

CONNECT AND PROTECT

EuropacPRO for  
Railroad Applications



04/2023

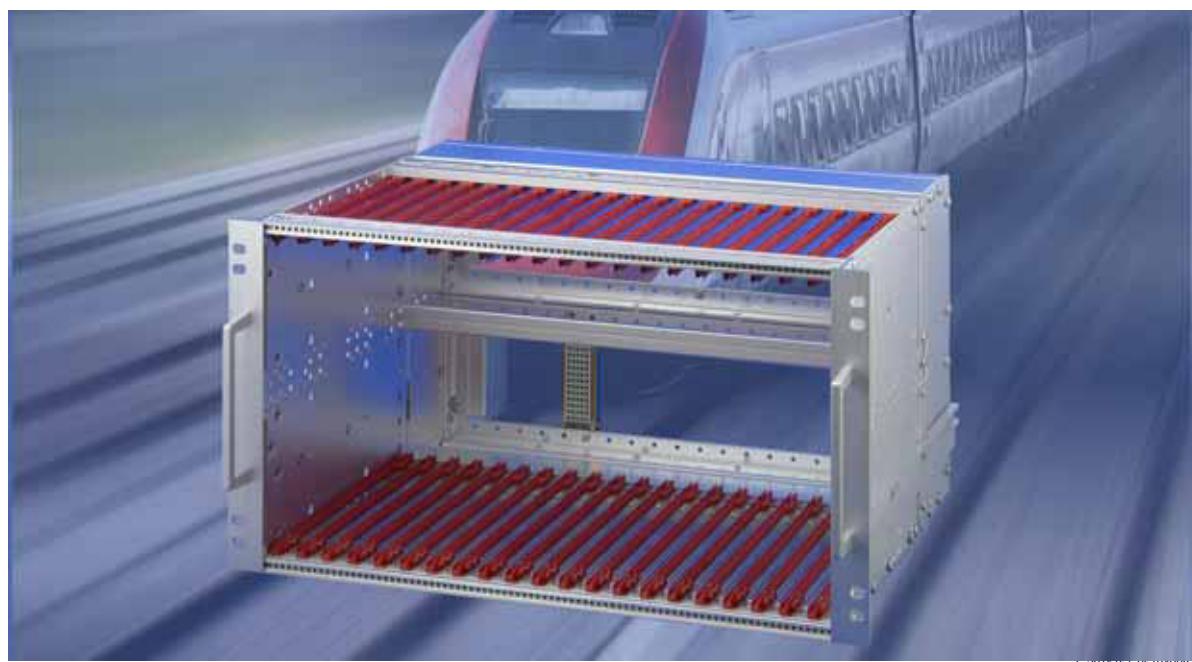
nVent  
SCHROFF

# Subracks – EuropacPRO

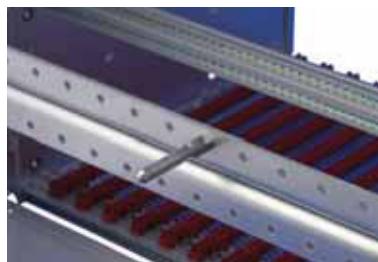
## OVERVIEW

### MAIN KATALOG

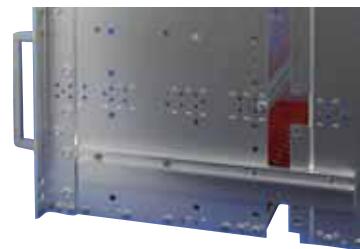
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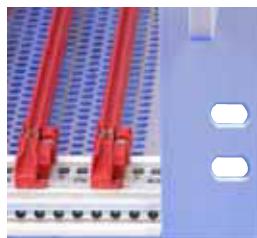


06108015

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

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

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



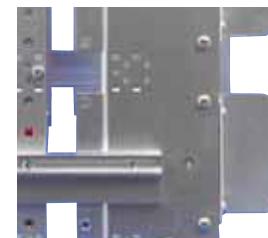
06108016

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, part 12.2.11  
NFF 61-005 / NFF 60-002, BN 411002 and BN 411003
- Versions for CompactPCI applications
- Best suited for high mechanical demands

#### BN 411002, 411003 SUBRACKS



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



135906896

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

#### EN 50155 SUBRACK

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



06104006

#### 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



136567164

136567192

SNCF subracks  
unshielded ..... 6.78  
shielded ..... 6.79  
shielded, for  
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Accessories  
Guide rails ..... 6.81  
Cover plates ..... 6.82  
General accessories  
in europacPRO  
section ..... 6.19  
Application  
examples ..... 6.84



06104003

#### SERVICEPLUS

- e.g. modification (cut-outs)
- e.g. downloads (3D-CAD drawings, user manuals, test reports)
- e.g. custom solutions

europacPRO... 6.6  
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industrial  
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rugged  
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# 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, part 12.2.11 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

