

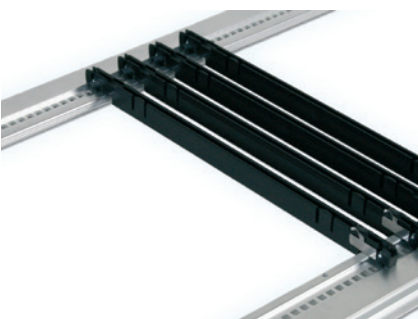
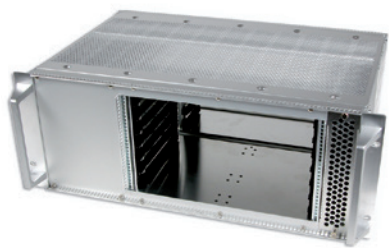


**In compliance with
SNCF and EN 50155**

Enclosures & Components

Systemkit 12 K Rail

Sub rack solutions for demanding railway applications



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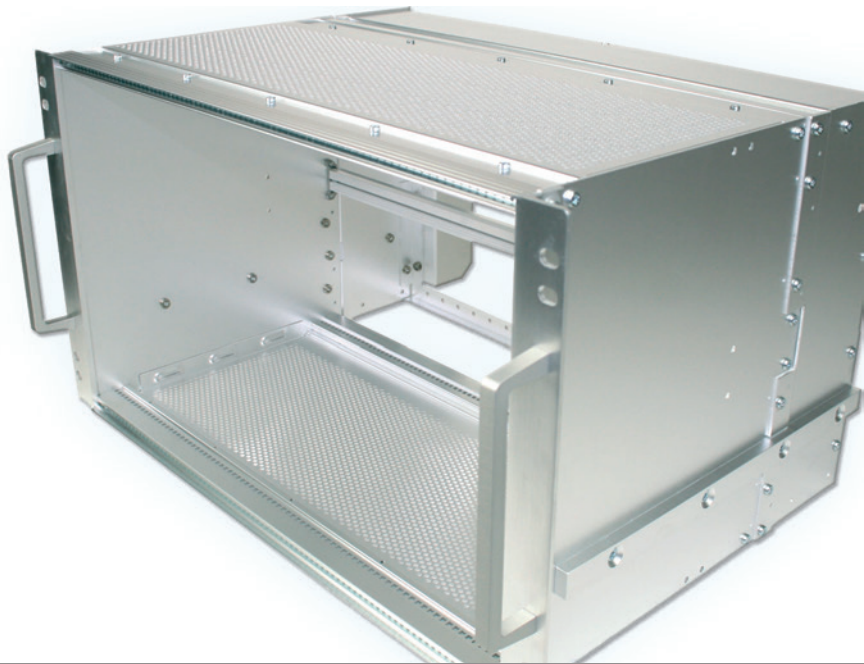
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5: Systemkit 12K Rail

A



5.1. Sub Racks

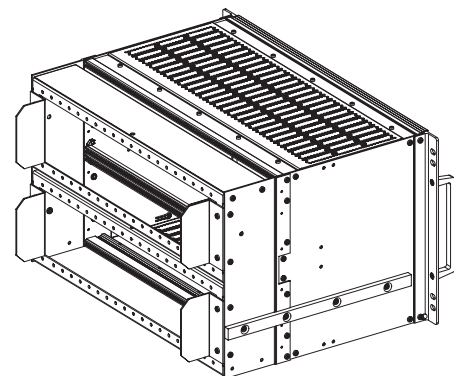
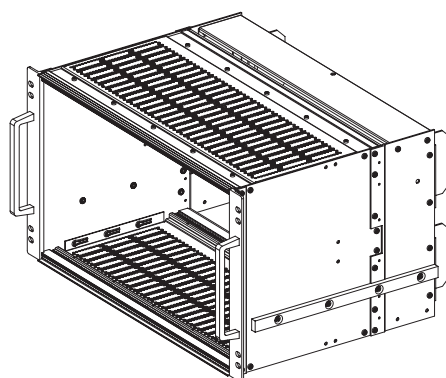
5.1.1 Systemkit 12 K Rail SNCF, unshielded

