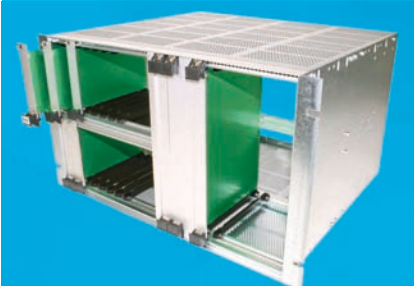
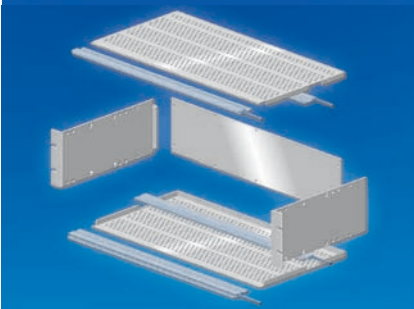
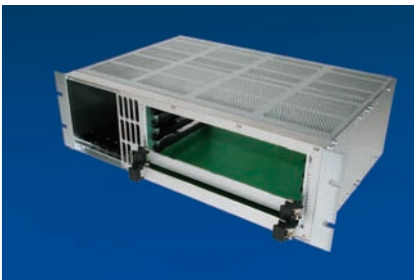


3: EMC Sub Rack Magic-/Spirit-Kit 11

A



3.1 Magic- /Spirit-Kit 11 Overview

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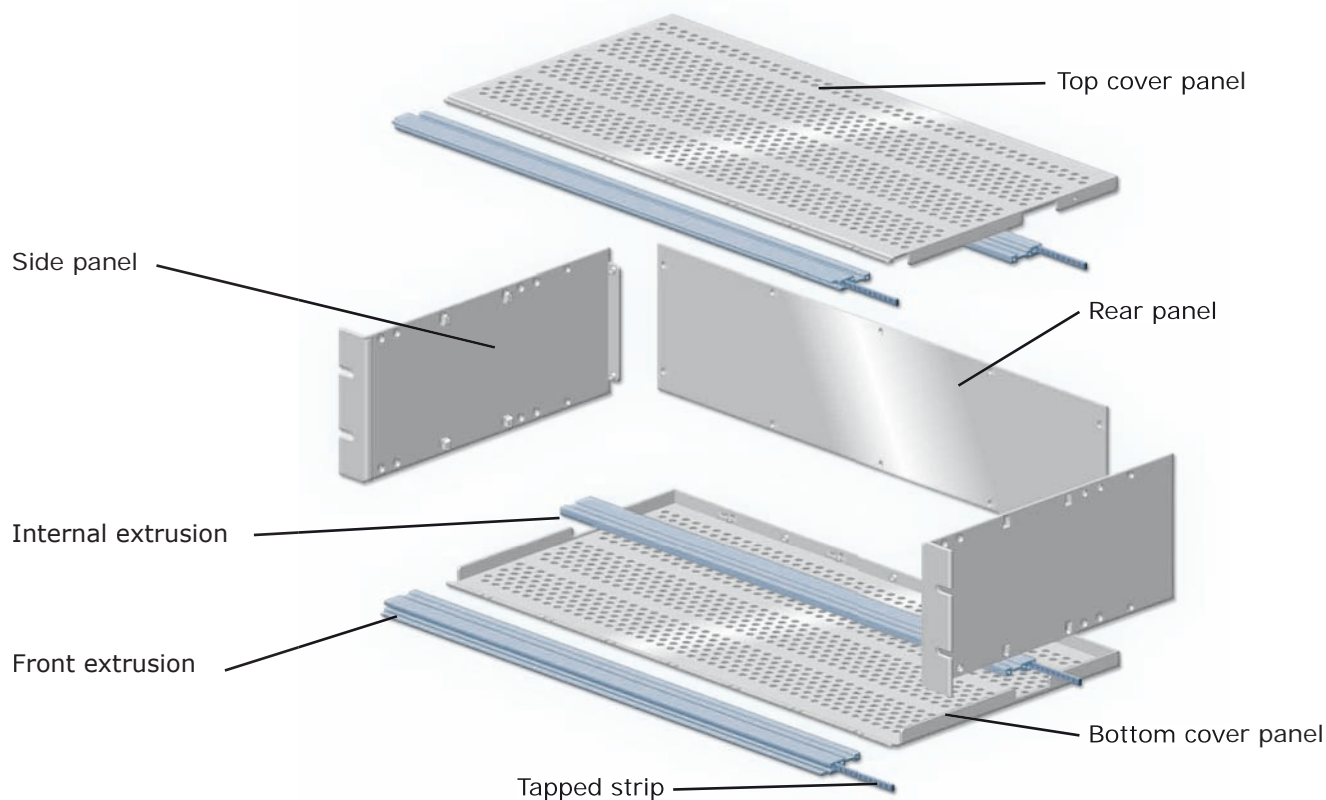
3.1 Magic- /Spirit-Kit 11 Overview

Technical features

- Advanced EMC shielding without gaskets is standard
- Internal adaption parts freely accessible
- Rapid assembly
- Easy access for maintenance
- Sheet steel, pre-galvanized
- Vibration-proof
- Dimensions and adaptations according to IEC 60297
- Suitable for IEC 60297 or IEEE 1101.10

Scope of delivery

- Numerous accessories
- Vertical and horizontal card mounting



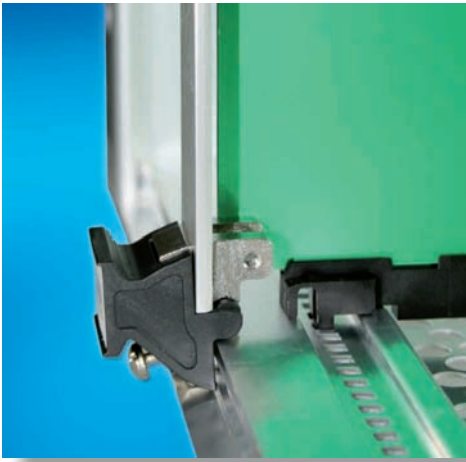
3: EMC Sub Rack Magic-/Spirit-Kit 11

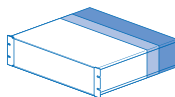
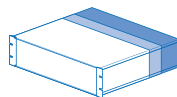
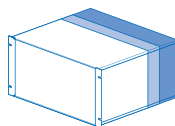
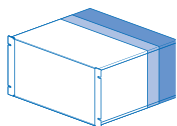
Magic-Kit 11

Front extrusions according to IEC 60297 specifications.

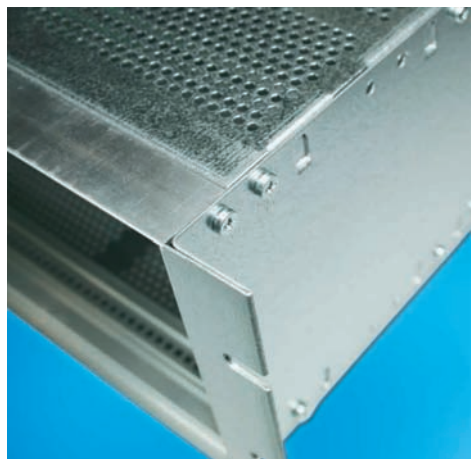
Spirit-Kit 11

Front extrusions according to IEEE 1101.10 and CompactPCI specifications, specially designed for plug-in units with high insert / extract forces.



| Width | 84 HP | |
|--------|---|---|
| Height | Magic-Kit 11 | Spirit-Kit 11 |
| 3 U |  |  |
| 6 U |  |  |

Depth 240 mm 300 mm 390 mm
 9.44" 11.81" 15.35"



The cost-optimised solution

- by integrated 19"-lugs
- by use of sheet steel, pre-galvanised
- by integrated EMC contacts
- by fast assembly

3: EMC Sub Rack Magic-/Spirit-Kit 11

EMC

"Electromagnetic compatibility is the ability of a system to operate in the intended environment without causing or suffering unacceptable degradation of performance due to unintentional electromagnetic radiation or response."

The EMC characteristics of a system therefore consist of an appropriate immunity from interference (noise immunity) and a limited emission of interference (noise emission).

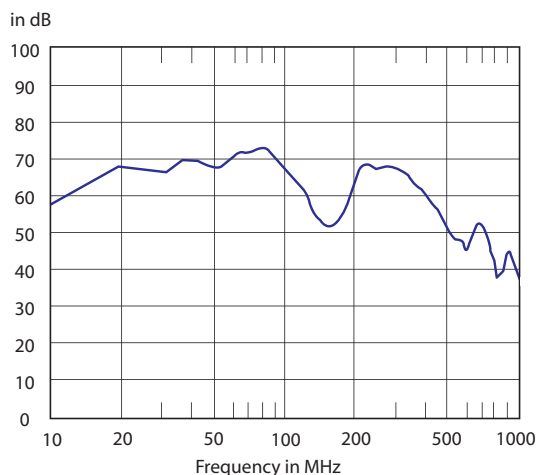
Elma's EMC concept describes three levels of electromagnetic shielding performance (Performance Level). The attenuation levels will simplify the selection of sub racks for the user.

Test setup: The first measurement E1 is without the enclosure. The next measurement E2 is made with the transmitting antenna installed inside the enclosure. The difference between the received signal without and with the enclosure represents the shielding effectiveness in dB.

| Performance Level | 30 - 230 MHz | 230 - 1000 MHz | 1000 - 2000 MHz |
|--------------------------|--------------|----------------|-----------------|
| 1 / Elma: Basic level | 20 dB | 10 dB | 0 dB |
| 2 / Elma: Advanced level | 40 dB | 30 dB | 20 dB |
| 3 / Elma: Superior level | 60 dB | 50 dB | 40 dB |

The standard configuration will provide you with an advanced EMC level. If you require a superior EMC level for your system, you need to talk to an engineer.

Typical shielding effectiveness for Magic-/Spirit-Kit 11



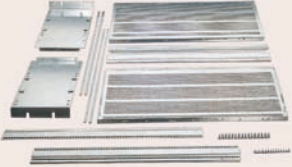

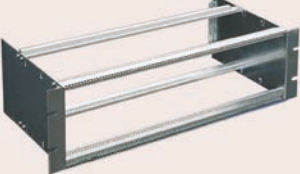






By means of standard snap-fit and screw connections suitable for demanding applications.