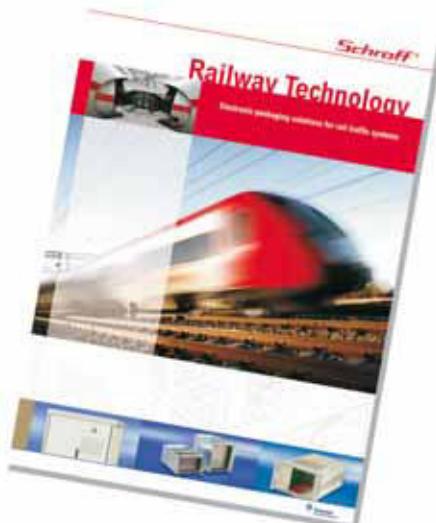
1 T = 4 HP = 20.32 mm

### 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

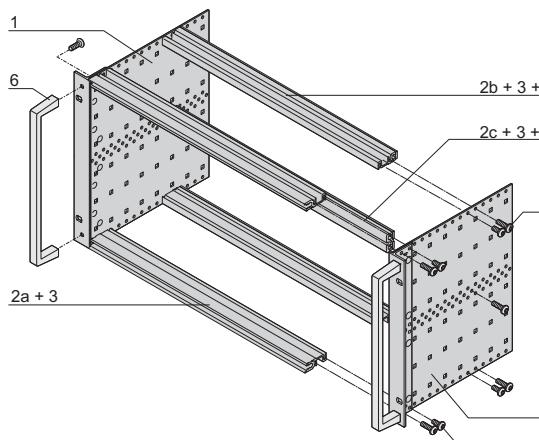
# Subracks – EuropacPRO

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



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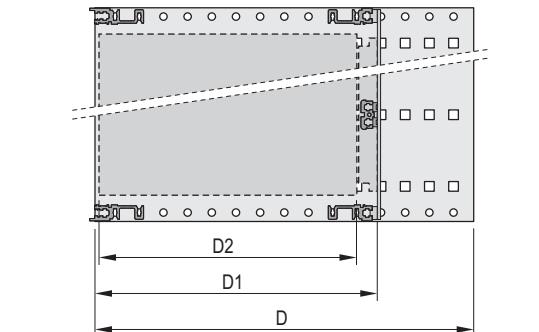
Without front handle



6 U

06111057

With front handle



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 COMPRISSES (Kit)

Item	Qty	3 U	6 U	Description
1	2	2		Side panel type H, Al, 2 mm, passivated, with 19" support bracket (tox-cold welded) for textile EMC gasket
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, angled version (on version with front handle only)

### ORDER INFORMATION

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

### Accessories

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

Depth D2 mm	Qty/PU pieces	Part no.
160	10	24568-361
220	10	24568-362
280	10	24568-379

### Guide rails (Type Accessorie, reinforced)

Depth D2 mm	Qty/PU pieces	Part no.
160	50	64568-076
220	50	64568-078
280	50	64568-080

### ESD clip for guide rails PU 50 pieces

Torx panhead screw, for extra bolting of the guide rails, 2.5 x 9.3, zinc-plated, PU 100 pieces	24560-255
	24560-141

### 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

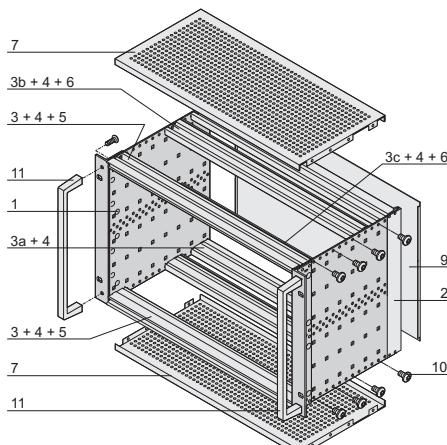
## KIT, SHIELDED, "HEAVY", FOR BACKPLANE MOUNTING



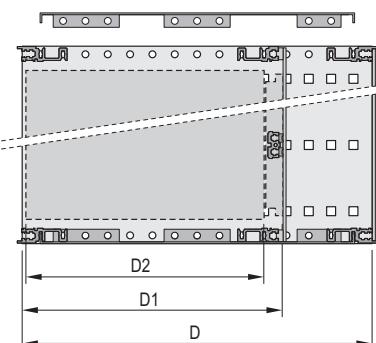
135906896

Without front handle

With front handle



6 U



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



04400001

Rear horizontal rail for backplane mounting with insulation strip

- Subrack with side panel type 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 COMPRISSES (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, angled version (on version with front handle only)

06111058

### 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	24567-172	24563-172
3	84	295	175/235	24567-173	24563-173
3	84	355	175/235/295	24567-174	24563-174
6	84	235	175	24567-472	24563-472
6	84	295	175/235	24567-473	24563-473
6	84	355	175/235/295	24567-474	24563-474

#### Accessories

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

1 kit, EMC gasket stainless steel, for U-shaped front panel, 3U, 10x 21102-105

1 kit, EMC gasket stainless steel, for U-shaped front panel, 6U, 10x 21102-107

#### Guide rails (Type Standard)

Depth D2 mm	Qty/PU pieces	Part no.
160	10	24568-361
220	10	24568-362
280	10	24568-379

#### Guide rails (Type Accessorie, reinforced)

Depth D2 mm	Qty/PU pieces	Part no.
160	50	64568-076
220	50	64568-078
280	50	64568-080
ESD clip for guide rails PU 50 pieces		24560-255

