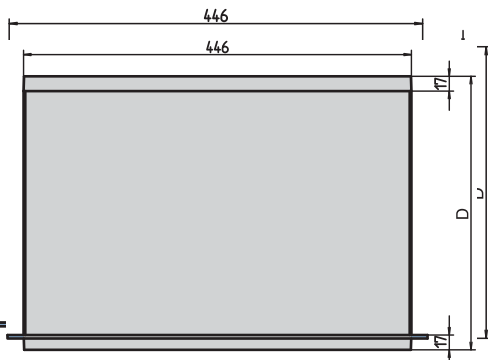
02192006



ipa30632



h1 = useable height



IPA30635

IPA30704



IPA30706

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

### DELIVERY INCLUDES (Kit)

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

### ORDER INFORMATION

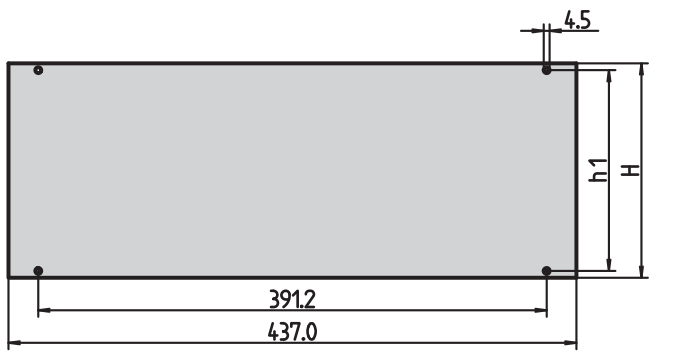
Height H	Height H	h	h1	h2	Depth D	Part no.
U	mm	mm	mm	mm	mm	
2	88.0	86.0	57.5	76.2	254.5	<b>10828-171</b>
2	88.0	86.0	57.5	76.2	314.5	<b>10828-172</b>
2	88.0	86.0	57.5	76.2	374.5	<b>10828-173</b>
3	132.5	130.5	102.0	57.2	254.5	<b>10828-151</b>
3	132.5	130.5	102.0	57.2	314.5	<b>10828-152</b>
3	132.5	130.5	102.0	57.2	374.5	<b>10828-153</b>
3	132.5	130.5	102.0	57.2	434.5	<b>10828-154</b>
4	177.0	174.5	146.5	101.6	254.5	<b>10828-156</b>
4	177.0	174.5	146.5	101.6	314.5	<b>10828-157</b>
4	177.0	174.5	146.5	101.6	374.5	<b>10828-158</b>
4	177.0	174.5	146.5	101.6	434.5	<b>10828-159</b>
6	265.9	263.5	235.4	190.5	374.5	<b>10828-168</b>
6	265.9	263.5	235.4	190.5	434.5	<b>10828-169</b>

### NOTE

- Max. installation space when fitting 19" components is 75 HP
- Scope of delivery includes screws to fix rear and front panels
- Cover- and base plate available in other colors
- Modifications such as breakouts or other dimensions possible
- or mounting / extension parts, see the following pages

# 19" chassis – Inpac

## FRONT PANEL



### DELIVERY COMPRISES

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

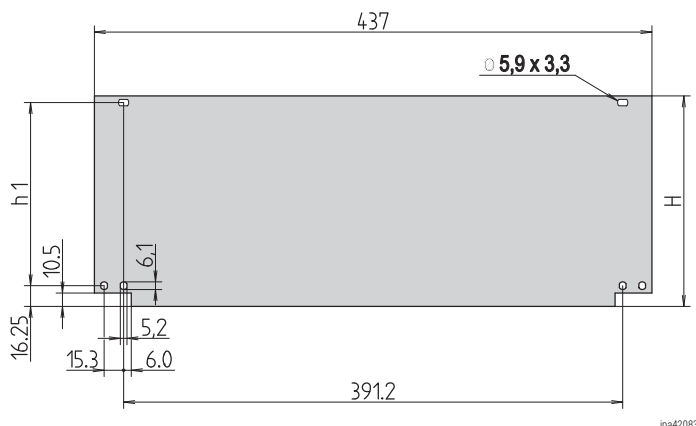
### ORDER INFORMATION

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

### Note

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

## FRONT PANEL, BOTTOM-HINGED



### DELIVERY COMPRISES

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

### ORDER INFORMATION

Height U	Height H mm	h1 mm	Part no.
2	76.0	54.5	<b>30828-085</b>
3	120.5	99.0	<b>30828-088</b>
4	165.0	143.5	<b>30828-091</b>
6	253.8	232.3	<b>30828-097</b>

