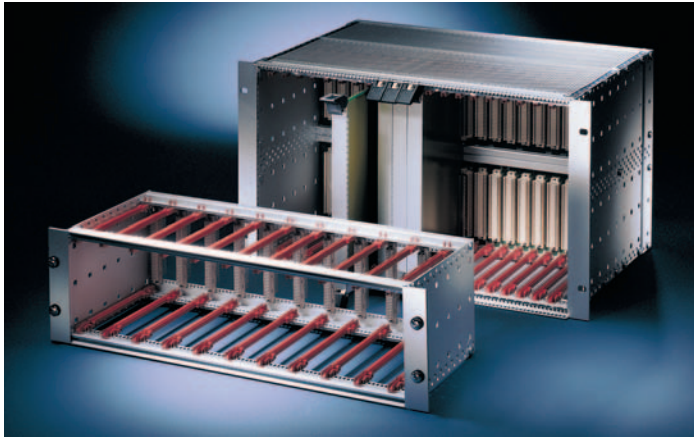


Subracks - *europac PRO* for railway applications

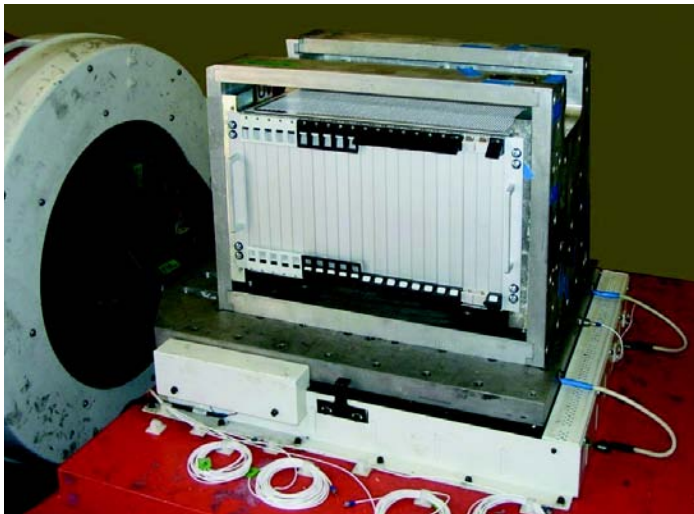
Subracks for railway applications



06103001

Solid structure mechanics

Electronics for mobile applications are in need of solid structure mechanics, which will also resist extreme environmental conditions. Our solutions are protecting assembled electronics with high mechanical stability which is an important contribution to the secure and smooth working of the whole system. Only reliability in the smallest detail makes complex safety tasks fulfillable and economical at the same time.



02004076

Shock and vibration

Schroff products ensure impact and vibration stability with mobile deployment e. g. by suitable material thickness and fastening parts. Tested with typical additional loads, they offer the best conditions for a safe and reliable existence in individual applications and projects.

Certification of the mechanics

Quality, robust and durable products are an important part of the certification of a complete application in accordance with DIN EN 50 155, BN 411002, NFF 61-005, NF-F 60002.

Note

FPCS = Ferroviaire (French) = railway
1 T = 4 HP = 20.32 mm

Technischer Überwachungs-Verein
Südwestdeutschland e.V.
68167 Mannheim, Dudenstraße 28
68032 Mannheim, Postfach 10 32 62
Telefon (0621) 395-342
Telefax (0621) 395-652

Gerätechnik
und Elektronik.

TUV
SÜDWEST

Akkreditiertes
Prüflabor (DA, Tech)
Reg.Nr. TT-1-G04490-01

Prüfbericht.

Die Prüfergebnisse beziehen sich
ausschließlich auf das genannte Prüfobjekt.
Dieser Prüfbericht darf ohne schriftliche
Genehmigung des TÜV Südwest nicht
andergewissen vervielfältigt werden.

Bericht Nummer	Anzahl Ausfertigung	Seiten	ausgestellt Datum
GEL3-JM-7 970170053/B Jakobi	1	6	05.02.1997

Prüfung
Schwing- und Schockprüfung
Prüfgrundlage/-Spezifikation
BN 411002

Projekt	Typbezeichnung	Ident-Nr.
Baugruppenträger	europac PRO 3 HE	

Auftraggeber	Hersteller
Schroff GmbH Langenälberstraße 96 - 100 75334 Straubenhardt	Schroff GmbH

Bearbeiter	Eingang Datum	Prüfdatum/-zeitraum
Jacobi	28.01.1997	29. und 30.01.1997

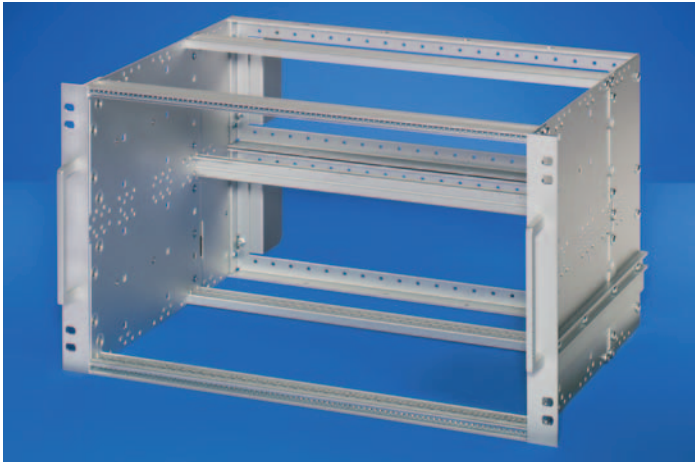
erstellt Unterschrift	geprüft Unterschrift
<i>Jacobi</i>	<i>[Signature]</i>