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

- Perforated rail for connectors see page 6.36

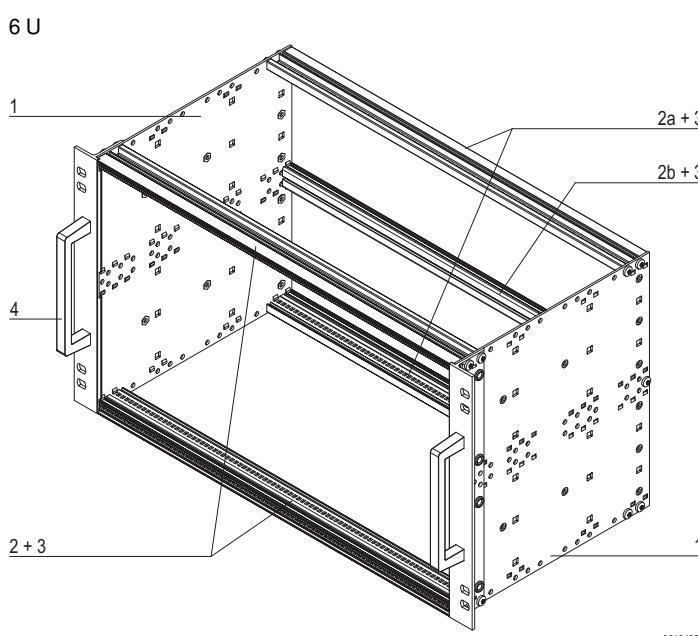
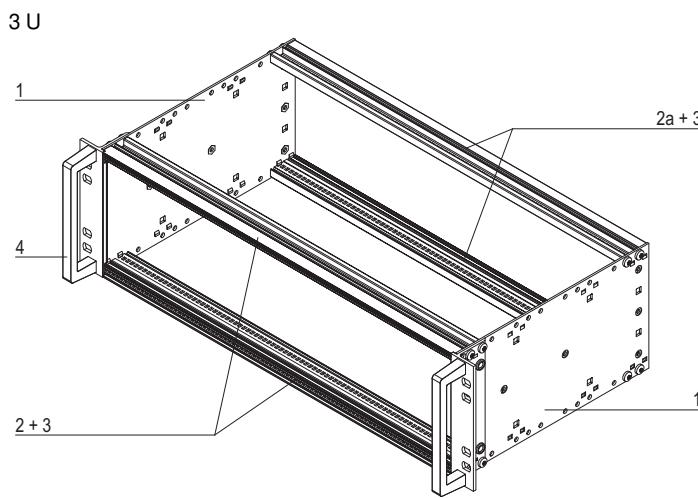
- Further accessories from page 6.19

# Subracks – EuropacPRO

KIT, EN 50155, UNSHIELDED



108230520



- Subrack in robust "heavy" version, 19" bracket is firmly connected to side panel (tox-cold welded)
- For mobile railway applications
- Tested to EN 50155, part 12.2.11
- 3 U and 6 U, 84 HP, 235 mm deep, for 220 mm board depth

## DELIVERY COMPRISSES (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

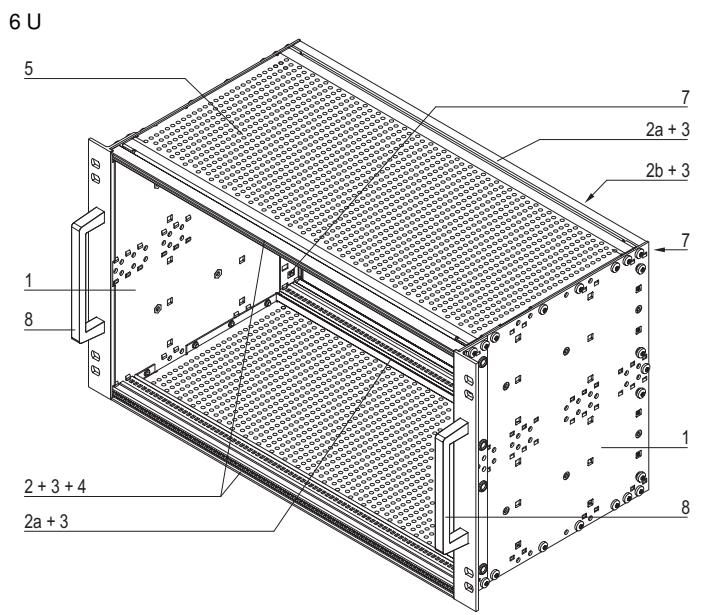
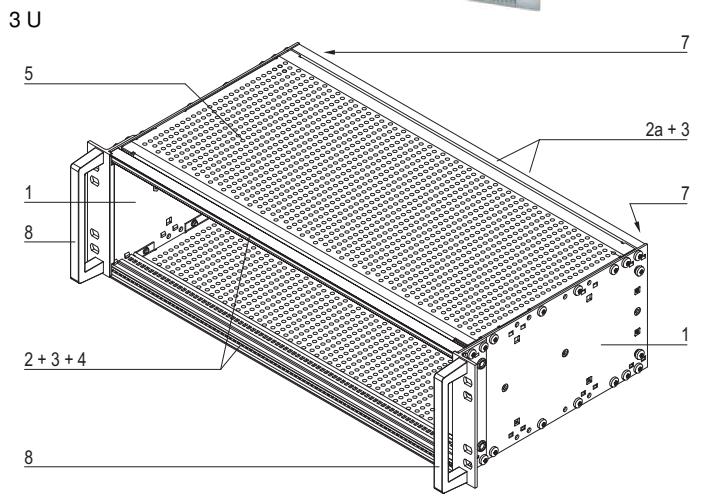
Height U	Width HP	Depth mm	Part no.
3	84	235	21500-077
6	84	235	21500-078
Accessories			
Guide rail, Type Standard, 220 mm deep PC, UL94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.38			
Guide rail, Type Accessorie, reinforced, 220 mm deep PC, UL94 V-0, red, groove width 2 mm, PU 50 pieces, see page 6.38			
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			
ESD clip for guide rails PU 50 pieces			
Cover plate for screw-fixing onto side panel width 84 HP, depth 220 mm, PU 1 kit			
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit			

## 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, part 12.2.11
- 3 U and 6 U, 84 HP, 235 mm deep, for 220 mm board depth

## DELIVERY COMPRISSES (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	21500-080
Accessories			
Guide rail, Type Standard, 220 mm deep PC, UL94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.38			
Guide rail, Type Accessorie, reinforced, 220 mm deep PC, UL94 V-0, red, groove width 2 mm, PU 50 pieces, see page 6.38			
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			
ESD clip for guide rails PU 50 pieces			
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit			
1 kit, EMC gasket stainless steel, for U-shaped front panel, 3U, 10x			
1 kit, EMC gasket stainless steel, for U-shaped front panel, 6U, 10x			