- SNCF listing No. 1306/058
- Tested to NF F61-005 and NFF 60-002 / NF F67-012
- 3 U and 6 U, 21 T, 320 mm for board depth 160 mm and 220 mm
- **Scope of delivery**
 - 2 side panels
 - 2 side panels extrusions
 - 2 external guide rails
 - 2 front extrusions
 - 2 internal extrusions
 - 2 height extrusions
 - 2 insulation strips (4pcs. for 6U-Version)
 - 1 double extrusion (6U-Version only)
 - 4 tapped strips (6 pcs. for 6U-Version)
 - 1 rear frame (2 pcs. for 6U-Version)
 - 2 protection brackets SNCF (4 pcs. for 6U-Version)
 - 2 handles
 - Assembly material (Torx)
- Bottom / Top panel see 1.1.1 and 1.1.2
- Card guides see 2.1
- Coding bolt for back frames see 3.1
- EMC-shielding material see 3.2

5.1.1 Systemkit 12 K Rail SNCF, unshielded

Description	Part-No.
Systemkit 12 K Rail SNCF 3 U x 84 HP (21T) x 320 mm	12KR384-10
Systemkit 12 K Rail SNCF 6 U x 84 HP (21T) x 320 mm	12KR684-10

Note: 1T = 4 HP = 20.32 mm, Version 9T (36 HP) available upon request

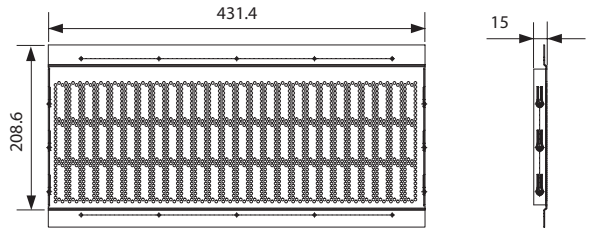


View with mounted front and rear cover panels

5: Systemkit 12K Rail

5.1.1.1 Bottom / Top Panel for EMC-Shielding

- To shield and protect the sub rack
- Material: Aluminium, 1 mm
- Incl. EMC-contacts
- **Scope of delivery**
 - 1 bottom / top cover panel
 - Assembly material (10 Torx screws M3 x 6)



5.1.1.1 Bottom / Top Panel

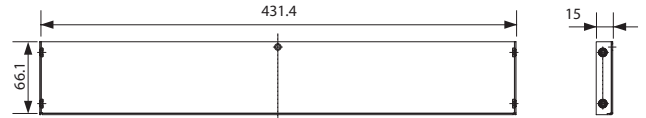
Description	Part-No.
Bottom / Top panel perforated 84HP (21T), 208.6 mm (card depth 220 mm)	12KR100
Bottom / Top panel perforated 84HP (21T), 148.6 mm (card depth 160 mm)	12KR102

Note: 1T = 4 HP = 20.32 mm, Version 9T (36 HP) available upon request



5.1.1.2 Bottom / Top Panel at the Rear

- Material: Aluminium, 1 mm
- SNCF-specific protection
- **Scope of delivery**
 - 1 bottom / top cover panel
 - Assembly material (4 Torx M4 x 6, 1 countersunk cross recessd M4 x 5)



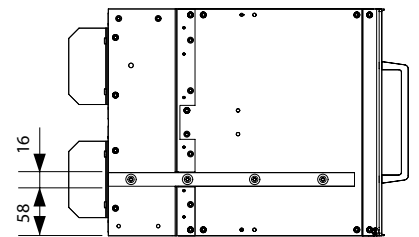
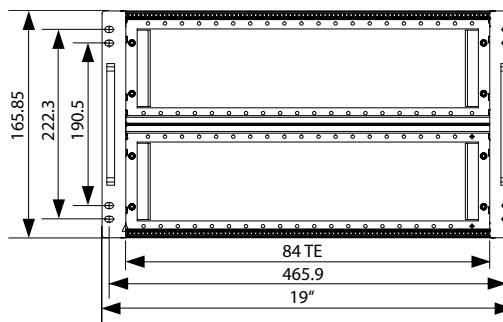
5.1.1.2 Bottom / Top Panel at the Rear