06-18 2193 Dr. Chifu, Stand 07/94



Subracks - *europacPRO* for railway applications

Subrack SNCF, unshielded

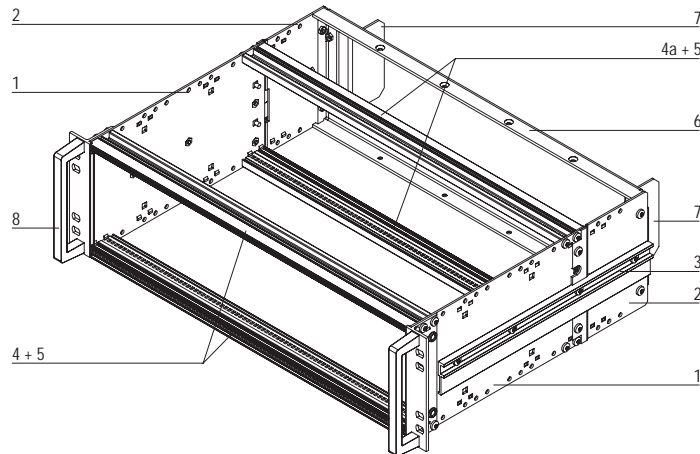


- SNCF listed, europacPRO-fer
- Tested to NF F 61-005 and NF F 60-002
- 3 U and 6 U, 21 T, 320 mm deep, for board depth 220 mm

Delivery comprises (kit)

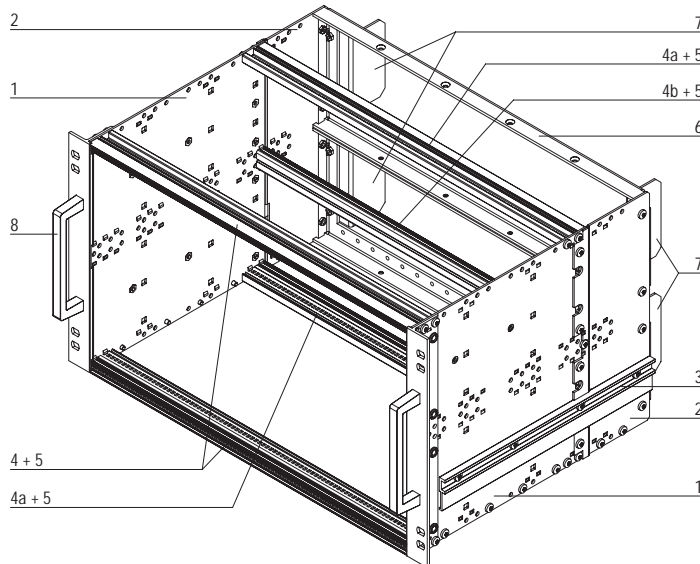
Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket (for textile gasketing)
2	2	2	Side panel extension
3	2	2	External guide rail
4	2	2	Front horizontal rail (H-KD)
4a	2	2	Rear horizontal rail (H-VT)
4b	-	1	Centre horizontal rail at the rear (VT)
5	4	6	Threaded strip
6	1	2	Rear frame 3 U, 21 T
7	2	4	Protective bracket SNCF
8	2	2	Handle
9	1	1	Assembly part kit with self-locking screws

3 U



06104002

6 U



06104050

06104051

Order Information

Height U	Width mm	Depth mm	Order no.
3	84 HP (21 T)	320	21500-029
6	84 HP (21 T)	320	21500-027
Guide rail, 220 mm deep PU 10 pieces			24560-353
ESD clip for guide rail PU 50 pieces			24560-255
Pan head screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
Coding pin for rear frame, St, white zinc-plated, 1 piece			60895-018
EMC gasket PU 1 kit			21500-036
Cover EMC direct screw fixing on side panel 235 T, PU 1 kit			21500-037
Cover EMC rear side 55 T, PU 1 kit			21500-038
EMC shielding material backplane PU 1 kit			21500-035
Assembly kit, PU 8 x (screw, washer, nut) for assembly of subracks in a 19" case or cabinet			21100-435

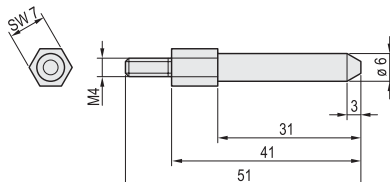
Note

- Version 9 T (36 HP) available on request (1T = 4 HP = 20.32mm)
- Fer = ferroviaire = railway
- For test reports, please see our web pages