## NOTE

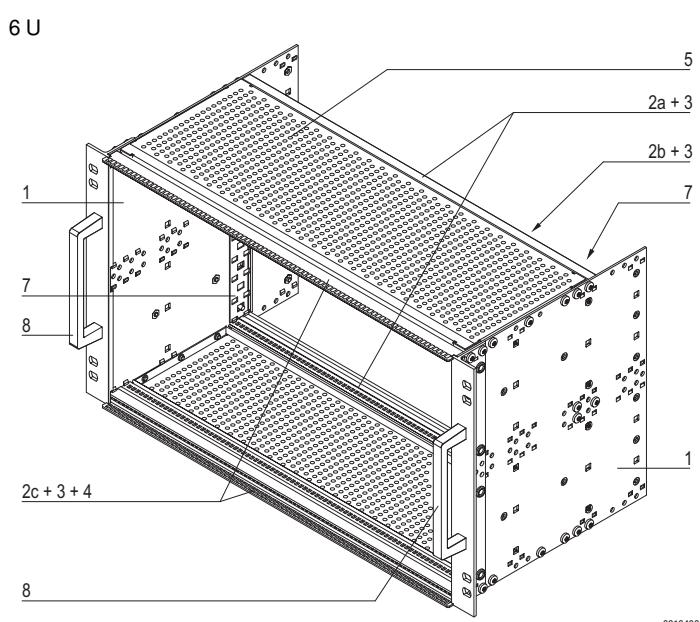
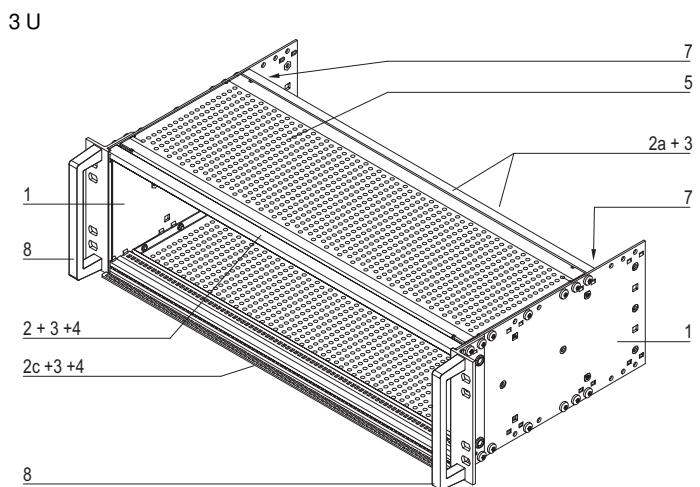
- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

KIT, EN 50155, SHIELDED, FOR COMPACT PCI APPLICATIONS



108231137



- Subrack in robust "heavy" version, 19" bracket is firmly connected to side panel (tox-cold welded)
- For mobile railway applications
- Tested to EN 50155.part 12.2.11
- 3 U and 6 U, 84 HP, 235 mm deep, for 160 mm board depth
- Subrack in accordance with IEEE 1101.10

## DELIVERY COMPRISSES (kit)

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

## ORDER INFORMATION

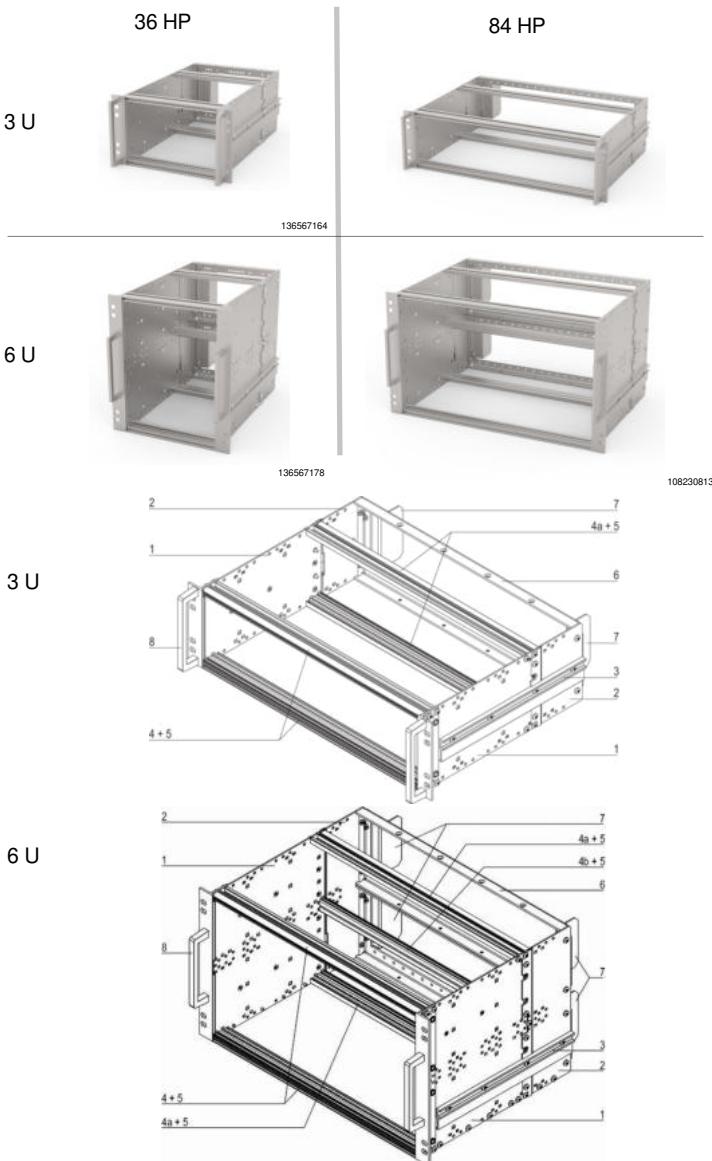
Height U	Width HP	Depth mm	Part no.
3	84	235	21500-081
6	84	235	21500-082
<b>Accessories</b>			
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit			24566-109
1 kit, EMC gasket stainless steel, for U-shaped front panel, 3U, 10x			<b>21102-105</b>
1 kit, EMC gasket stainless steel, for U-shaped front panel, 6U, 10x			<b>21102-107</b>