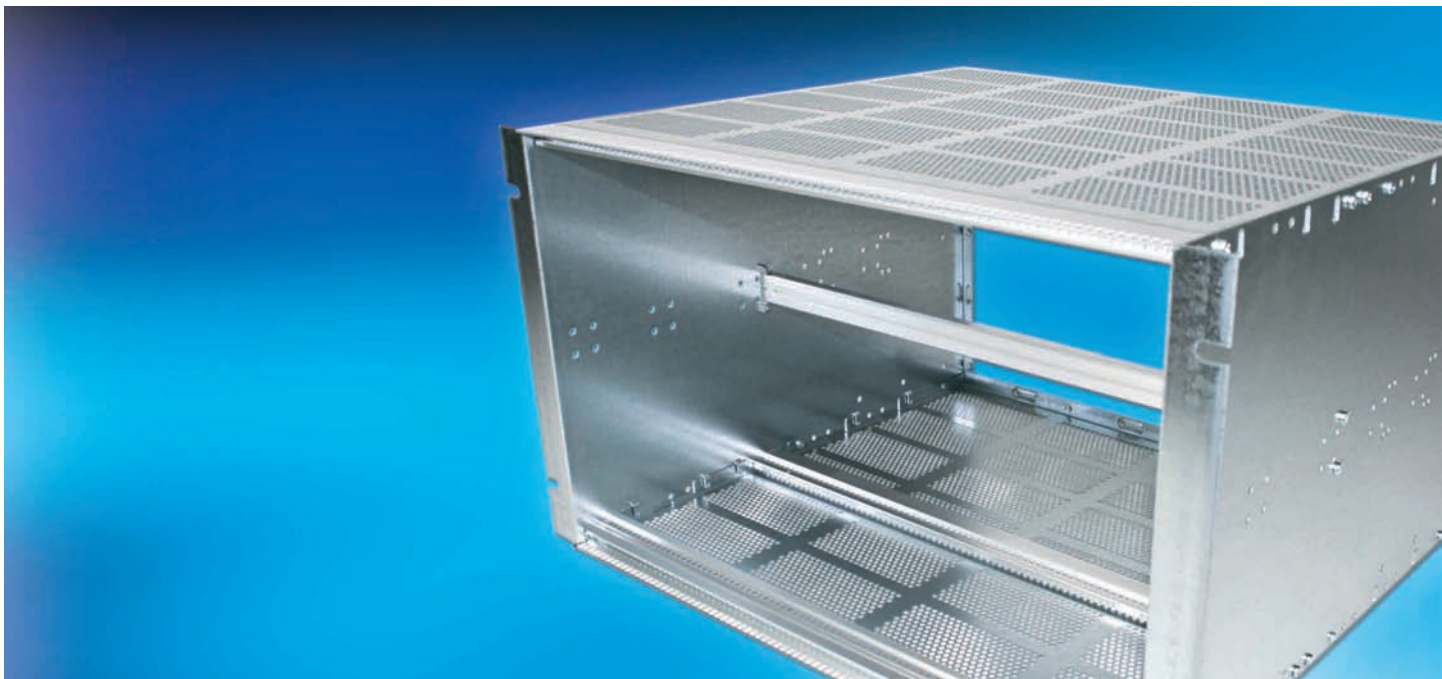


3: EMC Sub Rack Magic-/Spirit-Kit 11

Economical 5-minute assembly

A

| | | |
|---|--|--|
|  | 1 min  | Open the package and lay out the parts... |
|  | 4 min  | ...screw together the two side panels, four extrusions and four tapped strips - and the frame is ready. |
|  | 4.5 min  | Insert top and bottom cover, tighten four screws... |
|  | 5 min  |  ...and your EMC sub rack is fully assembled - without additional gaskets. |



3.2 Basic Case

- Advanced EMC shielding is standard
- Dimensions according to IEC 60297
- Rapid assembly
- Top and bottom covers fully perforated
- Aluminium extrusions, electrically conductive
- Side plates, top and bottom covers of pre-galvanized sheet steel
- **Scope of delivery:**
 - 2 side panels
 - 2 front extrusions
 - 2 internal extrusions
 - 4 tapped strips (6 pcs. for 6 U Version)
 - 2 insulating strips (for backplane, insulated mounting only); 4 pcs. for 6 U Version
 - 2 top / bottom covers, perforated
 - Assembly material
 - EMC-gasket for front / side
 - 1 double extrusion (6 U Version only)
- Rear panel has to be ordererd separately



3.2.1 Magic-Kit 11 (IEC 60297)

| Height U | Width HP | Backplane Mounting | Depth | | |
|----------|----------|--------------------|--------------|---------------|---------------|
| | | | 240 mm/9.44" | 300 mm/11.81" | 390mm/ 15.35" |
| 3 U | 84 | Insulated | 11A131-6 | 11A132-6 | 11A133-6 |
| 3 U | 84 | Conductive | 11A131-7 | 11A132-7 | 11A133-7 |
| 6 U | 84 | Insulated | 11A161-6 | 11A162-6 | 11A163-6 |
| 6 U | 84 | Conductive | 11A161-7 | 11A162-7 | 11A163-7 |

3.2.2 Spirit-Kit 11 (IEEE 1101.10 and CompactPCI)

| Height U | Width HP | Backplane Mounting | Depth | | |
|----------|----------|--------------------|--------------|---------------|---------------|
| | | | 240 mm/9.44" | 300 mm/11.81" | 390mm/ 15.35" |
| 3 U | 84 | Insulated | 11B131-6 | 11B132-6 | 11B133-6 |
| 3 U | 84 | Conductive | 11B131-7 | 11B132-7 | 11B133-7 |
| 6 U | 84 | Insulated | 11B161-6 | 11B162-6 | 11B163-6 |
| 6 U | 84 | Conductive | 11B161-7 | 11B162-7 | 11B163-7 |

3.2.3 Rear Panel

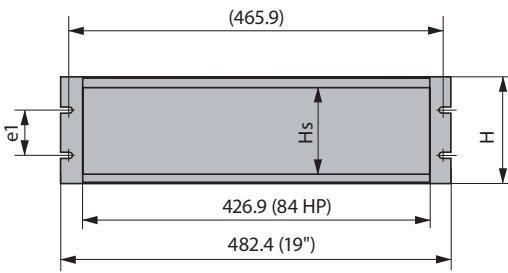
- Galvanized sheet steel
- **Scope of delivery:**
 - 1 rear panel
- Assembly material included in case

| Height | Description | Part-No. |
|--------|-------------|----------|
| 3 U | Rear panel | 22-384 |
| 6 U | Rear panel | 22-684 |

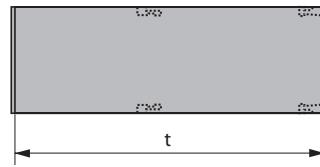
3: EMC Sub Rack Magic-/Spirit-Kit 11

3.2.4 Line Drawings

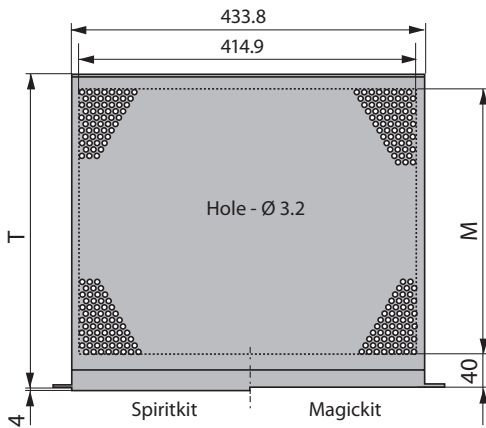
Front view



Side view



Top view



Heights

| for | H | | Hs | | e1 | |
|-----|--------|-------|--------|------|--------|------|
| | mm | inch | mm | inch | mm | inch |
| 3 U | 132.50 | 5.21 | 112.50 | 4.42 | 57.20 | 2.25 |
| 6 U | 265.85 | 10.46 | 245.85 | 9.67 | 190.55 | 7.50 |

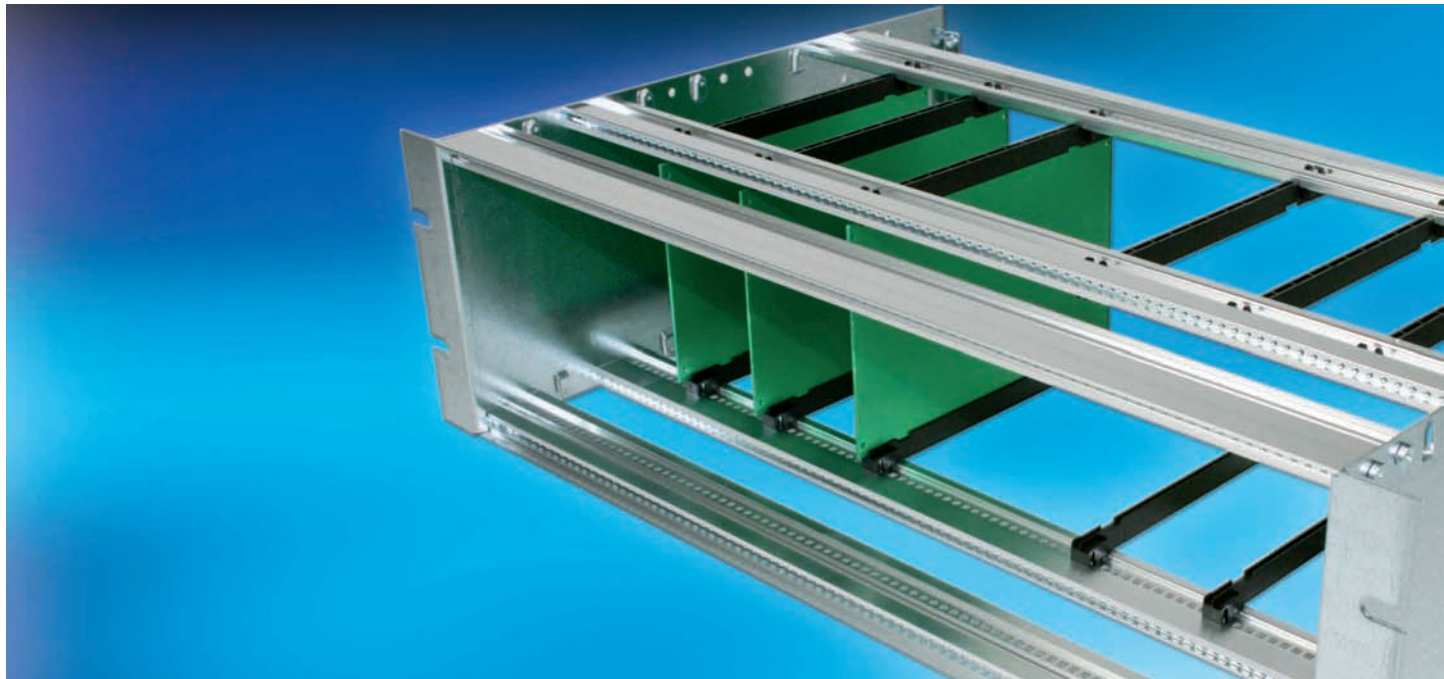
Depths

| T | | t | |
|-----|-------|-------|-------|
| mm | inch | mm | inch |
| 240 | 9.44 | 232.6 | 9.15 |
| 300 | 11.81 | 292.6 | 11.51 |
| 390 | 15.35 | 382.6 | 15.06 |

Air flow

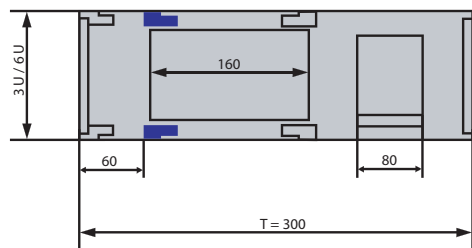
| Depth | | M | | Air flow | |
|-------|-------|-------|-------|-----------------|----------|
| mm | inch | mm | inch | mm ² | sq. inch |
| 240 | 9.44 | 186.8 | 7.35 | 28953 | 44.87 |
| 300 | 11.81 | 244.0 | 9.60 | 37638 | 58.33 |
| 390 | 15.35 | 333.2 | 13.11 | 52115 | 80.77 |

A



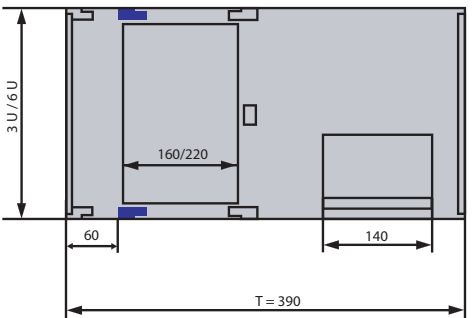
3.3 Adaptation Kit

3.3.1 Adaptation Kit



3.3.1 Adaptation Kit

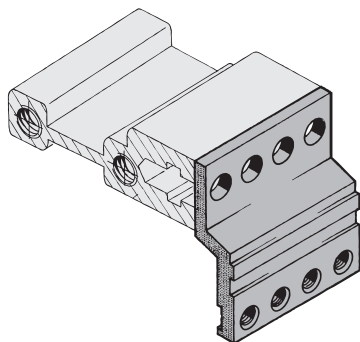
- **Range of Application:**
 - Recessed mounting of single / double eurocards, depth 160 – 220 mm
 - Without individual front panels
- **Scope of delivery:**
 - 2 internal extrusions
 - 2 tapped strips
 - 1 set assembly material



| | |
|---|--------------|
| Description | 84 HP |
| Recessed mounting of single / double eurocards without front panels | 11-530 |