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

Coding pin

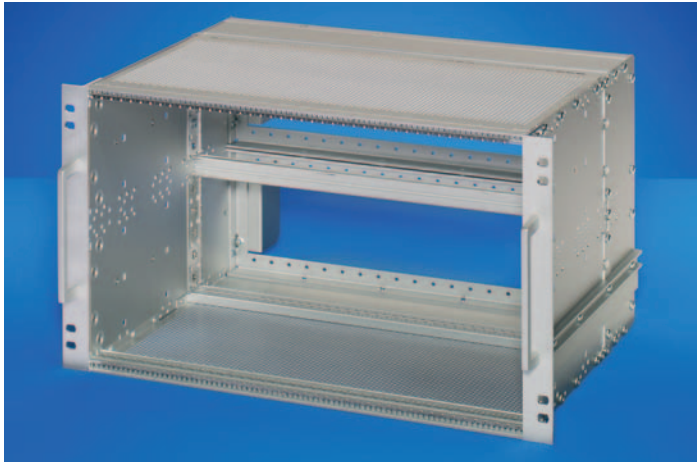


06104062



Subracks - europacPRO for railway applications

Subrack kit, shielded

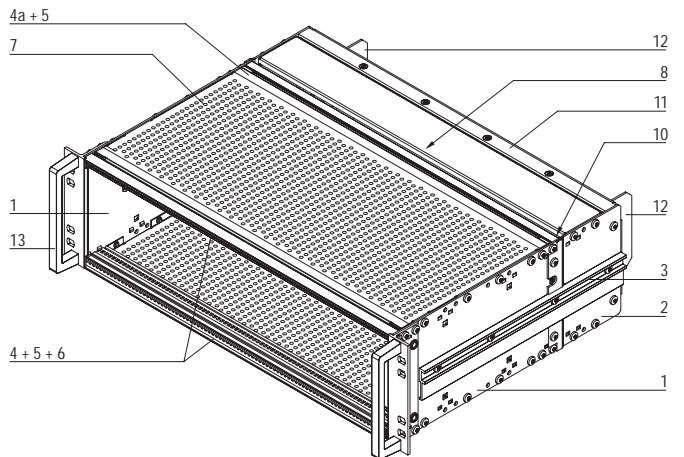


- SNCF listed, europacPRO-fer subrack
- Tested in accordance with NFF 61-005 and NFF 60-002
- 3 U and 6 U, 21 T, 320 mm deep, for board depth 220 mm
- 1 T = 4 HP

Delivery comprises (kit)

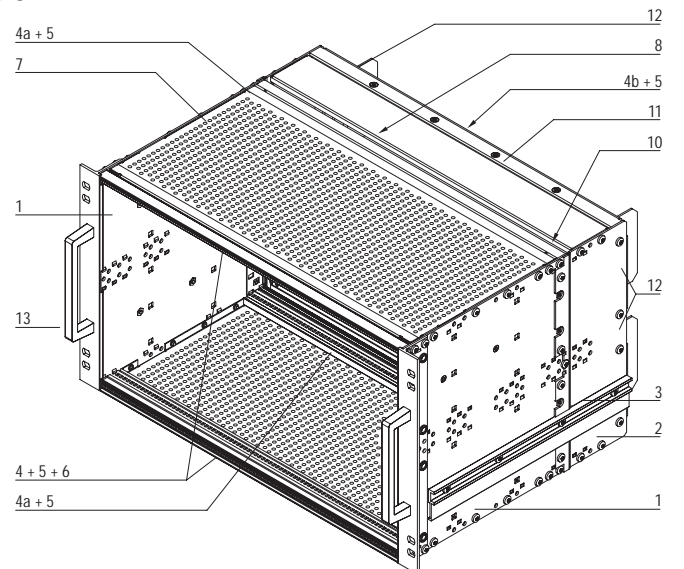
Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket (for textile gasketing)
2	2	2	Side panel extension
3	2	2	External guide rail
4	2	2	Front horizontal rail (H-KD)
4a	2	2	Rear horizontal rail (H-VT)
4b	-	1	Horizontal rail at the rear centre (VT)
5	4	6	Threaded strip
6	2	2	Perforated strip
7	2	2	Cover EMC 235 T
8	2	2	Cover EMC at the rear 55 T
9	1	1	EMC kit for gasketing
10	1	2	Backplane shielding kit 3 U
11	1	2	Rear frame 3 U, 21 T
12	2	4	Protective bracket SNCF
13	2	2	Handles
14	1	1	Assembly part kit with self-locking screws

3 U



0610403

6 U



06104052

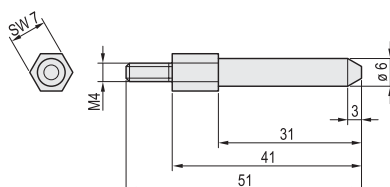
Order Information

Height U	Width	Depth mm	Order no.
3	84 HP (21 T)	320	21500-030
6	84 HP (21 T)	320	21500-028
Guide rail, 220 mm deep PU 10 pieces			24560-353
ESD clip for guide rail PU 50 pieces			24560-255
Pan head screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
Coding pin for rear frame, St, white zinc-plated, 1 piece			60895-018
Assembly kit, PU 8 x (screw, washer, nut) for assembly of subracks in a 19" case or cabinet			21100-435

Note

- Version 9 T (36 HP) available on request (1T = 4HP = 20.32 mm)
- Fer = ferroviaire = railway
- For test reports, please see our web pages

Coding pin



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oneClick code = Order no.