## NOTE

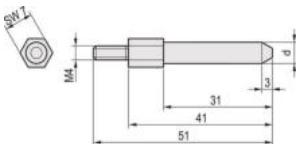
- Please order guide rails and ESD clips separately, see page 6.81
- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

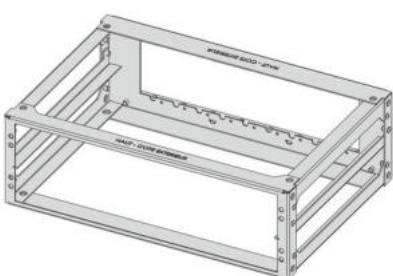
## KIT, SNCF, UNSHIELDED



Coding peg



On-Board Rack (Image of 3U, 84HP)



- 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 COMPRISSES (kit)

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

### ORDER INFORMATION

Width mm	Height U	Depth mm	Part no.
36 HP (9 T)	3	320	21500-067
36 HP (9 T)	6	320	21500-070
84 HP (21 T)	3	320	21500-029
84 HP (21 T)	6	320	21500-027
Accessories			
Guide rail, Type Standard, 220 mm deep PC, UL94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.38			24568-362
Guide rail, Type Accessorie, reinforced, 220 mm deep PC, UL94 V-0, red, groove width 2 mm, PU 50 pieces, see page 6.38			64568-078
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
ESD clip for guide rails PU 50 pieces			24560-255
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit			24566-109
Coding peg for rear frame, ø 6.0, St, white zinc-plated, 1 piece			61500-623
Coding peg for rear frame, ø 6.5, St, white zinc-plated, 1 piece			60895-018
Cover plate for screw-fixing onto side panel width 84 HP, depth 220 mm, PU 1 kit			21500-037

### On Board Racks (Receptacle) for subracks

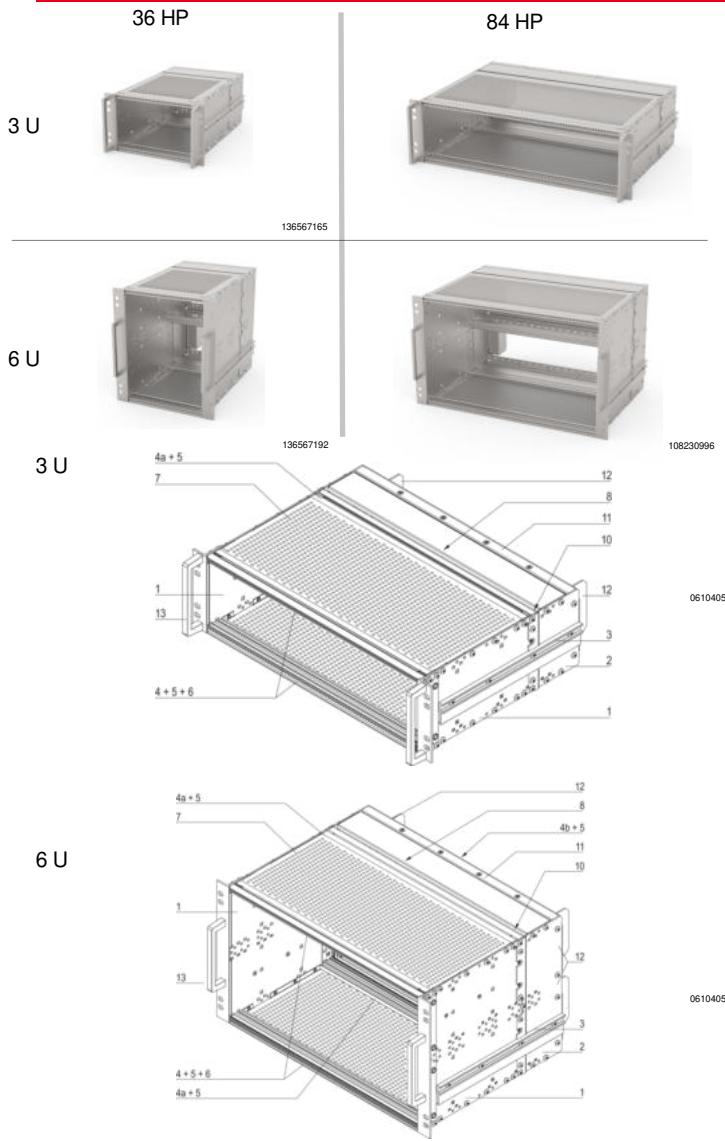
Width mm	Height U	Depth mm	Part no.
36 HP (9 T)	3	340	10170-015
36 HP (9 T)	6	340	10170-013
84 HP (21 T)	3	340	10170-014
84 HP (21 T)	6	340	10170-012

### NOTE

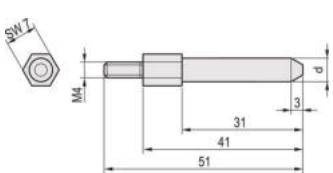
- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

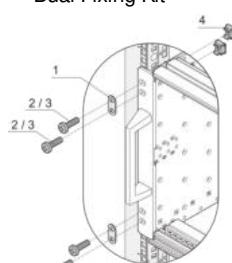
## KIT, SNCF, SHIELDED



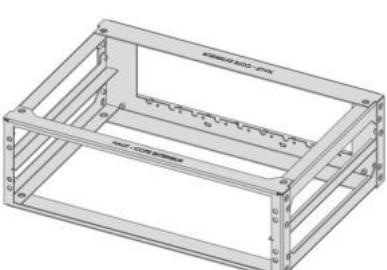
Coding peg



Dual Fixing Kit



On-Board Rack (Image of 3U, 84HP)