3.3.2 Edge Connector Extrusion 66-147

- For use with extrusions for backplanes 66-193
- **Scope of delivery:**
 - 1 aluminium extrusion, clear passivated (conductive)

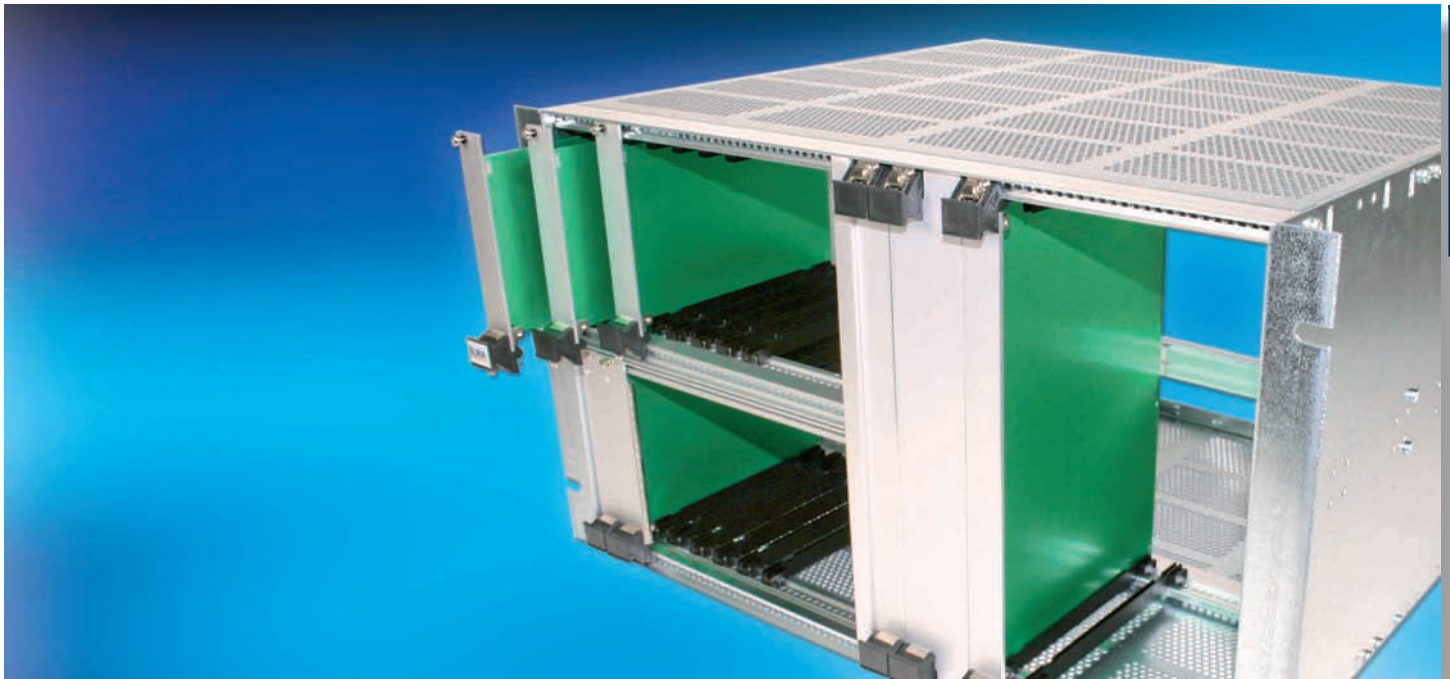


3.3.6 Edge Connector Extrusion

| Description | 8 HP | 18 HP | 28 HP | 42 HP | 63 HP | 84 HP |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| For edge connector, IEC 60603-2 | 66-147-40 | 66-147-41 | 66-147-42 | 66-147-63 | 66-147-65 | 66-147-52 |

Assembly Material

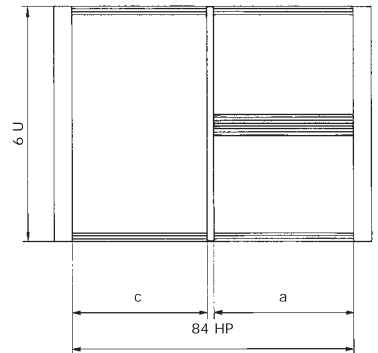
| | |
|---|-----------------|
| Description | Part-No. |
| Assembly material M2.5 (for 2 supplementary extrusions) | 63-214 |



3.4 Assembly Accessories

3.4.1 Front Sub Division Vertical for 6 U System or 6 U Assembly

- Allows both single and double eurocards to be mounted together in a 6 U Magic-/Sprit-Kit 11
- **Scope of delivery:**
 - 1 divider extrusion front
 - 1 divider extrusion rear
 - 2 front extrusions
 - 2 internal extrusions
 - 1 assembly material
- Tapped strips for front extrusion see below
- Card guides see 3.5.1



3.4.1 Front Sub Division Vertical for 6 U Assembly

| Nominal Width | | Part-No. |
|---------------|-------------|-----------|
| 6 U (c) | 2 x 3 U (a) | IEC 60297 |
| 50 HP | 32 HP | 11-959-2 |
| 40 HP | 42 HP | 11-949-2 |
| 19 HP | 63 HP | 11-939-2 |

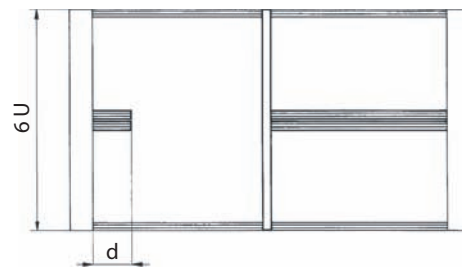
Tapped Strips for Front Extrusion

| Scope of Delivery | Description | Part-No. |
|-----------------------|------------------------|----------|
| 1 pc. tapped strip | M2,5 32 HP = 162.56 mm | 61-463 |
| 10 pcs. tapped strips | | 63-190 |
| 1 pc. tapped strip | M2,5 42 HP = 213.36 mm | 61-464 |
| 10 pcs. tapped strips | | 63-057 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

3.4.2 EMC Front Sub Division Vertical Small

- For dividing 6 U-systems
- Direct mounting onto the side panel
- For width of 4 HP and 8 HP
- Other sizes available upon request
- **Scope of delivery:**
 - 2 divider extrusions front
 - 2 divider extrusions rear
 - 2 tapped strips M2.5
 - 8 round head screws M4 x 10 recessed, Torx
 - 4 slotted countersunk screws M4 x 10 recessed, Torx
 - 2 set screws for fixing of tapped strips M2.5 x 8
 - 2 card guides 160mm (4 pcs. for 8 HP version)



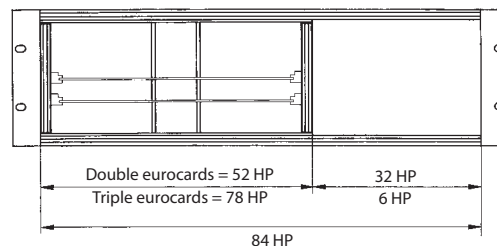
3.4.2 EMC Front Sub Division Vertical Small

| Description | Part-No. d = 4 HP | Part-No. d = 8 HP |
|--|----------------------|----------------------|
| Front sub division vertical small IEEE | 80-504-11 | 80-508-11 |
| Front sub division vertical small IEC | 80-204-11 | 80-208-11 |



3.4.3 Horizontal Card Mounting Kit for Double Eurocards (6 U)

- For double eurocards (6 U)
- Independent of card depth
- **Scope of delivery:**
 - 4 distance plates (2 front / 2 rear)
 - 4 length extrusions (2 front / 2 rear)
 - 1 centre extrusion
 - 6 tapped strips M2.5
 - 1 set assembly material
- Top and bottom cover plate when no overall fan front panel (3.4.4) is used
- Top and bottom cover plate has to be ordered separately
- Fan front panels for horizontal mounting kits see 3.4.4
- Card guides see 3.5.1
- Extruded front panels see 3.6.5



3.4.3 Horizontal Card Mounting Kit

| Mounting height | Usable height | IEC 60603-2 | Backplane | Cover plate top* | Cover plate bottom* |
|-----------------|---------------|-------------|-----------|------------------|---------------------|
| 3 U | 20 HP | 14-971-30 | 14-971-60 | 21N602-90 | 21N602-90 |
| 6 U | 48 HP | - | 14-991-60 | 21N606-90 | 21N607-90 |

* Assembly material for cover plate see below

3.4.3.1 Front Panel Screws

- For cover panel
- Set of 10 screws
- With screw retainer

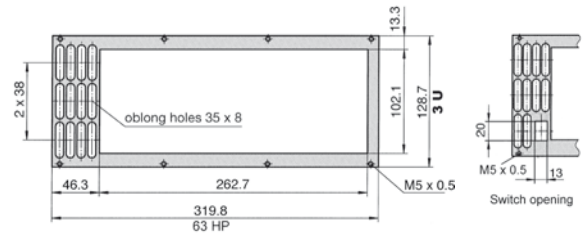
| Description | Part-No. 10 pcs. |
|--|---------------------|
| Torx screws M2.5 x 11.3 , size T8, with plastic screw retainer | 63K159 |
| Milled edge screws recessed M2.5 x 11.3, with plastic screw retainer | 63-159 |



3: EMC Sub Rack Magic-/Spirit-Kit 11

3.4.4 Fan Front Panels for Horizontal Mounting Kits

- For horizontal mounting of double eurocards
- Aluminium 2.5 mm, clear anodised (non-conductive)
- **Scope of delivery:**
 - 1 perforated fan front panel
- Front panel screw see below
- On-off switch see below



3.4.4 Fan Front Panels for Horizontal Mounting Kits

| Description | Height | Width | Air passage | | Part-No. |
|------------------------|--------|-------|-----------------|----------|-----------|
| | | | mm ² | sq. inch | |
| Without switch opening | 3 U | 63 HP | 3195 | 4.95 | 21N363-07 |
| With switch opening | 3 U | 63 HP | 2662 | 4.12 | 21N363-02 |



3.4.4.1 Front Panel Screws

- Set of 10 screws
- With threaded or press-fit bush
- 8 screws are necessary per front panel

| Description | Part-No. 10 pcs. |
|---|---------------------|
| Recessed round head screw M2.5 x 11 with threaded bush M5 x 0.5 | 63-129 |
| Recessed round head screw M2.5 x 11 with press-fit bush Ø3.7 | 63-444 |



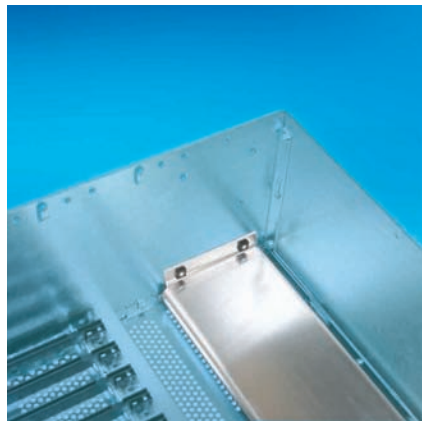
3.4.4.2 On-Off Switch

- Black body, plastic
- 2 pole (only on-off switches)
- 250V, 16A
- Quick-connect terminal 6.3 x 0.8 mm
- Cut-out for 69-410-05: 13 x 20 mm (0.51" x 0.78")

| Description | Part-No. |
|--|-----------|
| On-off switch, indicator light green (for fan front panel 3 U) | 69-410-05 |

3.4.5 Mounting Chassis

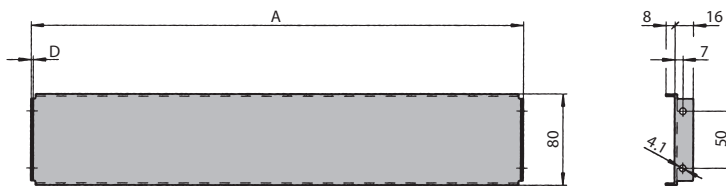
- For mounting non-standard modules and components
- Mounting chassis is fixed directly to the side panel
- **Scope of delivery:**
 - 1 mounting chassis
 - 1 set of assembly material (4 earthing nuts, 4 screws M4 x 6)