Subracks - europacPRO for railway applications

Subrack SNCF, shielded, for CompactPCI applications

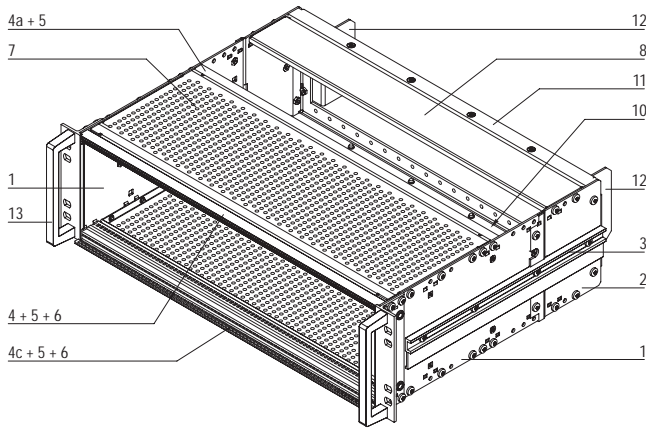


- SNCF listed, europacPRO-fer subrack
- Tested in accordance with NFF 61-005 and NFF 60-002
- 3 U and 6 U, 21 T, 320 mm deep, for board depth 160 mm
- Subrack in accordance with IEEE 1101.10

Delivery comprises (kit)

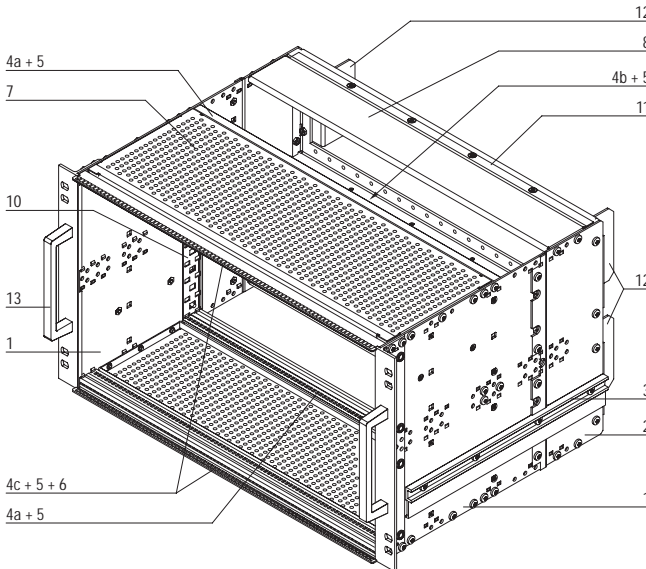
Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket (for textile gasketing)
2	2	2	Side panel extension
3	2	2	External guide rail
4	1	-	Front horizontal rail (H-KD)
4a	2	2	Rear horizontal rail (H-VT)
4b	-	1	Centre horizontal rail at the rear (VT)
4c	1	2	Front horizontal rail (H-LD)
5	4	6	Threaded strip
6	2	2	Perforated strip
7	2	2	Cover EMC 175 T
8	2	2	Cover EMC at the rear 55 T
9	1	1	EMC kit for gasketing
10	1	2	Backplane shielding kit 3 U
11	1	2	Rear frame 3 U, 21 T
12	2	4	Protective bracket SNCF
13	2	2	Handles
14	1	1	Assembly part kit with self-locking screws

3 U



06104004

6 U

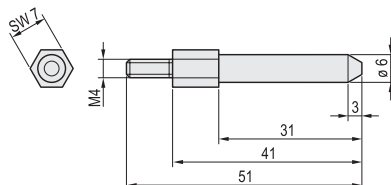


06104054

Order Information

Height U	Width	Depth mm	Order no.
3	84 HP (21 T)	320	21500-047
6	84 HP (21 T)	320	21500-046
Guide rail with coding, red 160 mm deep, PU 10 pieces			24560-356
Guide rail with coding, grey 160 mm deep, PU 10 pieces			24560-358
Guide rail with coding, green, offset 160 mm deep, PU 10 pieces			24560-359
ESD clip for guide rail PU 50 pieces			24560-255
ESD clip for alignment pin of the CompactPCI/VME64x handles PU 50 pieces			24560-256
Pan head screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
Coding pin for rear frame, St, white zinc-plated, 1 piece			60895-018
Assembly kit, PU 8 x (screw, washer, nut) for assembly of subracks in a 19" case or cabinet			21100-435

Coding pin



06104055

06104062

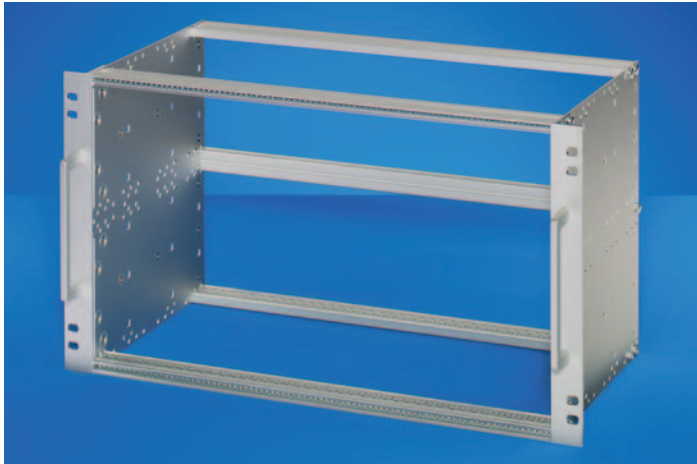
Note

- Version 9 T (36 HP) available on request (1T = 4HP = 20.32mm)
- Fer = ferroviaire = railway
- Guide rail colour in accordance with to IEEE 1101.10
 - red = space for CPU boards
 - grey = space for peripheral boards
 - green = space for CompactPCI 19" power supplies 0.1" offset
- For test reports, please see our web pages