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

- 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 COMPRISSES (kit)

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

### ORDER INFORMATION

Width	Height	Depth	Part no.
	U	mm	
36 HP (9 T)	3	320	21500-068
36 HP (9 T)	6	320	21500-071
84 HP (21 T)	3	320	21500-030
84 HP (21 T)	6	320	21500-028
Accessories			
Guide rail, Type Standard, 220 mm deep			
PC, UL94 V-0, red, groove width 2 mm, PU 10 pieces, see page 6.38			24568-362
Guide rail, Type Accessorie, reinforced, 220 mm deep			
PC, UL94 V-0, red, groove width 2 mm, PU 50 pieces, see page 6.38			64568-078
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
ESD clip for guide rails PU 50 pieces			24560-255
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit			24566-109
Coding peg for rear frame, ø 6.0, St, white zinc-plated, 1 piece			61500-623
Coding peg for rear frame, ø 6.5, St, white zinc-plated, 1 piece			60895-018
1 kit, EMC gasket stainless steel, for U-shaped front panel, 3U, 10x			<b>21102-105</b>
1 kit, EMC gasket stainless steel, for U-shaped front panel, 6U, 10x			<b>21102-107</b>

### On Board Racks (Receptacle) for subracks

Width	Height	Depth	Part no.
mm	U	mm	
36 HP (9 T)	3	340	10170-015
36 HP (9 T)	6	340	10170-013
84 HP (21 T)	3	340	10170-014
84 HP (21 T)	6	340	10170-012

### NOTE

- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

KIT, SNCF, SHIELDED, FOR COMPACTPCI APPLICATIONS

36 HP

3 U



136567166

84 HP

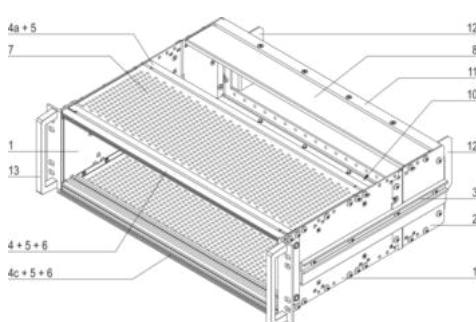


6 U



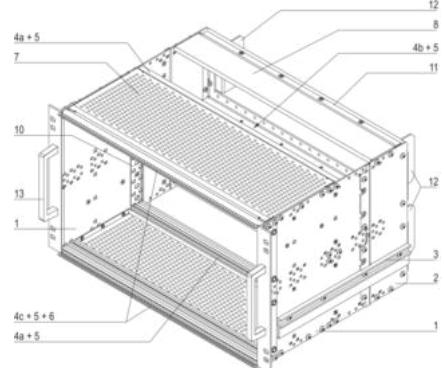
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3 U



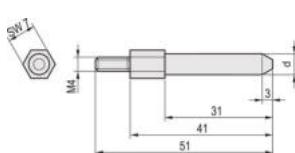
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6 U

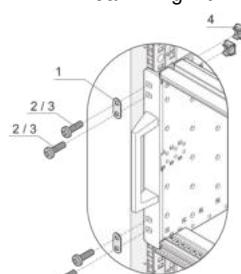


06104054

Coding peg



Dual Fixing Kit



On-Board Rack (Image of 3U, 84HP)



- 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 COMPRISSES (kit)

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

## 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, ø 6.0, St, white zinc-plated, 1 piece	61500-623
Coding peg for rear frame, ø 6.5, St, white zinc-plated, 1 piece	60895-018
19" dual fixing materials kit suitable for a subrack with double fixing holes (bolts, washers and nuts), PU 1 kit	24566-109
1 kit, EMC gasket stainless steel, for U-shaped front panel, 3U, 10x	<b>21102-105</b>
1 kit, EMC gasket stainless steel, for U-shaped front panel, 6U, 10x	<b>21102-107</b>

### On Board Racks (Receptacle) for subracks

Width	Height	Depth	Part no.
mm	U	mm	
36 HP (9 T)	3	340	10170-015
36 HP (9 T)	6	340	10170-013
84 HP (21 T)	3	340	10170-014
84 HP (21 T)	6	340	10170-012

### NOTE

- fer = ferroviaire = French Railways, 1 T = 4 HP = 20.32 mm
- Test reports online
- Further accessories see from page 6.19

# Subracks – EuropacPRO

## GUIDE RAILS

Guide rail Type Standard,



136815561

Guide rail Type Accessorie, reinforced



124624420

- Material PC, 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, Type Standard, 160 mm	160	10	24568-361
Guide rails, Type Standard, 220 mm	220	10	24568-362
ESD clip for guide rails PU 50 pieces			24560-255
Description	Depth mm	Qty/PU	Part no.
Guide rails, Type Accessorie, reinforced, 160 mm	160	50	64568-076
Guide rails, Type Accessorie, reinforced, 220 mm	220	50	64568-078
ESD clip for guide rails PU 50 pieces			24560-255

## GUIDE RAILS WITH CODING FOR COMPACTPCI AND VME64X

IEEE Guide rails



124624426

IEEE Guide rails, 0,1" offset



124675998

- 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

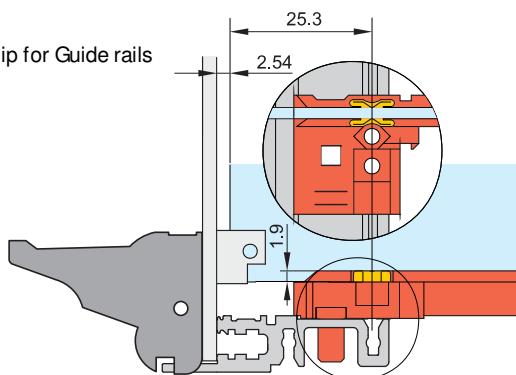
- Material PC UL 94 V0, EN 45545-2 conform, R22...R24, HL3, groove width 2 mm, for board thickness 1.6 mm