3.4.5.2 For Mounting of Power Supplies, etc.

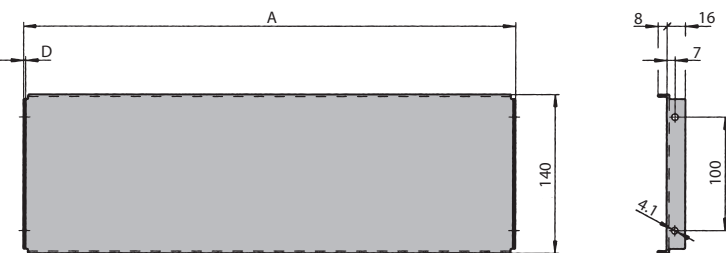
Chassis depth 80 mm

| Frame Width | A | | D | | Part-No. |
|-------------|-------|-------|----|------|-----------|
| | mm | inch | mm | inch | |
| 84 HP | 431.5 | 16.98 | 2 | 0.08 | 14-832-50 |



Chassis depth 140 mm

| Frame Width | A | | D | | Part-No. |
|-------------|-------|-------|-----|------|-----------|
| | mm | inch | mm | inch | |
| 84 HP | 431.5 | 16.98 | 2.0 | 0.08 | 14-836-50 |



3.4.6 EMC Contact Strips (Advanced EMC-level)

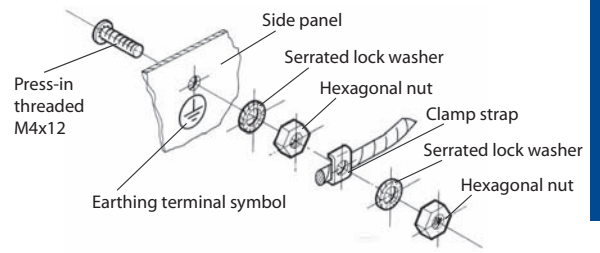
- 2 contact strips
- For front panels, fixing on extrusion
- Self-adhesive



| For HP | Length | Part-No. |
|--------|----------|-----------|
| 84 | 424.2 mm | 63-836-70 |

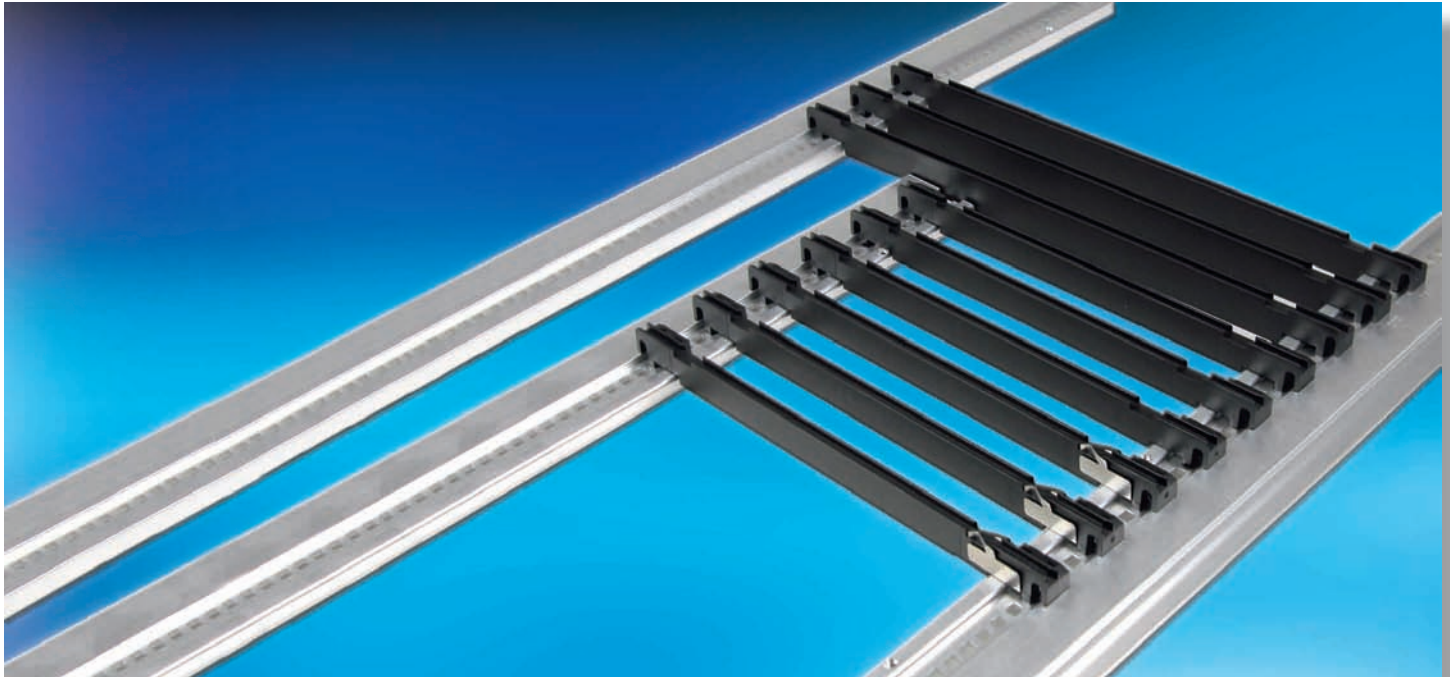
3.4.7 Earthing Set

- Enables cases to be earthed in conformance with EN / VDE / SEV
- **Scope of delivery:**
 - 1 press-in threaded bolt M4
 - 2 serrated lock washers
 - 2 hexagonal nuts M4
 - 1 terminal clamp
 - 1 earthing symbol



3.4.9 Earthing Set

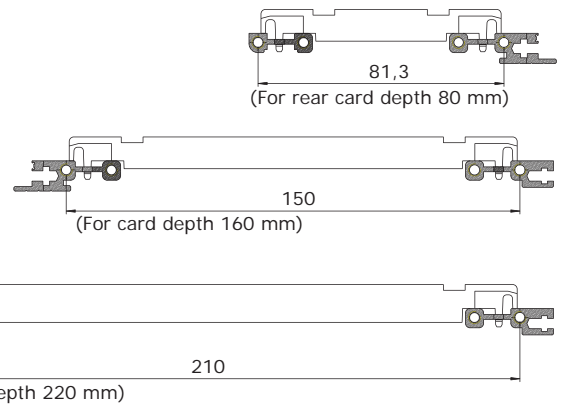
| Description | Part-No. |
|--|----------|
| Earthing set according to EN VDE / SEV | 63-174 |



3.5 General Accessories

3.5.1 Card Guides IEC

- For positive location of PCBs and plug-in units conforming to the dimensions of card depths of 80 mm, 160 mm, 220 mm and 280 mm
- The card guides are non-flammable, made from a high-quality plastic material reinforced with fibreglass UL94 V-0
- Including ESD provisions



3.5.1.1 Card Guides 1-Slot

- **Scope of delivery:**
 - Card guide black plastic UL94 V-0
 - ESD Clip see below (not usable for card depth 80 mm)

| Card Thickness | | Card Depth | | Part-No. | Part-No. | Part-No. |
|----------------|------|------------|-------|----------|----------|-----------|
| mm | inch | mm | inch | 10 pcs. | 100 pcs. | 1000 pcs. |
| 1.6 | 0.06 | 80 | 3.15 | 63-319 | 63-322 | — |
| | | 160 | 6.30 | 63-028 | 63-029 | 63-478 |
| | | 220 | 8.66 | 63-103 | 63-104 | 63-479 |
| | | 280 | 11.02 | 63-323 | 63-324 | 61-017-3 |
| 2.0 | 0.08 | 160 | 6.30 | 63-328 | 63-329 | — |
| | | 220 | 8.66 | 63-303 | 63-304 | — |
| | | 280 | 11.02 | 63-445 | 63-446 | — |

ESD Clips

- Connecting printed board with case

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





3.5.1.2 Card Guides 7-Slot in 4 HP Steps

- For reduced assembly time of multiple slot applications
- For use with single, double and triple eurocards with a depth of 160 mm
- For card thickness: 1.6 mm / 0.06"
- Black plastic, UL94 V-0
- ESD Clip not usable

| Card Thickness | | Card Depth | | Part-No. 1 pc. | Part-No. 50 pcs. |
|----------------|------|------------|------|-------------------|---------------------|
| mm | inch | mm | inch | | |
| 1.6 | 0.06 | 160 | 6.30 | 61-076 | 63-364 |



3.5.1.3 Aluminium Card Guides 1-Slot, 3 Parts

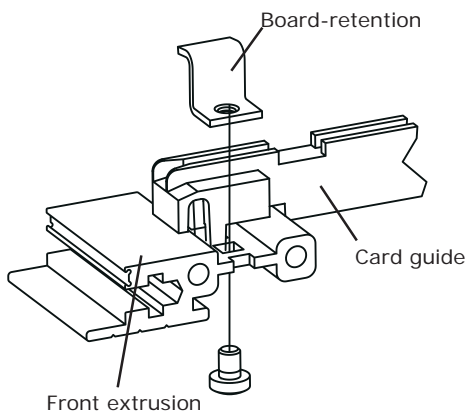
- Extrusion: Aluminium
- End feet: plastic, UL94 V-0
- For card thickness: 1.6 mm / 0.06"
- Card guide extrusion, single, clear anodised
- ESD clip not usable

Extrusion

| Card Depth | | Length | | Part-No. Aluminium |
|------------|-------|--------|-------|-----------------------|
| mm | inch | mm | inch | |
| 160 | 6.30 | 112.5 | 4.43 | 66-122-20 |
| 220 | 8.66 | 172.5 | 6.79 | 66-122-21 |
| 280 | 11.02 | 232.5 | 9.15 | 66-122-22 |
| 340 | 13.38 | 292.5 | 11.51 | 66-122-23 |
| 400 | 15.74 | 352.5 | 13.87 | 66-122-24 |
| | | 1350 | 53.15 | 66-122-14 |

End Feet

| Description | Part-No. 1 Pair | Part-No. 50 Pairs |
|----------------------------|--------------------|----------------------|
| End feet plastic, UL94 V-0 | 61-069 | 63-030 |



3.5.1.4 Card Guide Board-Retention Bar

| Description | Part-No. 20 pcs. |
|--|---------------------|
| Board-retention bar, zinc-plated steel | 61-291 |

Assembly Material

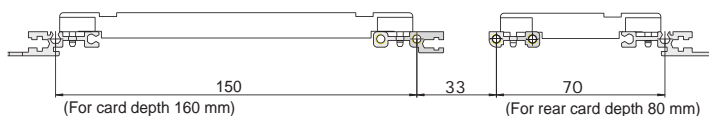
| Description | Part-No. |
|---|----------|
| Cross recessed round head screw M3 x 4 (100 pcs.) | 1912-04 |
| Torx cylinder head screw M3 x 4, size T10 (1 pc.) | 5470-01 |

A



3.5.2 Card Guides acc. to IEEE

- For positive location of PCBs and plug-in units conforming to the dimensions of card depths 80 mm, 160 mm, 220 mm, 280 mm and 340 mm
- The card guides are non-flammable, made from a high quality plastic material reinforced with fibreglass UL94 V-0
- With ESD provisions
- With keying and alignment pin possibilities



3.5.2.1 Card Guides 1-Slot

- Card thickness 1.6 mm / 0.06" and 2.0 mm / 0.08"
- Plastic UL94 V-0

| Card Depth | | Colour | Part-No. 5 Pairs | Part-No. 50 Pairs |
|------------|------|--------|---------------------|----------------------|
| mm | inch | | | |
| 80 | 3.15 | black | 61-949-01-1 | 61-949-01-2 |

| Card Depth | | Colour | Part-No. 10 pcs. | Part-No. 100 pcs. |
|------------|------|--------|---------------------|----------------------|
| mm | inch | | | |
| 160 | 6.30 | black | 61-950-01-1 | 61-950-01-2 |
| 160 | 6.30 | red | 61-950-03-1 | 61-950-03-2 |