Subracks - *europac* PRO for railway applications

Subrack EN 50155, unshielded



06104005

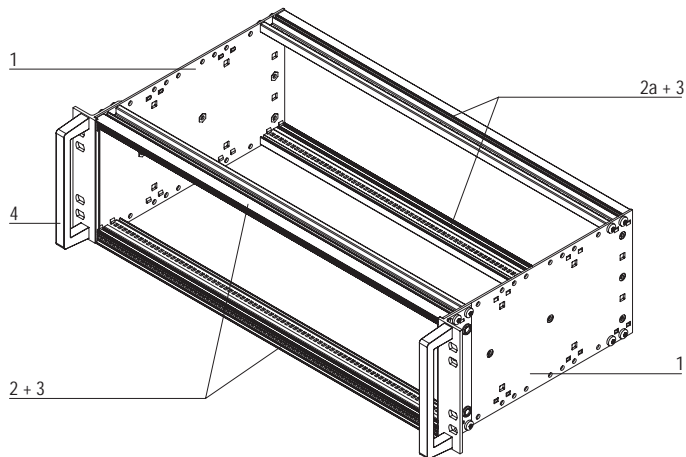
■ Tested in accordance with EN 50155

■ 3 U and 6 U, 84 HP, 235 mm deep, for board depth 220 mm

Delivery comprises (kit)

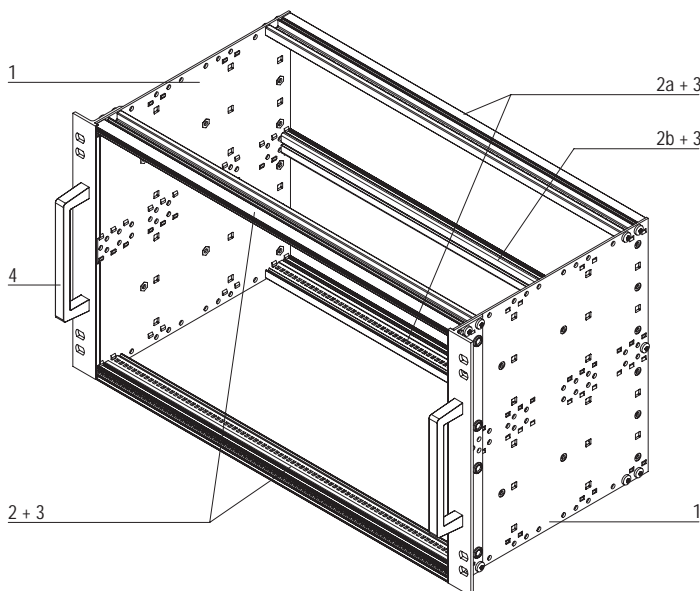
Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket (for textile gasketing)
2	2	2	Front horizontal rail (H-KD)
2a	2	2	Rear horizontal rail (H-VT)
2b	-	1	Centre horizontal rail at the rear (VT)
3	4	6	Threaded strip
4	2	2	Handles
5	1	1	Assembly part kit with self-locking screws

3 U



06104056

6 U



06104057

Order Information

Height U	Width B HP	Depth mm	Order no.
3	84	235	21500-077
6	84	235	21500-078
Guide rail, 220 mm deep PU 10 pieces			24560-353
ESD clip for guide rail PU 50 pieces			24560-255
Pan head screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
EMC gasketing PU 1 kit			21500-036
Cover EMC direct screw fixing on side panel 235 T, PU 1 kit			21500-037
EMC shielding material backplane PU 1 kit			21500-035
Assembly kit, PU 8 x (screw, washer, nut) for assembly of subracks in a 19" case or cabinet			21100-435

Note

■ For test reports, please see our web pages



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



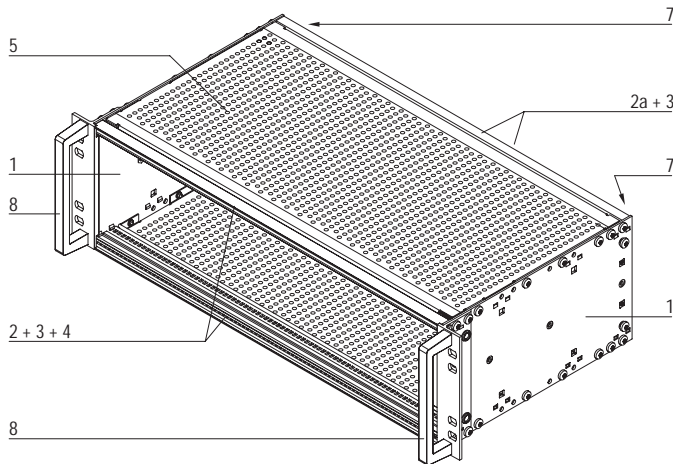
Subracks - *europac* PRO for railway applications

Subrack EN 50155, shielded



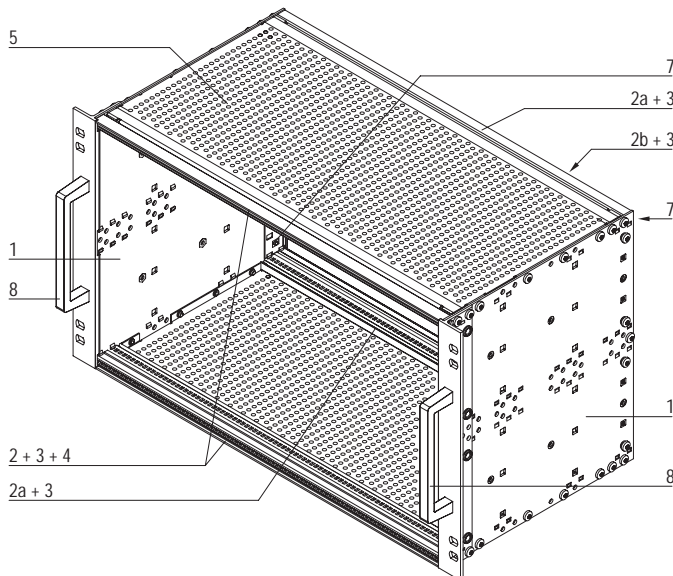
06104006

3 U



06104008

6 U



06104059

- Tested in accordance with EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for board depth 220 mm

Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket (for textile gasketing)
2	2	2	Front horizontal rail (H-KD)
2a	2	2	Rear horizontal rail (H-VT)
2b	-	1	Centre horizontal rail at the rear (VT)
3	4	6	Threaded strip
4	2	2	Perforated strip
5	2	2	Cover EMC 235 T
6	1	1	EMC kit for gasketing
7	1	2	Backplane shielding kit 3 U
8	2	2	Handles
9	1	1	Assembly part kit with self-locking screws

Order Information

Height U	Width W HP	Depth D mm	Order no.
3	84	235	21500-079
6	84	235	21500-080
Guide rail, 220 mm deep PU 10 pieces			24560-353
ESD clip for guide rail PU 50 pieces			24560-255
Pan head screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
Assembly kit, PU 8 x (screw, washer, nut) for assembly of subracks in a 19" case or cabinet			21100-435

Note

- For test reports, please see our web pages



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

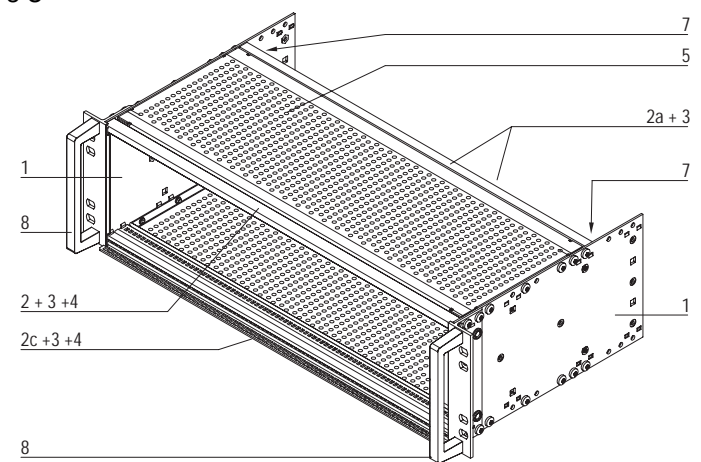
Subracks - *europac* PRO for railway applications

Subrack EN 50155, shielded, for CompactPCI applications



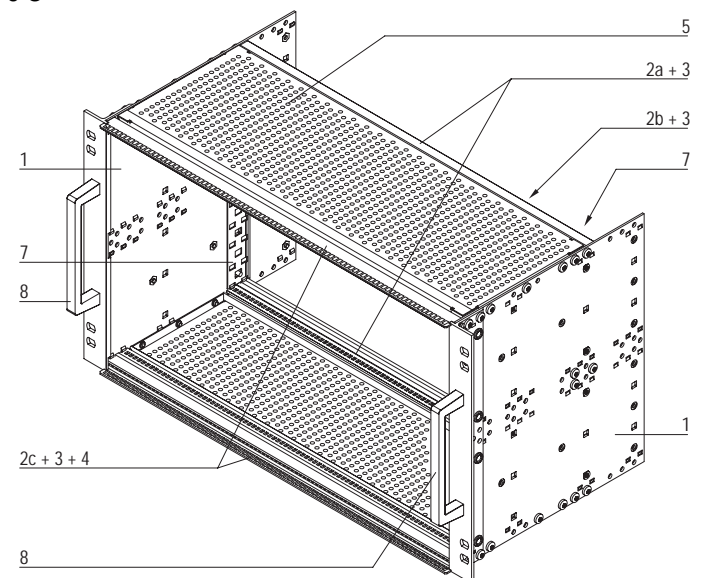
3 U

06104007



06104060

6 U



06104061

- Tested in accordance with EN 50155
- 3 U and 6 U, 84 HP, 235 mm deep, for board depth 160 mm
- Subrack in accordance with IEEE 1101.10

Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	2	2	Side panel type H incl. 19" support bracket for textile gasketing
2	1	-	Front horizontal rail (H-KD)
2a	2	2	Rear horizontal rail (H-VT)
2b	-	1	Centre horizontal rail at the rear (VT)
2c	1	2	Horizontal rail at the front (H-LD)
3	4	6	Threaded strip
4	2	2	Perforated strip
5	2	2	Cover EMC 175 T
6	1	1	EMC kit for gasketing
7	1	2	Backplane shielding kit 3 U
8	2	2	Handles
9	1	1	Assembly part kit with self-locking screws

Order Information

Height U	Width W HP	Depth D mm	Order no.
3	84	235	21500-081
6	84	235	21500-082
Guide rail with coding, red 160 mm deep, PU 10 pieces			24560-356
Guide rail with coding, grey 160 mm deep, PU 10 pieces			24560-358
Guide rail with coding, green, offset 160 mm deep, PU 10 pieces			24560-359
ESD clip for guide rail PU 50 pieces			24560-255
ESD clip for alignment pin of the CompactPCI/ VME64x handles PU 50 pieces			24560-256
Pan head screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039
Assembly kit, PU 8 x (screw, washer, nut) for assembly of subracks in a 19" case or cabinet			21100-435