- Colour:
  - red, RAL 3000, (CPU board)
  - grey, RAL 7016, (periphery board)
  - green, RAL 6024, (CompactPCI power supply unit, 0,1" offset)

## ORDER INFORMATION

Description	Depth mm	Qty/PU	Part no.
Guide rails with coding, red	160	10	24568-356
Guide rails with coding, grey	160	10	24568-358
Guide rails with coding, green, offset	160	10	24568-359
Panhead screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
ESD clip for guide rails PU 50 pieces			24560-255
ESD clip for alignment pin of CPCl/VME64x handle PU 50 pieces			24560-256
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces			20817-501

ESD clip for Guide rails

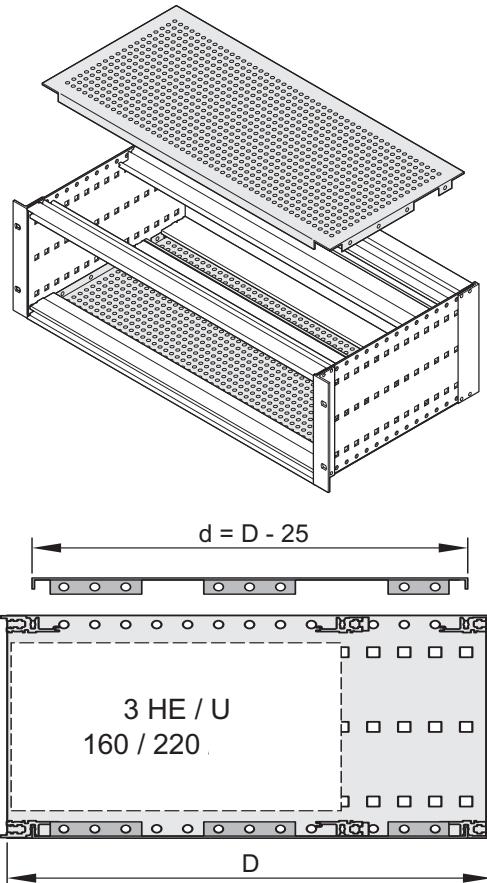


04505050

- 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

# 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 COMPRISSES

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

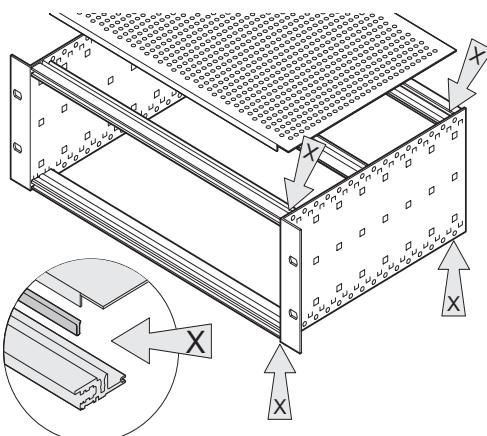
### ORDER INFORMATION

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

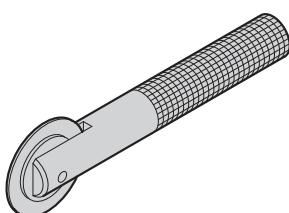
### NOTE

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

## 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

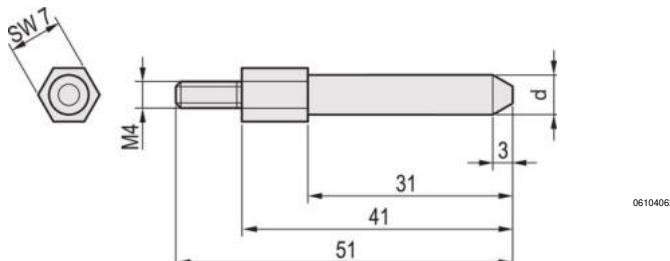
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### NOTE

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

# Subracks – EuropacPRO

## CODING PEG FOR REAR FRAME (NFF STANDARD)

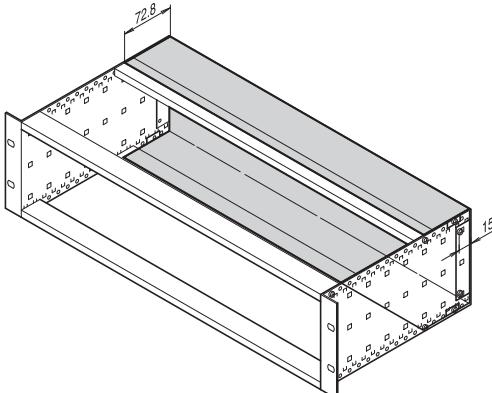
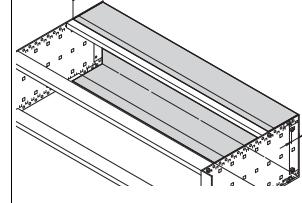


### ORDER INFORMATION

Description	Diameter d	Qty/PU	Part no.
Coding peg, St, white zinc-plated	6.0 mm	1	61500-623
Coding peg, St, white zinc-plated	6.5 mm	1	60895-018

## REAR HOOD FOR 3 U AND 6 U SUBRACKS (FOR STAINLESS STEEL EMC GASKET)

### ORDER INFORMATION

Height U	Width HP	Rear hood	Stainless steel EMC gasket, between cover plate and horizontal rail
3	42		
3	84		
6	63		
6	84		
Torx panhead screw, M4 x 6, St, zinc-plated, PU 100 pieces		34561-750	24560-241
Assembly tool, For EMC gasket, stainless steel (horizontal rails), 1 piece		34561-752	24560-245
		34561-763	24560-243
		34561-764	24560-245
		24560-135	–
		–	24560-271