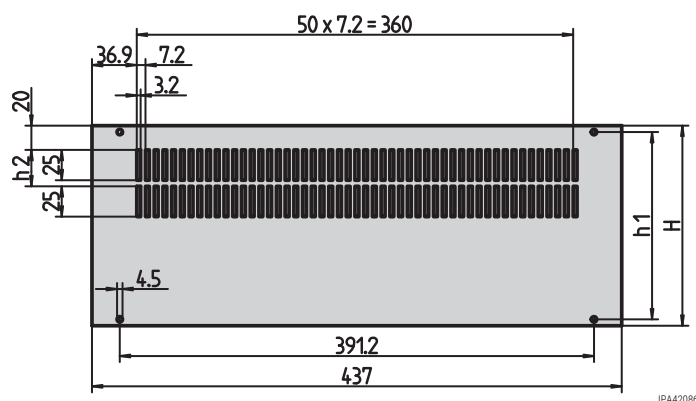
Hinge for front panel PPE, UL 94 V-0,  
PU 1 kit (includes fixing material kit and 2 collar screws)

**20828-028**

### Note

- Please order hinge for front panel separately

## REAR PANEL WITH VENTILATION OPENINGS



### DELIVERY COMPRISES (kit)

Item	Qty	Description
1	1	Rear panel, incl. assembly kit, Al, 2 mm, anodised, cut edges untreated

### ORDER INFORMATION

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

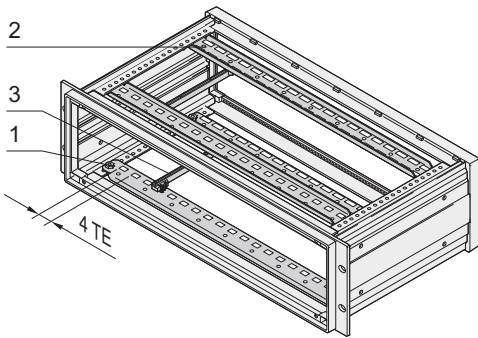
### Note

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



# 19" chassis – Inpac

## SUPPORT RAIL FOR GUIDE RAILS



- 4 support rails to fix PCBs with guide rails
- Support rail can also be used to fix a custom mounting plate

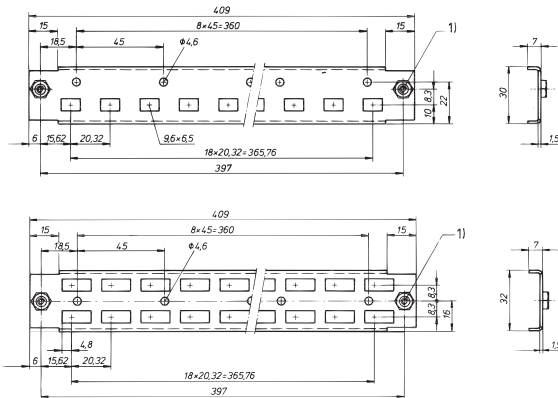
### ORDER INFORMATION

Item	Description	Part no.
1	front support rail, St, 1.5 mm, blue-passivated, 1 piece	<b>30828-165</b>
2	rear support rail, St, 1.5 mm, blue-passivated, 1 piece	<b>30828-174</b>

### Accessories

Guide rail 160 mm (Item 3), PBT, UL 94 V-0, with integrated fixture for connector to EN 60603 (DIN 41612), PU 1 pair	<b>60817-078</b>
Guide rail 220 mm (Item 3), PBT, UL 94 V-0, with integrated fixture for connector to EN 60603 (DIN 41612), PU 1 pair	<b>60817-079</b>
Screw for mounting of support rails, M4 x 8, flathead bolts with posidrive, PU 100 pieces	<b>21100-677</b>