Note

- Guide rails colour in accordance with IEEE 1101.10
 - red = space for CPU-boards
 - grey = space for periphery boards
 - green = space for CompactPCI 19" power supplies 0.1" offset
- For test reports, please see our web pages

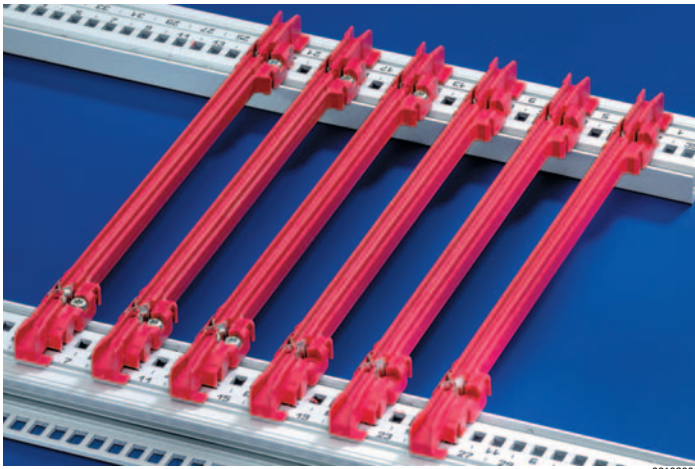


For further information www.schroff.biz/oneclick
oneClick code = Order no.



Subracks - *europac* PRO for railway applications

Guide rails



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

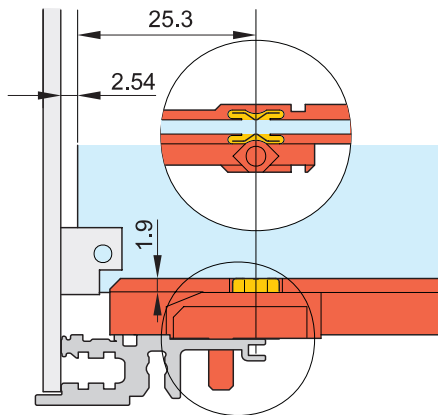
Order Information

Description	Depth mm	Qty / PU	Order no.
Guide rail, 160 mm deep	160	10	24560-351
Guide rail, 220 mm deep	220	10	24560-353
ESD clip for guide rail PU 50 pieces			24560-255
Pan head screw with Torx M2.5 x 9.3, St, zinc-plated, self-locking, PU 100 pieces			21500-039



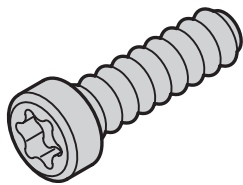
For further information www.schroff.biz/oneclick
oneClick code = Order no.

ESD clip



04503050

Assembly parts for guide rails



Order Information

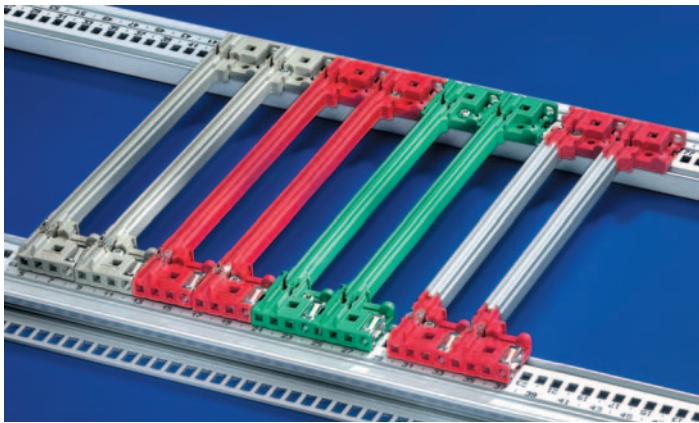
Description	Qty / PU	Order no.
Torx screw, M2.5 x 9.3, St, zinc-plated, self-locking	100	24560-141

a2a45922



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

Subracks - *europac* PRO for railway applications

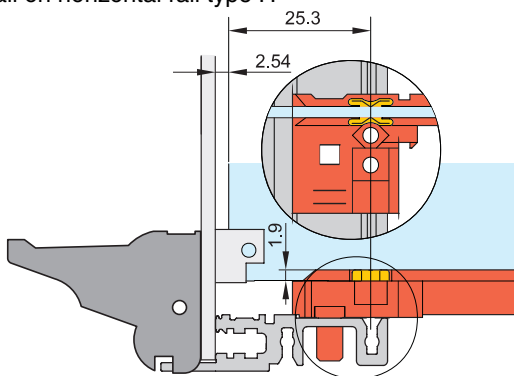


Guide rail with coding for CompactPCI and VME64x

- The guide rails are in accordance with IEEE 1101.10/11, 4 HP wide and can be provided with coding pegs
- Material PBT UL 94 V-0, groove width 2 mm, for printed board thickness of 1.6 mm
- Colours:
 - red (CPU-boards)
 - grey (periphery board)
 - green (CompactPCI power supply, 0.1" offset)