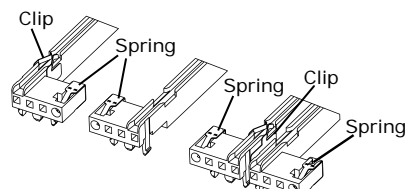
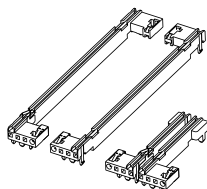


3.5.2.2 Card Guides 1-Slot, incl. mounted ESD-Components

- Bottom: 1 ESD clip and 1 ESD spring
- Top: 1 ESD spring
- Black plastic UL94 V-0

| Card Depth | | Description | Part-No. 5 Pairs | Part-No. 50 Pairs |
|------------|------|-------------------|---------------------|----------------------|
| mm | inch | | | |
| 80 | 3.15 | 1 pair top/bottom | 61-949-02-1 | 61-949-02-2 |

| Card Depth | | Description | Part-No. 10 pcs. | Part-No. 100 pcs. |
|------------|------|----------------|---------------------|----------------------|
| mm | inch | | | |
| 160 | 6.30 | 1 piece bottom | 61-950-02-1 | 61-950-02-2 |
| 160 | 6.30 | 1 piece top | 61-950-04-1 | 61-950-04-2 |





3.5.2.3.1 Aluminium Card Guides 1-Slot, 3 Parts

- Extrusion: Aluminium
- End feet: Plastic UL94 V-0
- For card thickness 1.6 mm / 0.06" and 2.0 mm / 0.08"

Extrusion

| Card Depth | | Part-No. 1 pc. | Part-No. 10 pcs. | Part-No. 100 pcs. |
|------------|-------|-------------------|---------------------|----------------------|
| mm | inch | | | |
| 160 | 6.30 | 66-452-20 | 66-452-20-1 | 66-452-20-2 |
| 220 | 8.66 | 66-452-25 | 66-452-25-1 | 66-452-25-2 |
| 280 | 11.02 | 66-452-30 | 66-452-30-1 | 66-452-30-2 |
| 340 | 13.38 | 66-452-35 | 66-452-35-1 | 66-452-35-2 |

End Feet

| Colour | Part-No. 1 Pair | Part-No. 5 Pairs | Part-No. 50 Pairs |
|--------|--------------------|---------------------|----------------------|
| Black | 61-955-01 | 61-955-01-1 | 61-955-01-2 |
| Red | 61-955-03 | 61-955-03-1 | 61-955-03-2 |

End Feet Offset

| Colour | Part-No. 1 Pair | Part-No. 5 Pairs | Part-No. 50 Pairs |
|------------|--------------------|---------------------|----------------------|
| Pearlwhite | 61-961-01 | 61-961-01-1 | 61-961-01-2 |



3.5.2.3.2 Aluminium Card Guides 1-Slot, 3 Parts

- Extrusion: Aluminium
- End feet: Plastic UL94 V-0
- For card thickness 2.4 mm / 0.094"

Extrusion

| Card Depth | | Part-No. 1 pc. | Part-No. 10 pcs. | Part-No. 100 pcs. |
|------------|-------|-------------------|---------------------|----------------------|
| mm | inch | | | |
| 160 | 6.30 | 66-453-20 | 66-453-20-1 | 66-453-20-2 |
| 220 | 8.66 | 66-453-25 | 66-453-25-1 | 66-453-25-2 |
| 280 | 11.02 | 66-453-30 | 66-453-30-1 | 66-453-30-2 |
| 340 | 13.38 | 66-453-35 | 66-453-35-1 | 66-453-35-2 |

End Feet

| Colour | Part-No. 1 Pair | Part-No. 5 Pairs | Part-No. 50 Pairs |
|--------|--------------------|---------------------|----------------------|
| Black | 61-956-01 | 61-956-01-1 | 61-956-01-2 |



3.5.2.4 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 |

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3.5.2.5 ESD Spring

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

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

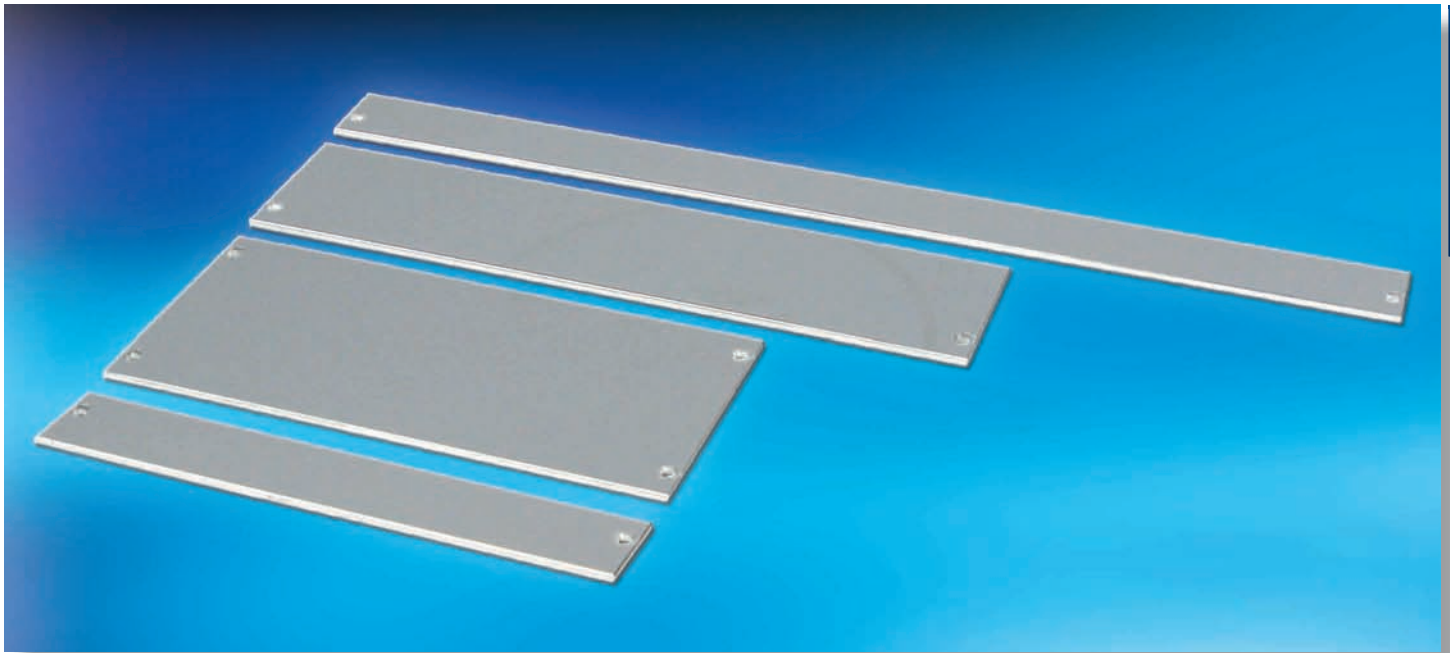


3.5.2.6 Coding Pins

- Acc. to IEC 60297-3-103
- Plastic, UL94 V-0
- Can be rotated in 4 positions

| 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 |

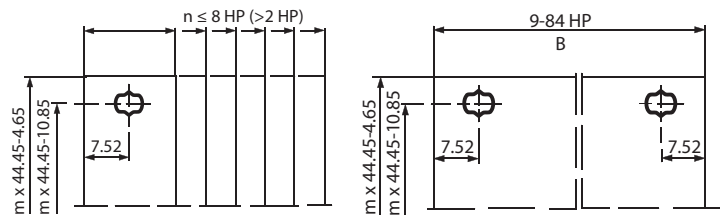
3: EMC Sub Rack Magic-/Spirit-Kit 11



3.6 Front Panels

3.6.1 Flat Front Panels

- For sub racks and enclosures, solid
- Aluminium 2.5 mm, clear anodised (non-conductive)
- **Scope of delivery:**
 - Flat front panel
- Front panel screws, see below
- 1 HP and 2 HP are divider extrusions (not flat panels)



3.6.1 Flat Front Panels for Sub Racks and Enclosures, Solid

| Width | B | | Part-No. | |
|-------|-------|-------|-----------------|-----------------|
| | mm | inch | 3 U 128.7 mm | 6 U 262.0 mm |
| 1 HP | 5.0 | 0.19 | 66-115-21 | 66-115-25 |
| 2 HP | 10.0 | 0.39 | 66-107-44 | 66-107-47 |
| 3 HP | 15.2 | 0.59 | 21N303 | 21N603 |
| 4 HP | 20.1 | 0.79 | 21N304 | 21N604 |
| 5 HP | 25.2 | 0.99 | 21N305 | 21N605 |
| 6 HP | 30.3 | 1.19 | 21N306 | 21N606 |
| 7 HP | 35.3 | 1.38 | 21N307 | 21N607 |
| 8 HP | 40.4 | 1.59 | 21N308 | 21N608 |
| 10 HP | 50.6 | 1.99 | 21N310 | 21N610 |
| 11 HP | 55.7 | 2.19 | 21N311 | |
| 12 HP | 60.7 | 2.38 | 21N312 | 21N612 |
| 14 HP | 70.9 | 2.79 | 21N314 | 21N614 |
| 16 HP | 81.1 | 3.19 | 21N316 | 21N616 |
| 20 HP | 101.4 | 3.59 | 21N320 | 21N620 |
| 21 HP | 106.5 | 4.19 | 21N321 | 21N621 |
| 28 HP | 142.0 | 5.59 | 21N328 | 21N628 |
| 32 HP | 162.3 | 6.38 | 21N332 | |
| 42 HP | 213.1 | 8.38 | 21N342 | 21N642 |
| 52 HP | 263.9 | 10.38 | 21N352 | 21N652 |
| 63 HP | 319.8 | 12.59 | 21N363 | 21N663 |
| 81 HP | 411.3 | 16.19 | 21N381 | 21N681 |
| 84 HP | 426.5 | 16.79 | 21N384 | 21N684 |

- Other front panels see chapter C

Front Panel Screws

- Set of 10 screws, with screw retainer

| Description | Part-No. 10 pcs. |
|---|---------------------|
| Torx screws M2.5 x 11.3, size T8 with plastic screw retainer | 63K159 |
| Milled edge screws recessed M2.5 x 11.3 with plastic screw retainer | 63-159 |

3.6.2 EMC Flat Front Panels

3.6.2.1 EMC Filler Panel with EMC Gasket

- High stability (U-profile)
- Extruded aluminium
- Pressed-in centring pin and bushes M2.5
- Front side clear anodised, rear side conductive
- **Scope of delivery:**
 - EMC front panel incl. pressed-in centering pin and bushes M2.5
- EMC-gasket see below
- Front panel screw see below



3.6.2.1 EMC Front Panel

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 4 HP | 66-514-73 | 66-514-76 |
| 5 HP | 66-515-73 | 66-515-76 |
| 6 HP | 66-516-73 | 66-516-76 |
| 8 HP | 66-518-73 | 66-518-76 |
| 9 HP | 66-519-73 | 66-519-76 |
| 10 HP | 66-520-73 | 66-520-76 |
| 12 HP | 66-522-73 | 66-522-76 |
| 14 HP | 66-534-73 | 66-534-76 |

EMC Gasket (Stainless Steel)

| Height | Part-No. 1 pc. | Part-No. 10 pcs. | Part-No. 100 pcs. |
|--------|-------------------|---------------------|----------------------|
| 3 U | 81-062-03 | 81-062-03-1 | 81-062-03-2 |
| 6 U | 81-062-06 | 81-062-06-1 | 81-062-06-2 |