Description	Part-No.
Bottom / top panel at the rear, solid, 66,1 mm	12KR101

Note: 1T = 4 HP = 20.32 mm, Version 9T (36 HP) available upon request



Drawing of Systemkit 12 K Rail SNCF, 6 U-Version



5: Systemkit 12K Rail

A

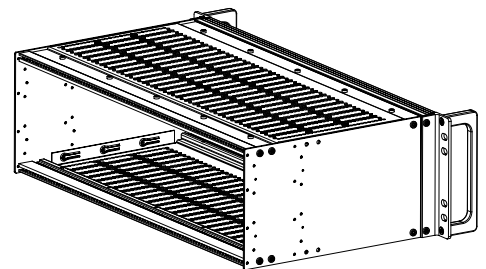
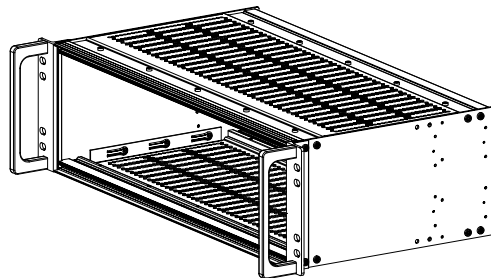
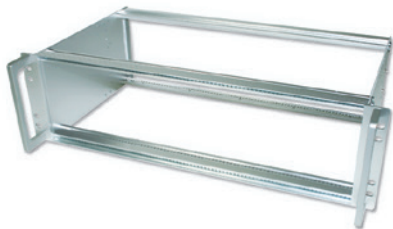


5.1.2 Systemkit 12 K Rail EN 50155, unshielded

- Sub Rack according to IEC and IEEE (CompactPCI)
- Tested to EN 50155
- 3 U and 6 U, 84 HP
- 240 mm for card depth 160 mm and 220 mm
- IEEE-version needs additional bottom / top panels
- **Scope of delivery**
 - 2 side panels
 - 2 front extrusions
 - 2 internal extrusions
 - 2 height extrusions
 - 1 double extrusion (6 U-Version IEC only)
 - 4 tapped strips (6 pcs. for 6 U-Version IEC only)
 - 2 handles
 - Assembly material (Torx)
- Bottom / top panels see 1.2.1
- Card guides see 2.1 and 2.2
- EMC shielding material see 3.2

1.2 Systemkit 12 K Rail SNCF, unshielded

Description	Part-No.
Systemkit 12 K Rail EN 50155, 3 U x 84 HP x 240 mm, IEC	12KR384-20
Systemkit 12 K Rail EN 50155, 6 U x 84 HP x 240 mm, IEC	12KR684-20
Systemkit 12 K Rail EN 50155, 3 U x 84 HP x 240 mm, IEEE	12KR384-21
Systemkit 12 K Rail EN 50155, 6 U x 84 HP x 240 mm, IEEE	12KR684-21

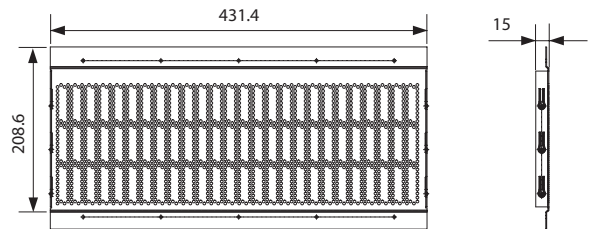


View with mounted cover panels, 3 U-Version

5: Systemkit 12K Rail

5.1.2.1 Bottom / Top Panel for EMC-Shielding

- To shield and protect the Sub Rack
- Material: Aluminium, 1 mm
- Incl. integrated EMC-Contacts
- **Scope of delivery**
 - 1 bottom / top panel
 - Assembly material (10 Torx screws M3 x 6)