- Guide rails see page 6.134

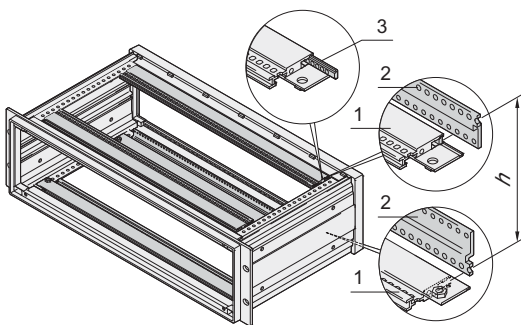


IPA30639

a3-308xx

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

## HORIZONTAL RAIL FOR GUIDE RAILS, BACKPLANE AND CONNECTOR MOUNTING



- 4 horizontal rails to fix guide rails (for PCBs) and for backplane or connector mounting
- Useable width 75 HP

### ORDER INFORMATION

Item	Description	Qty/PU	Part no.
1	Horizontal rail 75 HP, Al extrusion, anodised	1	<b>30828-128</b>

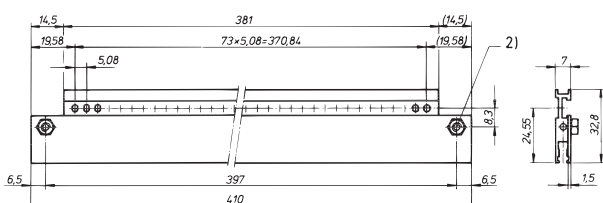
### Accessories

Z-rail (item 2), Al extrusion, anodised, 1 piece	<b>30814-513</b>
Threaded insert (item 3), St, zinc-plated (blue), 1 piece	<b>30819-604</b>
Screw to fix horizontal rails, M4 x 8, Pozidrive flathead screw, 100 pieces	<b>21100-677</b>
Cheesehead screw with slot M2.5 x 6, DIN 84, PU 100 pieces M2.5 x 6, DIN 84, 100 pieces	<b>21100-146</b>

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

IPA30640

h	Bolt-on dimension of backplane
2	75.40
3	119.80
4	164.30
6	252.90



A4-587

2) bush M4, pressed-in

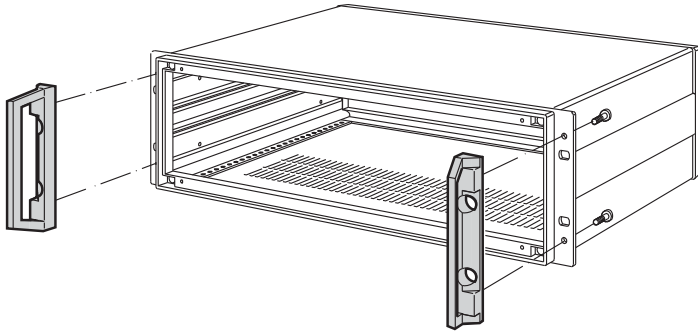
### Note

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

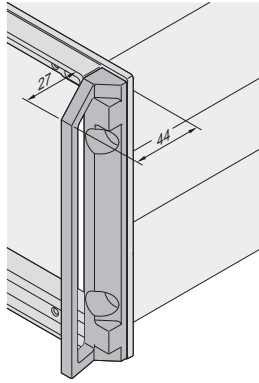


# 19" chassis – Inpac

## FRONT HANDLES



IPA30636



02108050

- Load-carrying capacity 35 kg per pair

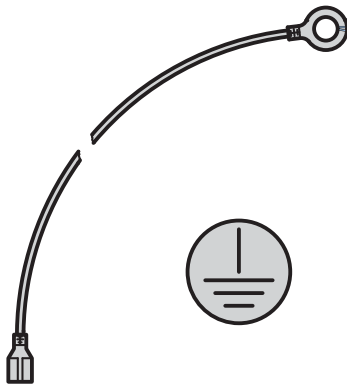
### DELIVERY COMPRISES (kit)