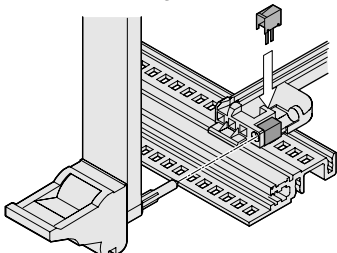
Guide rail on horizontal rail type H

06102003



04505050

ESD clip for alignment pin



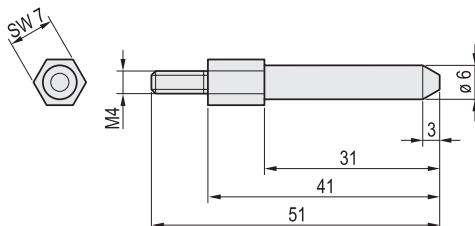
06103052

Order Information

Description	Depth mm	Qty / PU	Order no.
Guide rail with coding, red	160	10	24560-356
Guide rail with coding, grey	160	10	24560-358
Guide rail with coding, green, offset	160	10	24560-359
ESD clip for guide rail PU 50 pieces			24560-255
ESD clip for alignment pin of the CompactPCI/ VME64x handles PU 50 pieces			24560-256
Pan head screw with Torx 2.5 × 9.3, zinc-plated, PU 100 pieces			24560-141
Coding peg PC, UL 94 V-0, RAL 7035, PU 100 pieces			20817-501

- Further guide rails, see page 6.59
- CompactPCI/VME64x handles, see chapter Plug-in units

Coding pin for rear frame



06104062

Order Information

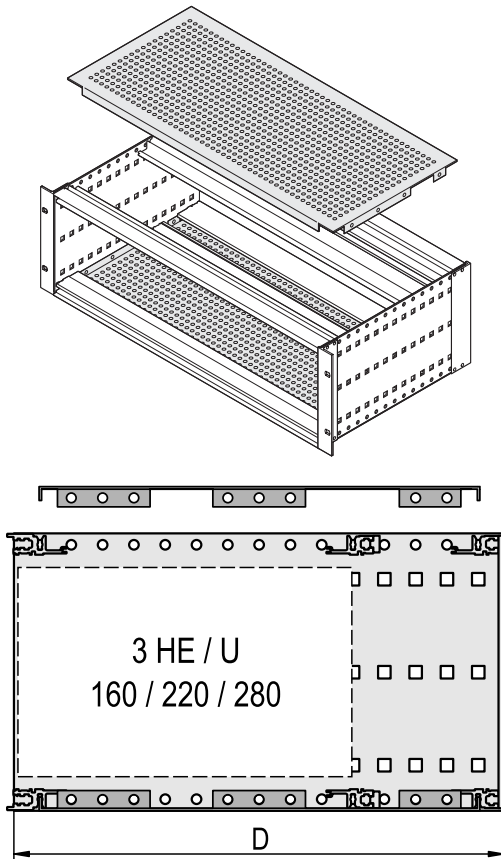
Description	Qty / PU	Order no.
Coding pegs, St, zinc-plated	1	60895-018



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

Subracks - *europac PRO* for railway applications

Cover EMC – direct bolt-on to side panel



06102084

06102082

- Cover EMC for assembly of 160 mm, 220 mm or 280 mm deep boards / printed boards
- Lateral notches for the assembly of horizontal rails in depths of 160 mm, 220 mm or 280 mm
- Mechanical covering and shielding of the components
- Suitable for any horizontal rails
- Perforation 58 % air flow

Delivery comprises

Item	Qty	Description
1	2	Cover, Al, 1.0 mm, hole diameter 4.0 mm, colourless chromated
2	16 / 32	Screw Torx 4 x 6, self-locking, St, zinc-plated

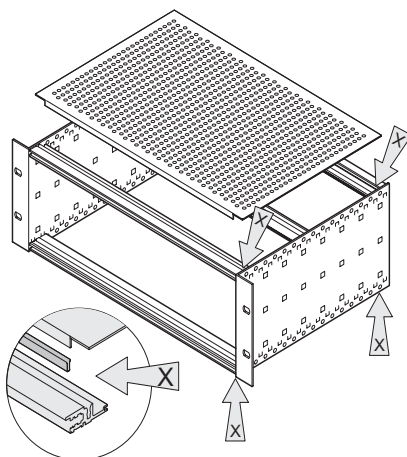
Order Information

Width W HP	Depth D mm	Application	Order no.
84	55	–	21500-038
84	175	160	21500-048
84	235	160, 220	21500-037

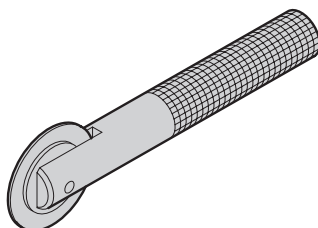
Note

- Additional 4 contact strips per subrack are necessary. Contact spring between cover and horizontal rail, see EMC shielding below.

Contact spring cover - horizontal rail



Assembly tools



06102052

aza45938

- Contact spring is clipped into the horizontal rail and provides contact to the cover
- Suitable for all horizontal rails

Delivery comprises

Item	Qty	Description
1	10 / 100	Stainless steel contact spring

Order Information

Width W HP	Length mm	Qty / PU	Order no.
42	182.4	10	24560-241
63	284	10	24560-243
84	395.7	10	24560-245
84	395.7	100	24560-246
Assembly tool for EMC contact strip (horizontal rail), 1 piece			24560-271

Note

- When using a rear hood the contact strip forms a conductive connection between horizontal rail and the hood