### NOTE

- Other dimensions of rear hood available on request

# Subracks – EuropacPRO

## APPLICATION EXAMPLES



Application: Subrack receptacle/mounting frame



Application: Automatic train control system

06108020



Application: Signalling control systems

06108006



Application: Mobile telephony system

41108001



Application: Control system

0see\_DSCN2296



Application: Train control system

01004031

# Subracks – EuropacPRO

# 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
Height U	Depth mm	1 piece	PU 1 pair	PU 1 pair	PU 1 pair	PU 10 pieces	PU 1 pair	PU 4 pieces
3	175	34560-185						
3	235	34560-187						
3	275	34579-300						
3	277.75	34579-002	24560-197	24560-198	24560-199	31101-705	34560-198	31101-934
3	295	34560-189						
3	355	34560-191						
3	415	34560-192						
3	475	34560-195						

06109052

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

## HORIZONTAL RAILS AND SIDE PANELS FOR DIFFERENT LOAD-CARRYING CLASSES



Light

06197007

Heavy

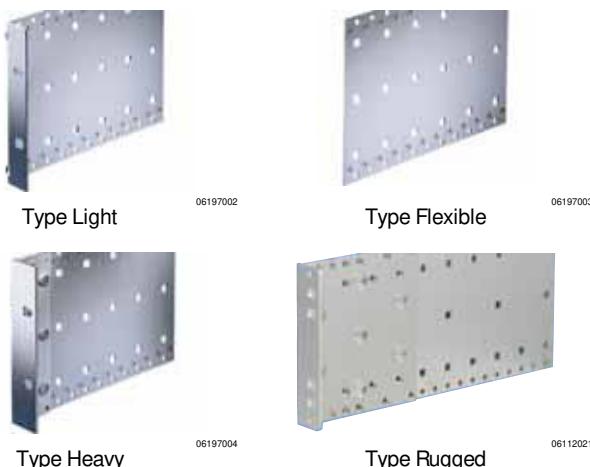
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Rugged

06112004

Horizontal rails are available for three load classes:

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

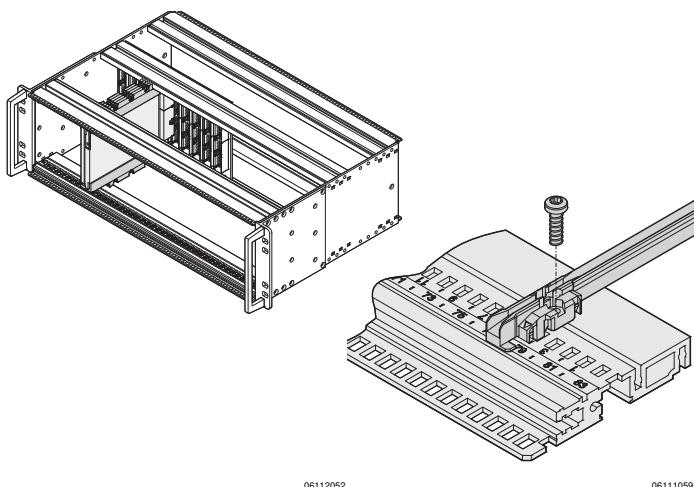


Side panels for 4 different load classes

- 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, ...).

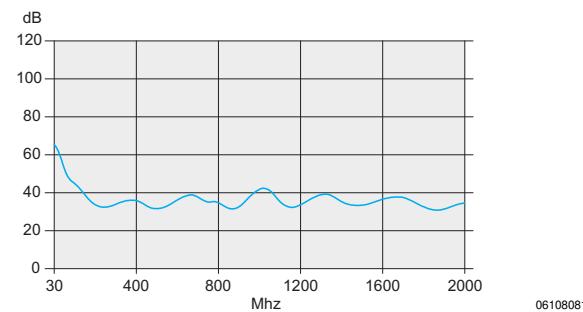
Robust snap-in fixings on the plastic rails assure a secure grip, even when exposed to vibrations. In the case of H and R-type horizontal rails the guide rails can also be bolted on. For extreme stresses, guide rails in aluminium extrusion are used.

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.

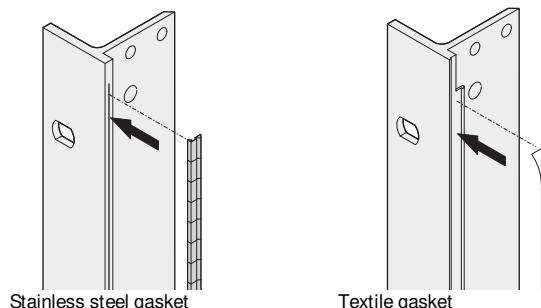
The continuous numbering on the horizontal rail (from 28 HP) and the markings on the guide rails facilitate quick fitting in the correct position.

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



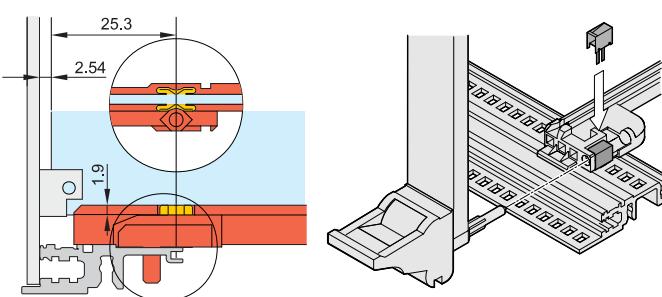
The product platform europacPRO offers a variety of off-the-shelf solutions to assure electromagnetic compatibility (EMC) and to avoid electrostatic discharge (ESD).



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)

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