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

### ORDER INFORMATION

Height	Part no.
U	
3	<b>20828-127</b>
4	<b>20828-128</b>
6	<b>20828-129</b>

## GND/EARTHING KIT



aza43284

- The GND/earthing kit allows VDE-compliant earthing of the case to:
  - DIN EN 50178/VDE 0160
  - DIN EN 60950/VDE 0805
  - DIN EN 61010-1/VDE 0411 Part 1
  - DIN EN 61010-1A2/VDE 0411 Part 1/A
- VDE inspection has been carried out

### ORDER INFORMATION

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

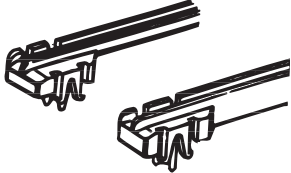

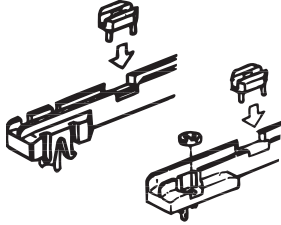


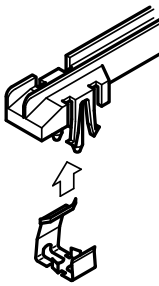
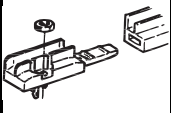
# 19" chassis – Inpac

## GUIDE RAILS



04292012

## ORDER INFORMATION

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

### Accessories

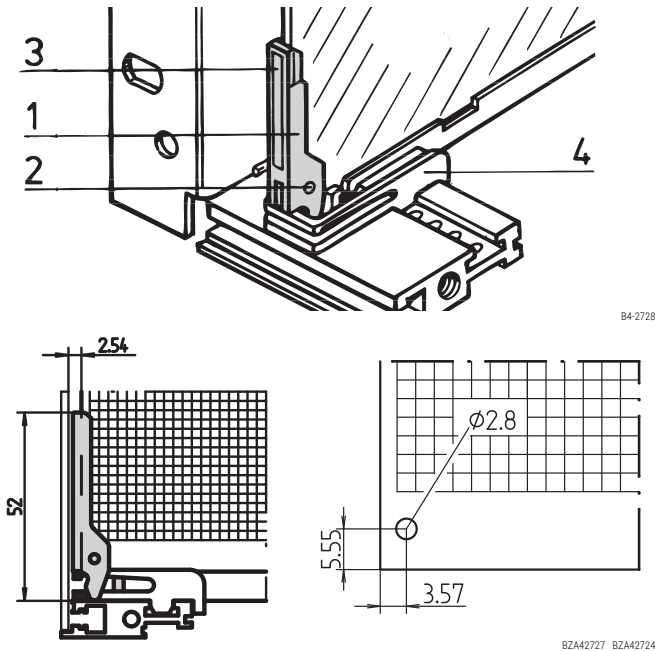
Spring clip PPE, UL 94 V-0, red, PU 10 pieces	<b>21100-553</b>	<b>21100-553</b>	–	–	–
Spring clip PPE, UL 94 V-0, red, PU 100 pieces	<b>21100-554</b>	<b>21100-554</b>	–	–	–
Assembly parts for 50 guide rails PU (100 screws, 100 nuts)	–	<b>21101-990</b>	–	–	<b>21101-990</b>

### Note

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

# 19" chassis – Inpac

## PCB HANDLE A



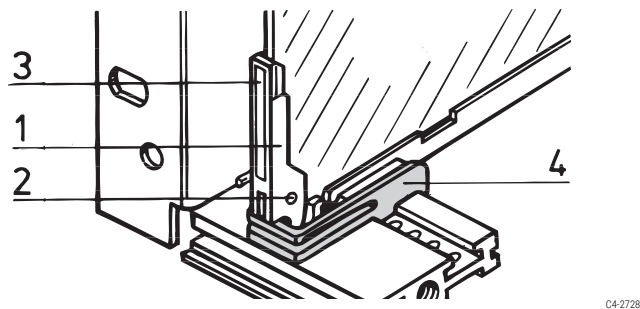
- To be mounted behind front panel, for PCB thickness 1.6 mm
- Insertion and extraction function
- Can be labelled