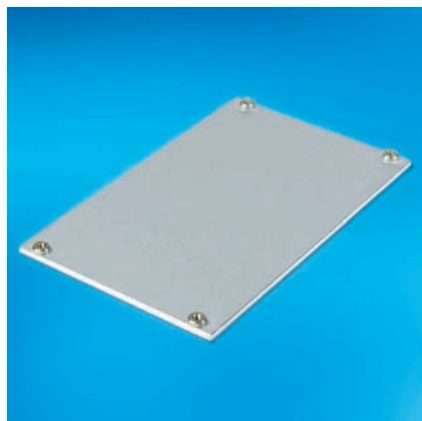
Front Panel Screws

- Front panel width up to 9 HP = 2 screws; ≥ 10 HP = 4 screws

| Description | Part-No. 1 pc. | Part-No. 100 pcs. |
|--|-------------------|----------------------|
| Torx screw, M2.5 x 11.3, size T8 | 5443-08 | 1904K41 |
| Round head screw, cross recessed M2.5 x 12.7 | 61-287 | 1904-41 |

3.6.2.2 EMC Filler Panel without EMC-Gasket

- Front panel standard, solid
- Front clear anodised
- Rear conductive
- Basic level EMC
- **Scope of delivery:**
 - 1 front panel incl. press-fit bushes M2.5 (pressed-in)
- Front panel screws, see below
- Spacer see next page



3.6.2.2 EMC Filler Panel without Gasket

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 4 HP | 21B304 | |
| 10 HP | 21B310 | |
| 12 HP | 21B312 | |
| 16 HP | 21B316 | |
| 21 HP | 21B321 | 21B621 |
| 42 HP | 21B342 | 21B642 |
| 63 HP | 21B363 | 21B663 |
| 84 HP | 21B384 | 21B684 |

Front Panel Screws

- Front panel width up to 9 HP = 2 screws; ≥ 10 HP = 4 screws

| Description | Part-No. 1 pc. | Part-No. 100 pcs. |
|--|-------------------|----------------------|
| Torx screw, M2.5 x 11.3, size T8 | 5443-08 | 1904K41 |
| Round head screw, cross recessed M2.5 x 12.7 | 61-287 | 1904-41 |

3: EMC Sub Rack Magic-/Spirit-Kit 11



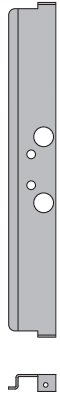
Spacer for EMC Front Panel Flat

- EMC-Level: Advanced
- **Scope of delivery:**
 - 1 spacer incl. gasket
 - 2 Torx sheet metal screws 2.9 x 6.5; size T 10

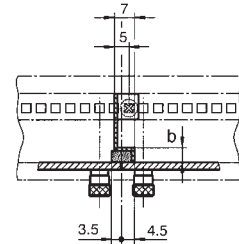
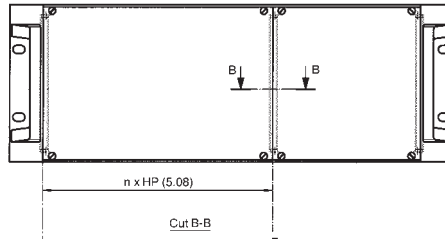
| Height | Part-No. |
|--------|----------|
| 3 U | 81K023 |
| 6 U | 81K026 |

Optional Cross Recessed Screws for Spacer (Torx round head screws as standard included)

| Description | Part-No. |
|------------------|----------|
| 1 set (2 screws) | 63-607 |

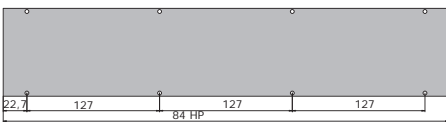
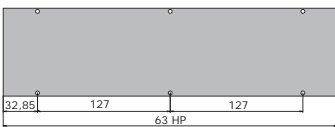
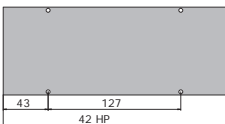


Holes in some cases needed for mounting telescopic rails



3.6.2.3 EMC Flat Front Panels

- Aluminium 2.5 mm (conductive)
- Closes the front or rear of the sub rack with very high shielding effectiveness
- Contact between the flat front panel and the case is made via EMC gaskets



3.6.2.3 Advanced EMC Level

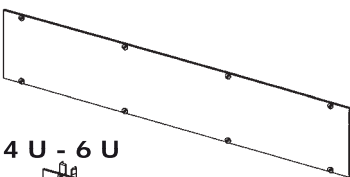
- **Scope of delivery:**
 - EMC flat front panel
 - Contact angle, incl. screws (6 U version only)
 - EMC gasket for contact angle (6 U version only)
- Front panel screws see below
 - Front panel width 42 HP = 4 screws
 - Front panel width 63 HP = 6 screws
 - Front panel width 84 HP = 8 screws

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|--------------|--------------|
| 42 HP | 21C342 | - |
| 63 HP | 21C363 | |
| 84 HP | 21C384 | 21C684 |

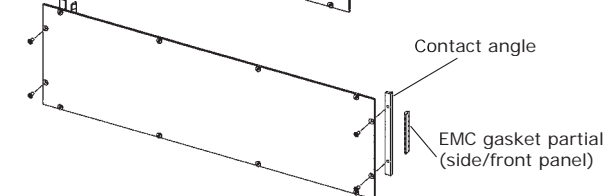
Front Panel Screws

| Description | Part-No. 10 pcs. |
|---|------------------|
| Torx screws M2.5 x 11.3, size T8, with press-fit bush | 63K480 |
| Screw recessed M2.5 x 11.3, with press-fit bush | 63-444 |
| Screw cross recessed M2.5 x 12.7, with press-fit bush | 63-480 |

1 U - 3 U



4 U - 6 U

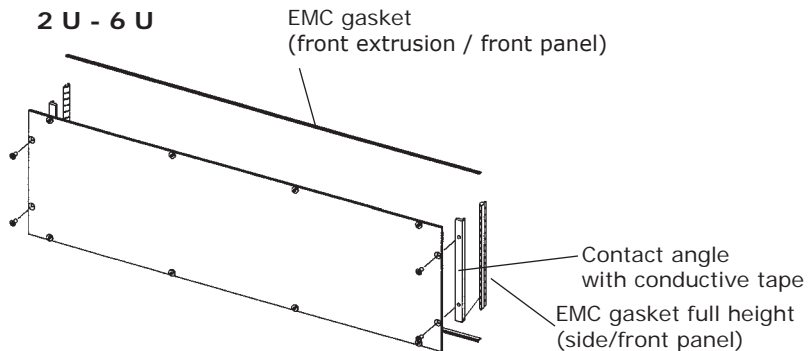


3: EMC Sub Rack Magic-/Spirit-Kit 11

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3.6.2.4 Superior EMC Level

- **Scope of delivery:**
 - EMC flat front panel
 - Contact angle, incl. screws
 - EMC gasket for contact angle
 - EMC gasket for front extrusion/front panel
- Front panel screws, see below
 - Front panel width 42 HP = 4 screws
 - Front panel width 63 HP = 6 screws
 - Front panel width 84 HP = 8 screws



| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 42 HP | 21D342 | |
| 63 HP | 21D363 | |
| 84 HP | 21D384 | 21D684 |

Front Panel Screws

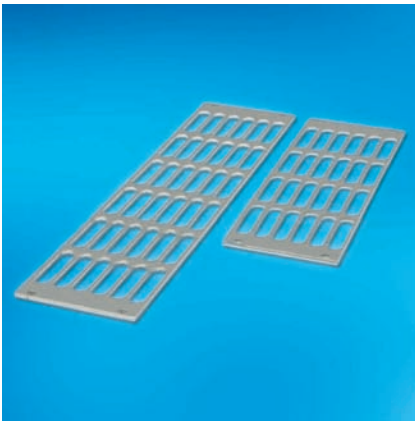
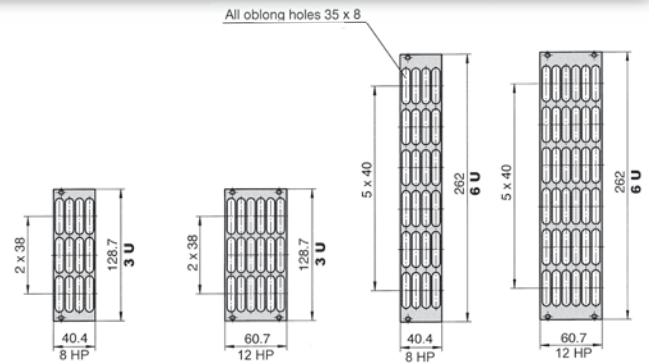
| Description | Part-No. 10 pcs. |
|---|---------------------|
| Torx screws M2.5 x 11.3, size T8, with press-fit bush | 63K480 |
| Screw recessed M2.5 x 11.3, with press-fit bush | 63-444 |
| Screw cross recessed M2.5 x 12.7, with press-fit bush | 63-480 |



3.6.3 Fan Front Panels

3.6.3.1 Fan Front Panel for Horizontal Ventilation

- Aluminium 2.5 mm, clear anodised (non-conductive)
- **Scope of delivery:**
 - 1 perforated fan front panel
- Front panel screws see below



3.6.3.1 Fan Front Panel for Horizontal Ventilation

| Height | Width | Air passage | | Part-No. |
|--------|-------|-----------------|----------|-----------|
| | | mm ² | sq. inch | |
| 3 U | 8 HP | 3195 | 4.95 | 21N308-01 |
| | 12 HP | 4793 | 7.42 | 21N312-01 |
| 6 U | 8 HP | 6390 | 9.90 | 21N608-01 |
| | 12 HP | 9586 | 14.85 | 21N612-01 |

Front Panel Screws

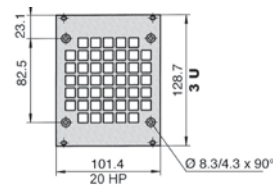
- Set of 10 screws
- With screw retainer
- Fan front panel width up to 8 HP = 2 screws; ≥ 12 HP = 4 screws

| Description | Part-No. 10 pcs. |
|--|---------------------|
| Torx screws M2.5 x 11.3 , size T8, with plastic screw retainer | 63K159 |
| Milled edge screws recessed M2.5 x 11.3, with plastic screw retainer | 63-159 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

3.6.3.2 Fan Front Panels for Direct Fan Mounting

- Aluminium 2.5 mm, clear anodised (non-conductive)
- Scope of delivery:**
 - 1 perforated fan front panel
- Front panel screws see below
- Assembly material for fan mounting has to be ordered separately



3.6.3.2 Fan Front Panels for Direct Fan Mounting

| Description | Height | Width | Air passage | | Part-No. 1 pc. |
|------------------------|--------|-------|-----------------|----------|-------------------|
| | | | mm ² | sq. inch | |
| Without switch opening | 3 U | 20 HP | 4051 | 6.27 | 21N320-04 |

Front Panel Screws

- Set of 10 screws
- With screw retainer
- Per front panel 4 screws are needed

| Description | Part-No. 10 pcs. |
|--|---------------------|
| Torx screws M2.5 x 11.3 , size T8, with plastic screw retainer | 63K159 |
| Milled edge screws recessed M2.5 x 11.3, with plastic screw retainer | 63-159 |

Assembly Material for Fan Mounting

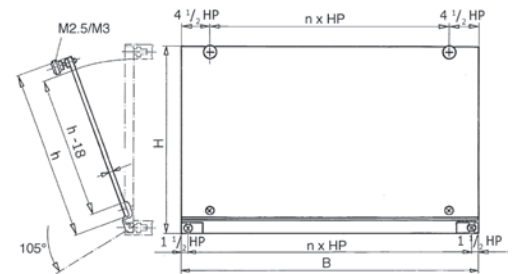
| Description | Part-No. 100 pcs. |
|-------------------------------------|----------------------|
| Countersunk screw, recessed M4 x 10 | 1906-24 |
| Hexagonal nut M4, 0.8D | 1907-20 |