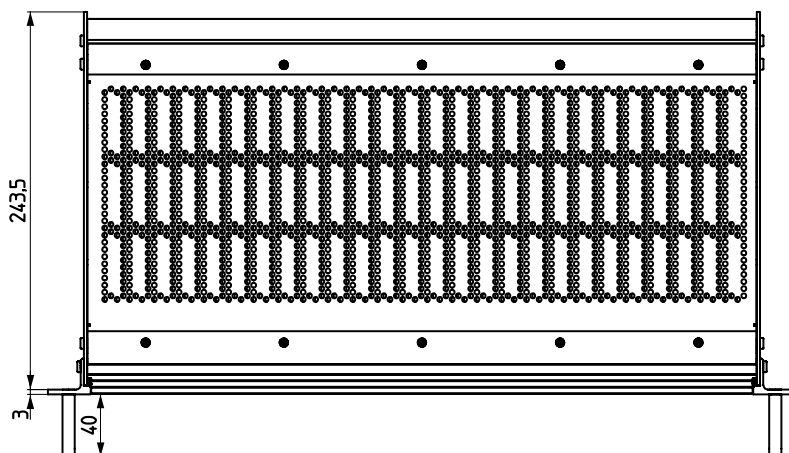
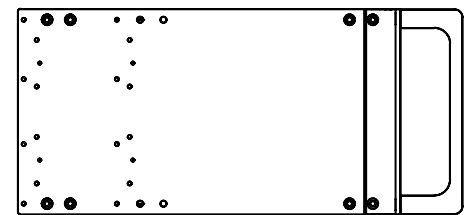
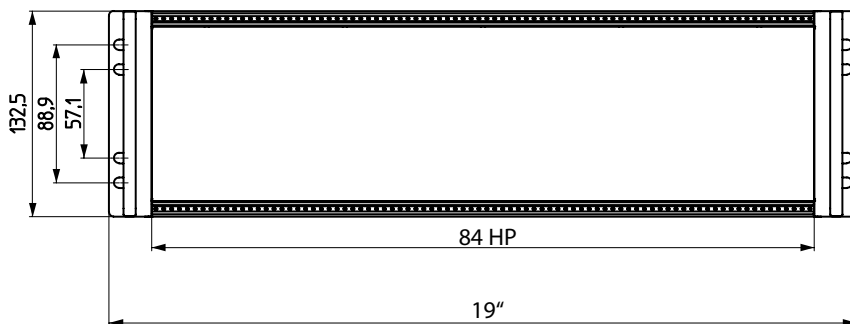
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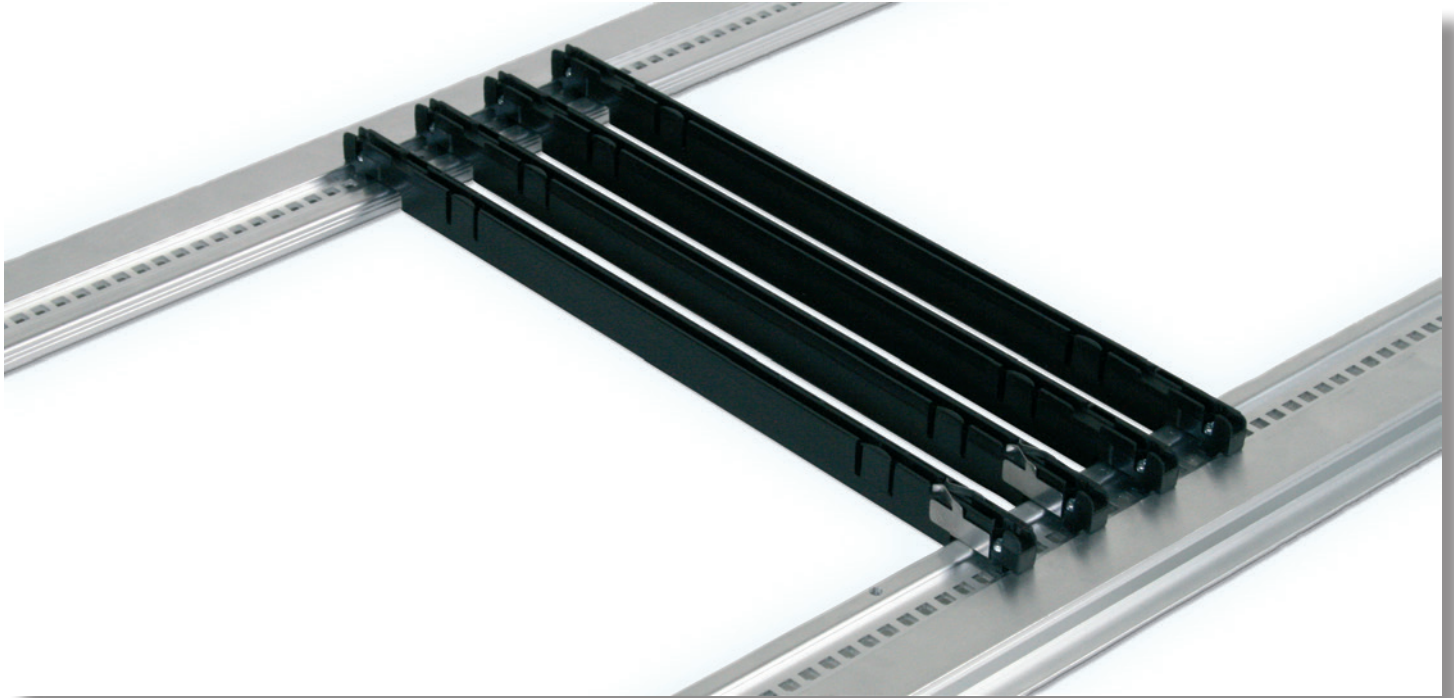