### ORDER INFORMATION

Item	Description	Material	Colour	Qty/PU	Part no.
1	PCB handle A	PBT, UL 94 V-0	red	1 piece (SPQ 10)	<b>60817-096</b>
2	Pivot pin DIN 7	Stainless steel	–	100	<b>21100-671</b>
3	Identification strip	Polyester film, self-adhesive	matt-silver	100	<b>21100-672</b>

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

## PCB RETAINER A



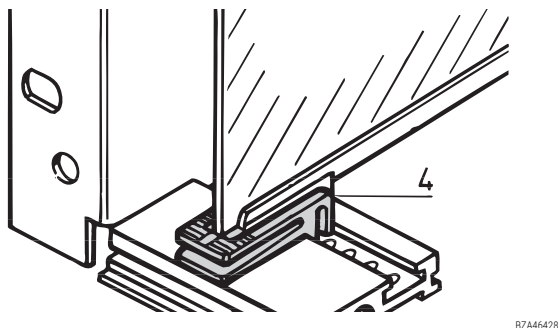
- Can also be used without PCB handle
- Application on top and bottom horizontal rail

### ORDER INFORMATION

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

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

## PCB RETAINER B



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

### ORDER INFORMATION

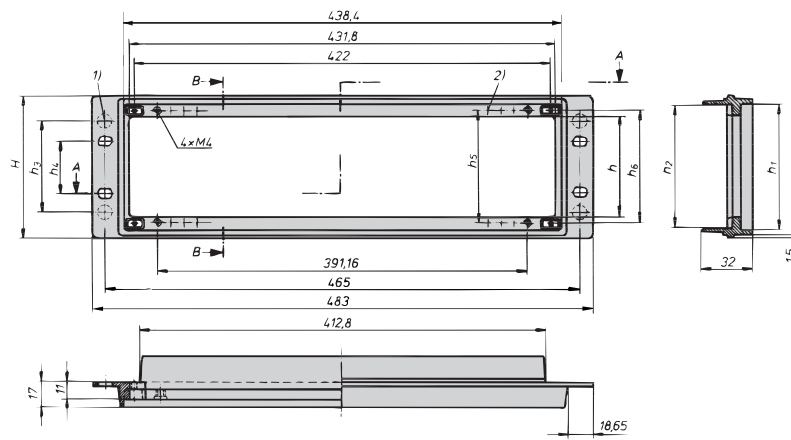
Item	Description	Material	Colour	Qty	Part no.
4	PCB retainer, bottom	PPE, UL 94 V-0	red	1 piece (SPQ 10)	<b>60817-054</b>
4a	PCB securing top	PPE, UL 94 V-0	black	1 piece (SPQ 10)	<b>60817-071</b>