3.6.4 Hinged Front Panels

3.6.4.1 Top/Bottom-Hinged Front Panel

- Hinges are attached to the front extrusions of the sub rack or case
- Aluminium 2.5 mm, clear anodised (non-conductive)
- **Scope of delivery:**
 - Front panel
 - Hinge extrusion
 - Assembly material M2.5, incl. hinges



3.6.4.1 Top/Bottom-Hinged Front Panel

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 63 HP | 25N363-19 | |
| 84 HP | 25N384-19 | 25N684-19 |

Dimensions

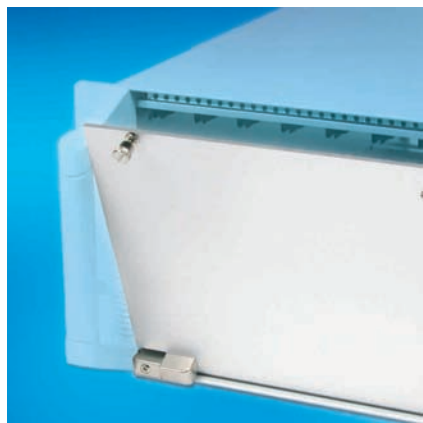
| HP | Nominal Width | | Width B | |
|-------|---------------|-------|---------|-------|
| | mm | inch | mm | inch |
| 63 HP | 320.04 | 12.60 | 319.8 | 12.59 |
| 84 HP | 426.72 | 16.80 | 426.5 | 16.79 |

| Nominal Height U | Height H | | Height h | |
|---------------------|----------|-------|----------|------|
| | mm | inch | mm | inch |
| 3 U | 128.7 | 5.07 | 117 | 4.61 |
| 6 U | 262.05 | 10.31 | 250.3 | 9.85 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

3.6.4.2 EMC Top / Bottom-Hinged Front Panel

- Width: 84 HP
- Offers optimum protection from electromagnetic interference
- Aluminium 2.5 mm, front anodised, rear conductive
- **Scope of delivery:**
 - EMC front panel
 - Hinge extrusions
 - Assembly material M2.5, incl. hinges
 - EMC gaskets



3.6.4.2 EMC Top / Bottom-Hinged Front Panel

| EMC Level | Part-No. 3 U | Part-No. 6 U |
|-----------|-----------------|-----------------|
| Advanced | 25C384-11 | 25C684-11 |
| Superior | 25D384-11 | 25D684-11 |

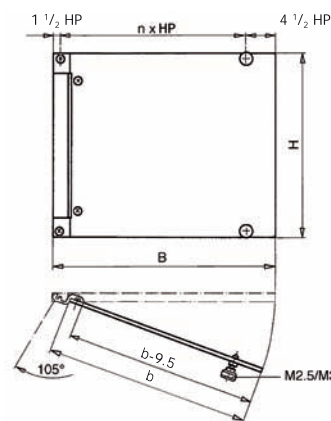
3.6.4.3 Side-Hinged Front Panel

- Aluminium 2.5 mm, clear anodised (non-conductive)
- **Scope of delivery:**
 - Front panel
 - Hinge extrusion
 - Assembly material M2.5, incl. hinges



3.6.4.3 Side-Hinged Front Panel

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 42 HP | 25N342-29 | 25N642-29 |
| 63 HP | 25N363-29 | 25N663-29 |
| 84 HP | 25N384-29 | 25N684-29 |



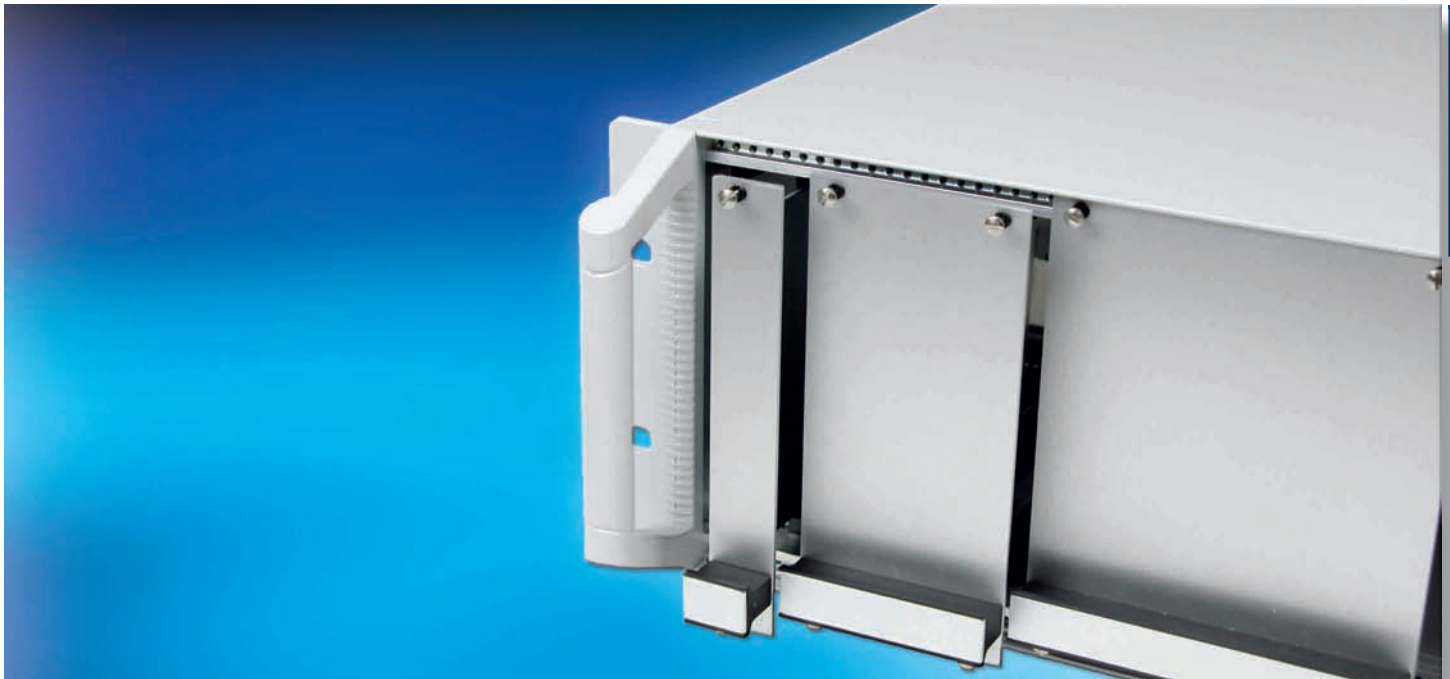
Dimensions

| HP | Nominal Width | | Width B | | Width b | |
|-------|---------------|-------|---------|-------|---------|-------|
| | mm | inch | mm | inch | mm | inch |
| 42 HP | 213.36 | 8.40 | 213.1 | 8.39 | 201 | 7.91 |
| 63 HP | 320.04 | 12.60 | 319.8 | 12.59 | 307.7 | 12.11 |
| 84 HP | 426.72 | 16.80 | 426.5 | 16.79 | 414.3 | 16.31 |

| Nominal Height | Height H | |
|----------------|----------|-------|
| U | mm | inch |
| 3 U | 128.7 | 5.06 |
| 6 U | 262.05 | 10.31 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

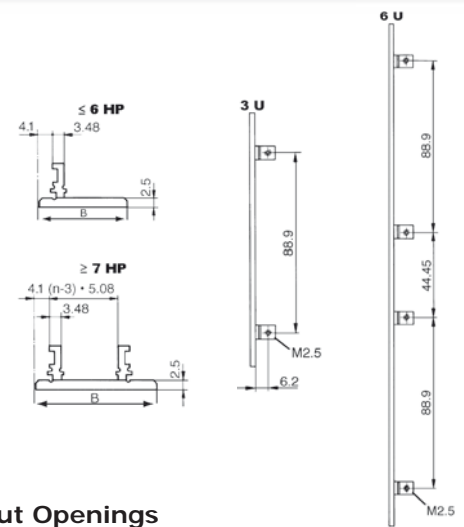
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3.6.5 Plug-In Units acc. to IEC

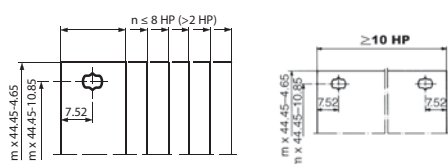
3.6.5.1 Extruded Front Panel

- Aluminium 2.5 mm, clear anodised (non-conductive)
- PCB mounting lugs are formed on the rear face of the panel
- No PCB fixing screws on the front face of the panel, leaving more space for silk screening and mounting front panel components
- Suitable for all sub racks and cases
- Thickness of the mounting lugs (3.48 mm) allows PCBs to be mounted on either side of the lugs
- Drill marks at rear for handle-fixing holes
- **Scope of delivery:**
 - Extruded front panel, clear anodised
 - Front panel screws see below



3.6.5.1 Extruded Front Panels, without Openings

| Width | B | | Part-No. 3 U | Part-No. 6 U |
|-------|-------|------|-----------------|-----------------|
| | mm | inch | | |
| 3 HP | 15.0 | 0.59 | 26N303 | 26N603 |
| 4 HP | 20.1 | 0.79 | 26N304 | 26N604 |
| 5 HP | 25.2 | 0.99 | 26N305 | 26N605 |
| 6 HP | 30.3 | 1.19 | 26N306 | 26N606 |
| 7 HP | 35.3 | 1.38 | 26N307 | 26N607 |
| 8 HP | 40.4 | 1.59 | 26N308 | 26N608 |
| 10 HP | 50.6 | 1.99 | 26N310 | 26N610 |
| 12 HP | 60.7 | 2.38 | 26N312 | 26N612 |
| 14 HP | 70.9 | 2.79 | 26N314 | 26N614 |
| 16 HP | 81.1 | 3.19 | 26N316 | 26N616 |
| 21 HP | 106.5 | 4.19 | 26N321 | |



Front Panel Screws

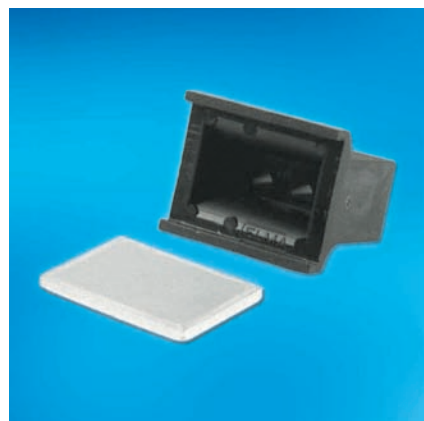
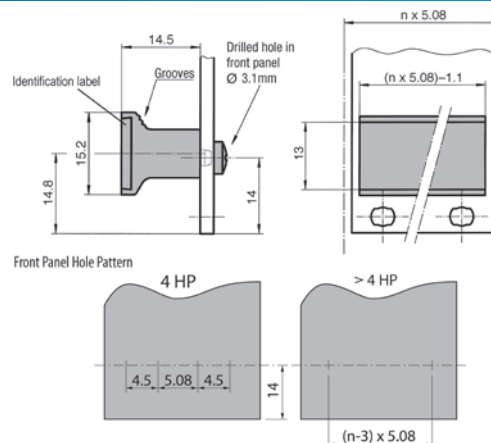
- Set of 10 screws
- With screw retainer
- Front panel width up to 9 HP = 2 screws; ≥ 10 HP = 4 screws

| Description | Part-No. 10 pcs. |
|--|---------------------|
| Torx screws M2.5 x 11.3 , size T8, with plastic screw retainer | 63K159 |
| Milled edge screws recessed M2.5 x 11.3, with plastic screw retainer | 63-159 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

3.6.5.2 Rigid-Mounted Unit Handles with Identification Label

- Black, plastic UL94 V-0, label aluminium anodised
- **Scope of delivery:**
 - Rigid-mounted handle
 - Identification label
- Assembly material see below