1.2.1 Bottom / Top Panel for EMC-Shielding

Description	Part-No.
Bottom / Top panel perforated 84 HP, 208.6 mm (card depth 220 mm)	12KR100
Bottom / Top panel perforated 84 HP, 148.6 mm (card depth 160 mm)	12KR102

Drawing of Systemkit 12 K Rail EN 50155, 3 U-Version





5.2 Card Guides

5.2.1 Rugged Screw-mount Card Guides acc. to IEC

- Simple assembly comparable to anchoring
- Very high retention force
- Shock and vibration proof
- For positive location of circuit boards and plug-in units
- For card thickness 1.6 mm / 0.06" and 2.0 mm/0.08" with anti-vibration feature
- The card guides are not-inflammable, made from a high-quality plastic material reinforced with fibreglass (UL94 V-0)
- With ESD provision
- Stainless steel PT-screw, Torque: 0,36 Nm

2.1 Rugged Screw-mount Card Guides acc. to IEC

- **Scope of delivery:**
 - Card guide, plastic UL94 V-0
- Security screw see 2.1.1. (at least one must be used)
- Optional mounting see 2.1.2
- ESD clip see 2.1.3

Card Depth		Colour	Part-No. 10 pcs.	Part-No. 100 pcs.
mm	inch			
160	6.30	black	61-975-1	61-975-2
220	8.66	black	61-976-1	61-976-2



5: Systemkit 12K Rail

5.2.1.1 Standard Mounting

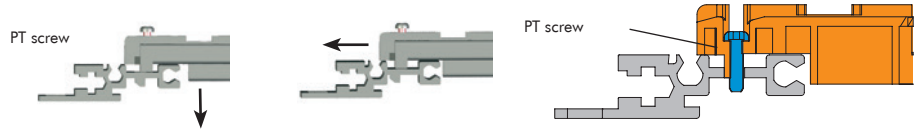


2.1.1 Standard Mounting

- with stainless steel security screw (from top)