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

# 19" chassis – Inpac

## DIMENSIONS

### 19" FRONT FRAME



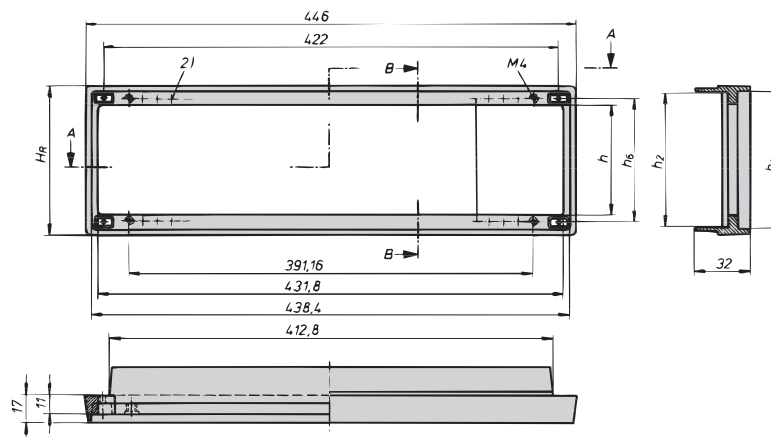
Section A-A

A3-306

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

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

### 19" REAR FRAME



Section A-A

A3-305

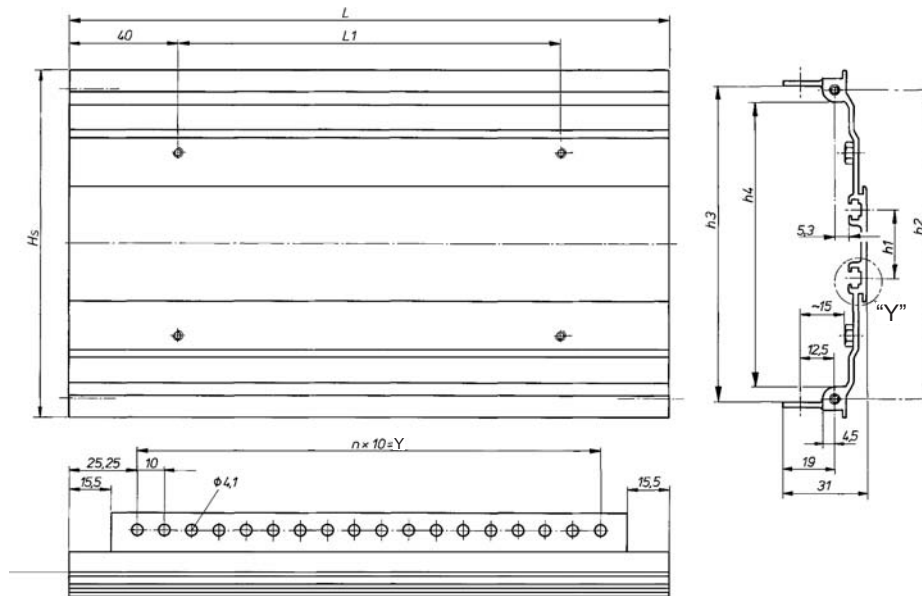
### Dimensions table

Height in U	H	H <sub>R</sub>	h	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	h <sub>5</sub>	h <sub>6</sub>	h <sub>7</sub>
2	88,0	86,0	57,5	77,3	69,8	25,0	76.2	65,5	68,0	68,4
3	132.5	130.5	102.5	121.8	114.3	90,0	57.1	110.0	112,5	112.8
4	177.0	175.0	146.5	166.3	158.8	134.5	101.6	154.5	157,0	157.3
6	265.9	263.9	235.4	255.2	247.7	233.4	190.4	243.4	245,9	245,9

# 19" chassis – Inpac

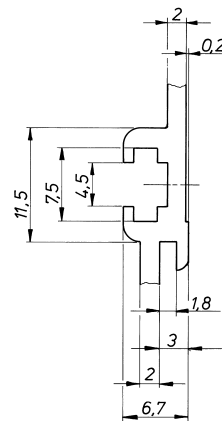
## DIMENSIONS

### SIDE PANEL



A3-304a

Detail "Y"



A3-304b

### Dimensions table

Height in U	H	$h_1$	$h_2$	$h_3$	$h_4$	L	$L_1$	(n)	Y	T
2	82,6	-	68,0	71,4	59,0	220,5	140,5	17,0	170	254,5
2	82,6	-	68,0	71,4	59,0	280,5	200,5	23,0	230	314,5
2	82,6	-	68,0	71,4	59,0	340,5	260,5	29,0	290	374,5
3	127,0	24,0	112,5	115,8	103,5	220,5	140,5	17,0	170	254,5
3	127,0	24,0	112,5	115,8	103,5	280,5	200,5	23,0	230	314,5
3	127,0	24,0	112,5	115,8	103,5	340,5	260,5	29,0	290	374,5
4	171,0	68,5	157,0	160,3	148,0	220,5	140,5	17,0	170	254,5
4	171,0	68,5	157,0	160,3	148,0	280,5	200,5	23,0	230	314,5
4	171,0	68,5	157,0	160,3	148,0	340,5	260,5	29,0	290	374,5
6	260,4	157,1	245,9	248,9	236,5	220,5	140,5	17,0	170	254,5
6	260,4	157,1	245,9	248,9	236,5	280,5	200,5	23,0	230	314,5
6	260,4	157,1	245,9	248,9	236,5	340,5	260,5	29,0	290	374,5

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