Description	Part-No. 1 pc.	Part-No. 100 pcs.
Cross recessed pan head PT-screw, Inox	5588-08	1902-54

Note: For highest security 2 screws per card guide are necessary



1. Insert Card Guide

2. Shift Card Guide

3. Protection by Screwing

5.2.1.2 Optional Mounting



2.1.2 Optional Mounting

- with M2 screw, washer and nut (from bottom)

Description	Part-No. 1 set (1 each)	Part-No. 100 pcs.
Cross recessed pan head screw M2, Inox	63-485	63-495
Hexagonal nut M2 Inox		63-492
Serrated lock washer		63-493

Note: For highest security 2 sets per card guide are necessary



5.2.1.3 ESD Clips

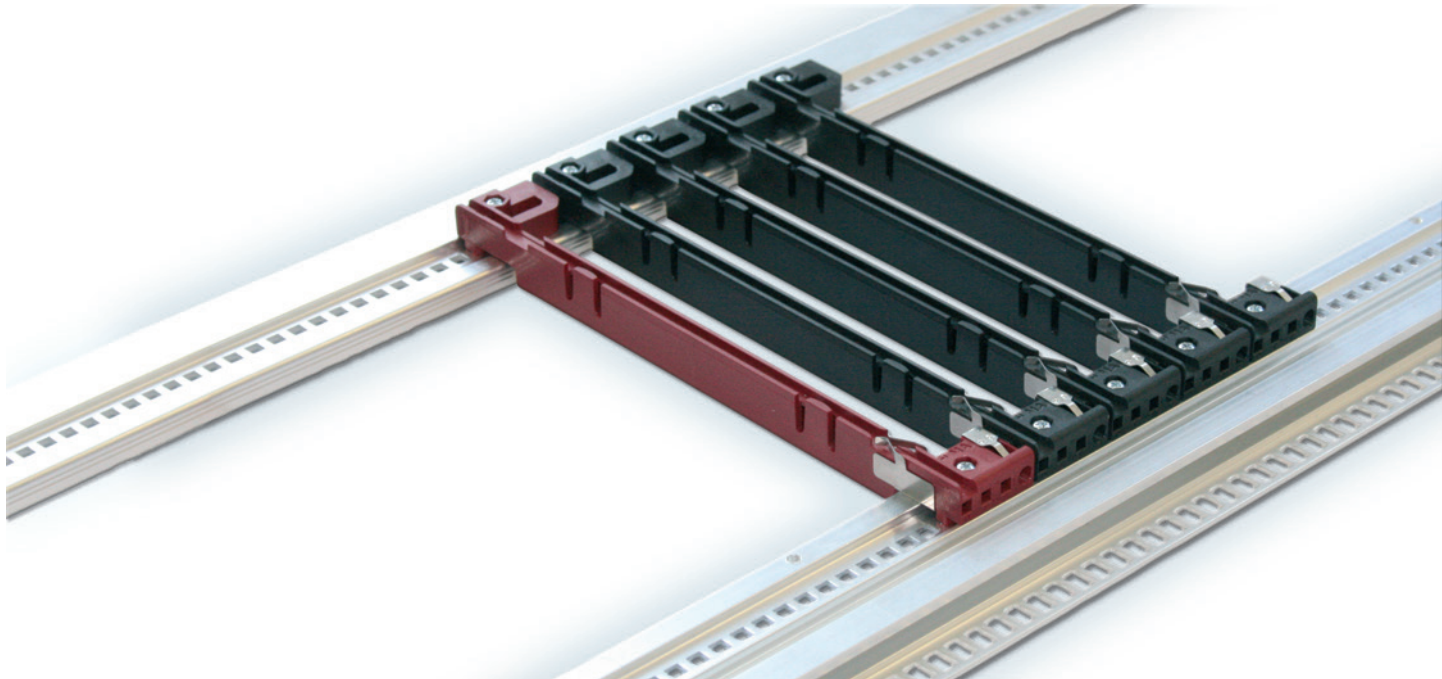


2.1.3 ESD Clips

- Connecting printed board with case

Description	Part-No. 10 pcs.	Part-No. 100 pcs.
ESD clip front bottom/rear top	63-863	63-864
ESD clip front top/rear bottom	63-865	63-866

**Our ability to adapt existing components to your application,
makes Elma your preferred solution partner.**



5.2.2 Rugged Screw-mount Card Guide acc. to IEEE

- Simple assembly comparable to anchoring
- Very high retention force
- Shock and vibration proof
- For positive location of circuit boards and plug-in units
- For card thickness 1.6 mm / 0.06" and 2.0 mm/0.08" with anti-vibration feature
- The card guides are not-inflammable, made from a high-quality plastic material reinforced with fibreglass (UL94 V-0)
- With ESD provision
- Stainless steel PT-screw, Torque: 0,36 Nm

2.2 Rugged Screw-mount Card Guides acc. to IEEE

- **Scope of delivery:**
 - Card guide, plastic UL94 V-0
- Security screw see 2.2.1 (at least one must be used)
- Optional mounting see 2.2.2
- ESD-clip, ESD-spring and coding pin see 2.2.3 - 2.2.5

Card Depth		Colour	Part-No. 5 pairs	Part-No. 50 pairs
mm	inch			
160	6.30	black	61-970-01-1	61-970-01-2
160	6.30	red	61-970-03-1	61-970-03-2
160	6.30	pearlwhite / offset	61-972-1	61-972-2



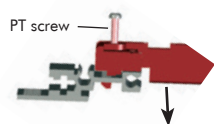
5.2.2.1 Standard Mounting

- with stainless steel security screw (from top)

2.2.1 Standard Mounting

Description	Part-No. 1 pc.	Part-No. 100 pcs.
Cross recessed pan head PT-screw, Inox	5535-12	63-490

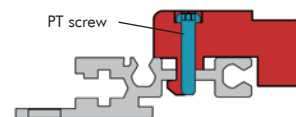
Note: For highest security 2 screws per card guide are necessary



1. Insert Card Guide



2. Shift Card Guide



3. Protection by Screwing



5: Systemkit 12K Rail

5.2.2.2 Optional Mounting

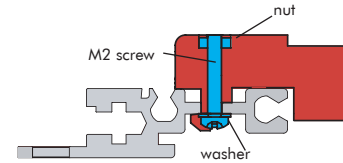
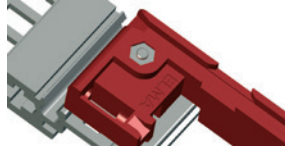
- with M2 screw, washer and nut (from bottom)



2.2.2 Optionale Befestigung

Description	Part-No. 1 set (1 each)	Part-No. 100 pcs.
Cross recessed pan head screw M2, Inox	63-484	63-491
Hexagonal nut M2 Inox		63-492
Serrated lock washer		63-493

Note: For highest security 2 sets per card guide are necessary



5.2.2.3 ESD Clips

- Connecting printed board with case



2.2.3 ESD Clips

Description	Part-No. 10 pcs.	Part-No. 100 pcs.
ESD clip front bottom/rear top	63-863	63-864
ESD clip front top/rear bottom	63-865	63-866

5.2.2.4 ESD Spring

- Connecting ESD pin with case
- Note: Notch inward-looking



2.2.4 ESD Spring

Description	Part-No. 10 pcs.	Part-No. 100 pcs.
ESD spring	61-420-1	61-420-2

5.2.2.5 Coding Pins

- Acc. to IEC60297-3-103
- Plastic, UL94 V-0
- Can be rotated in 4 positions



2.2.5 Coding Pins

Description	Part-No. 1 pc.	Part-No. 100 pcs.
Grey	81-054-02	81-054-02-2
Dark red	81-054-06	81-054-06-2
Black	81-054-04	81-054-04-2