Rigid-Mounted Handle with Identification Label

| Width | Scope of Delivery | Part-No. |
|--------------|-------------------|-----------|
| 4 HP top* | 5 pcs. | 60-200-01 |
| 4 HP bottom* | 5 pcs. | 60-200-02 |
| 4 HP | 10 pcs. | 60-200-04 |
| 5 HP | 10 pcs. | 60-200-05 |
| 6 HP | 10 pcs. | 60-200-06 |
| 7 HP | 10 pcs. | 60-200-07 |
| 8 HP | 10 pcs. | 60-200-08 |
| 10 HP | 10 pcs. | 60-200-10 |
| 12 HP | 10 pcs. | 60-200-12 |
| 14 HP | 1 pc. | 60-200-14 |
| 21 HP | 1 pc. | 60-200-21 |

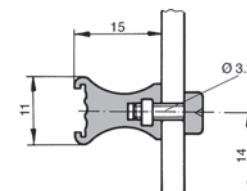
- Other sizes (up to 84 HP) are available upon request
- * (Flat front panel with card holder)

Assembly Material

| Description | Part-No. 1 pc. | Part-No. 100 pcs. |
|---------------------------|-------------------|----------------------|
| Recessed round head screw | 61-276 | 1902-70 |

3.6.5.3 Fluted Handles

- Extruded aluminium handles, shaped to facilitate withdrawal of plug-in units
- Two grooves in the front face will accept identification strips (0.5 x 9 mm)
- **Scope of delivery:**
 - Extruded handle, clear anodised
 - Assembly material



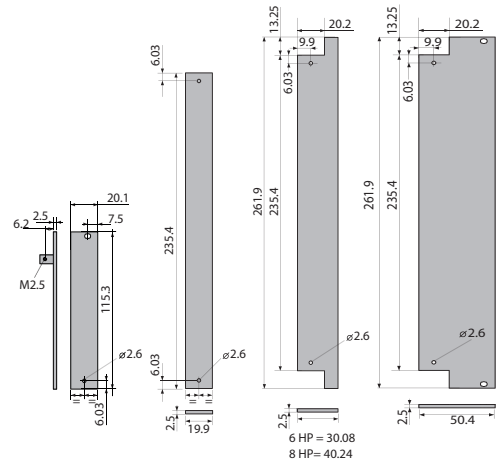
Fluted Handles for Front Panels to IEC

| Front Panel Width HP | Width | | Handle Length | | Part-No. |
|-------------------------|-------|-------|---------------|-------|----------|
| | mm | inch | mm | inch | |
| 3 HP | 15.0 | 0.59 | 12.5 | 0.49 | 60-103 |
| 4 HP | 20.1 | 0.79 | 17.6 | 0.69 | 60-104 |
| 5 HP | 25.2 | 0.99 | 22.6 | 0.88 | 60-105 |
| 6 HP | 30.3 | 1.19 | 27.7 | 1.09 | 60-106 |
| 7 HP | 35.3 | 1.38 | 33.5 | 1.31 | 60-107 |
| 8 HP | 40.4 | 1.59 | 37.9 | 1.49 | 60-108 |
| 10 HP | 50.6 | 1.99 | 48.0 | 1.88 | 60-110 |
| 12 HP | 60.8 | 2.39 | 58.2 | 2.29 | 60-112 |
| 14 HP | 70.9 | 2.79 | 69.1 | 2.72 | 60-114 |
| 16 HP | 81.1 | 3.19 | 78.5 | 3.09 | 60-116 |
| 20 HP | 101.4 | 3.99 | 98.8 | 3.88 | 60-120 |
| 21 HP | 106.5 | 4.18 | 104.6 | 4.11 | 60-121 |
| 27 HP | 137.0 | 5.39 | 134.4 | 5.29 | 60-127 |
| 30 HP | 152.2 | 5.99 | 149.6 | 5.88 | 60-130 |
| 40 HP | 203.0 | 7.99 | 200.4 | 7.88 | 60-140 |
| 60 HP | 304.6 | 11.99 | 302.0 | 11.88 | 60-160 |
| 84 HP | 426.5 | 16.79 | 424.0 | 16.69 | 60-184 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

3.6.5.4 Front Panel with Cutouts for IEC Ejector Handles

- Aluminium 2.5 mm, clear anodised (non-conductive)
- PCB mounting lugs are formed on the rear face of the panel (only 3 U-Version)
- No PCB fixing screws on the front face of the panel, leaving more space for silk screening and mounting front panel components
- Suitable for all sub racks and cases
- 3 U front panels prepared for one handle
- 6 U front panels prepared for two handles
- **Scope of delivery:**
 - Front panel, clear anodised
- Front panel screws see below (for 3 U-Version only)
- IEC ejector handles, see 3.6.5.5



3.6.5.4 Front Panel with Cutout for IEC Ejector Handle

| Width | B | | Part-No. 3 U | Part-No. 6 U |
|-------|------|------|-----------------|-----------------|
| | mm | inch | | |
| 4 HP | 20.0 | 0.79 | 26N304-51 | 21N604-51 |
| 6 HP | 30.2 | 1.19 | | 21N606-51 |
| 8 HP | 40.3 | 1.59 | | 21N608-51 |
| 10 HP | 50.5 | 1.99 | | 21N610-51 |

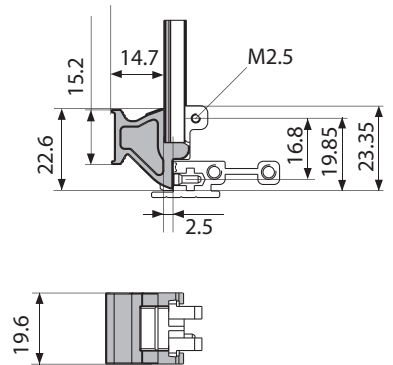
Front Panel Screws (for 3 U-Version only)

- Set of 10 screws
- With screw retainer
- Front panel 3 U = 1 screw

| Description | Part-No. 10 pcs. |
|--|---------------------|
| Torx screws M2.5 x 11.3, size T8, with plastic screw retainer | 63K159 |
| Milled edge screws recessed M2.5 x 11.3, with plastic screw retainer | 63-159 |

3.6.5.5 Ergonomic Ejector Handles acc. to IEC

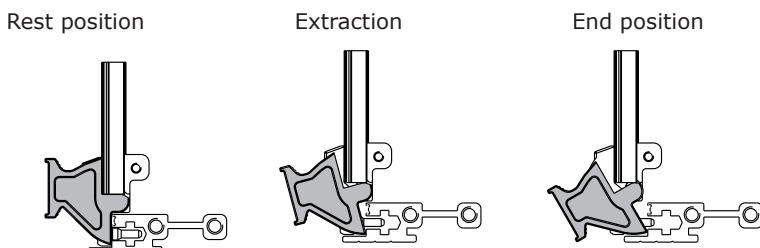
- Simple assembly of plug-in units
- Allows trouble-free extraction of electronic units with multi-pole connectors
- Main features in one part: card holder, ejector handle and centring pin
- Reset spring for safe insertion
- One version for top and bottom only
- Handle is injection moulded, glass-reinforced plastic, UL94 V-0
- Card holder is zinc die-cast, nickel plated
- Reset spring is stainless steel
- **Scope of delivery:**
 - Ejector handle
 - Assembly material (cross recessed screws M2.5 for fixing of card holder/printed board/front panel)
- Front panel with special cutouts have to be ordered separately



3.6.5.5 Ejector Handle acc. to IEC

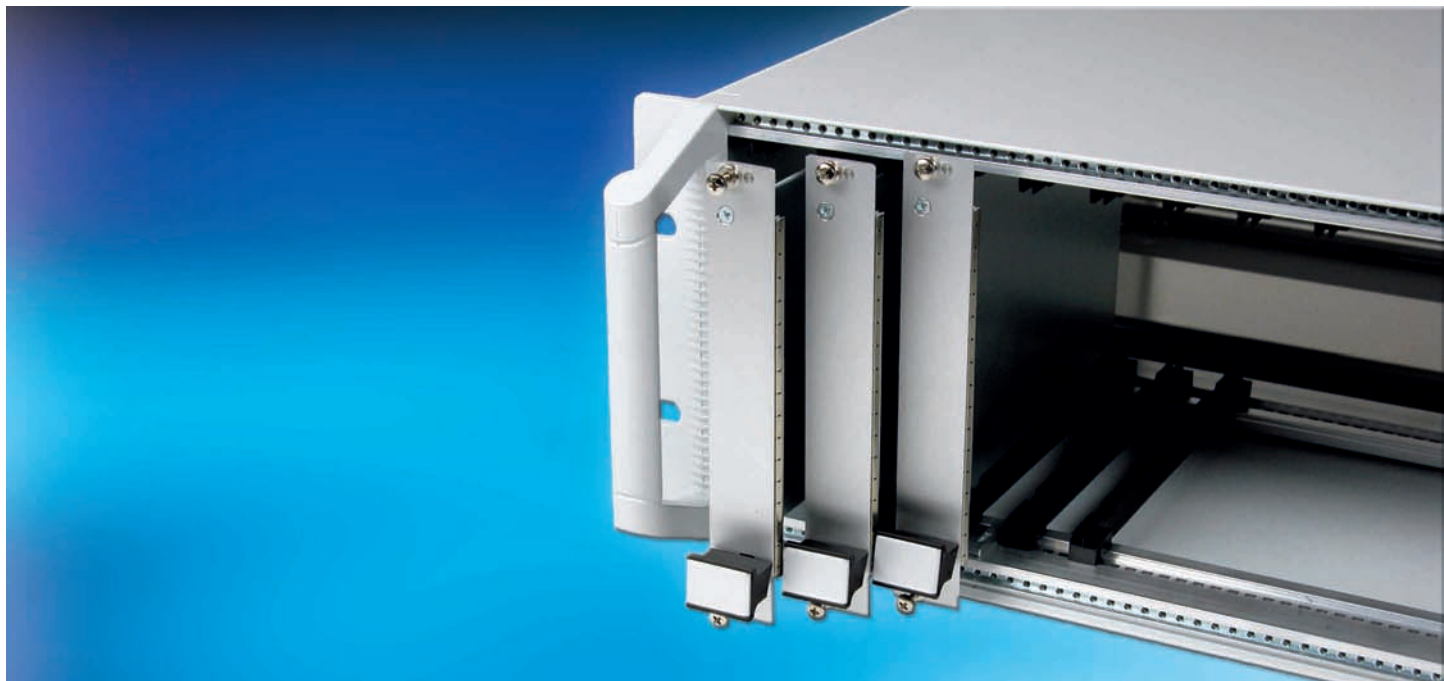
| Description | Part-No. 10 pcs. | Part-No. 100 pcs. |
|----------------------|---------------------|----------------------|
| Ejector handle black | 81-233-1 | 81-233-2 |
| Ejector handle grey | 81-234-1 | 81-234-2 |

Extraction process:



Label

| Description | Part-No. |
|--------------------------|----------|
| 1 sheet A4 of 220 labels | 81-031 |



3.6.6 EMC Plug-In Units acc. to IEC

- Excellent EMC shielding
- Made of aluminium extrusions
- Rear side: conductive surface finish (clear passivated)
- Used in the assembly of plug-in units
- The EMC-gasket is integrated into the front panel profile to protect it from damage
- A pressfit centering pin guarantees optimum positioning of the panel as well as the right pressure between the contact strip and the next panel



3.6.6.1 EMC Filler Panel without Openings

- High stability
- Extruded aluminium
- Pressed-in centring pin and bushes M2.5
- Front side clear anodised, rear side conductive
- **Scope of delivery:**
 - EMC front panel, incl. pressed-in centering pin and bushes M2.5
- EMC-gasket see below
- Front panel screw see below
- Handles and card holders cannot be fitted with this type of front panel

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 4 HP | 66-514-73 | 66-514-76 |
| 6 HP | 66-516-73 | 66-514-76 |
| 8 HP | 66-518-73 | 66-518-76 |



EMC Gasket (Stainless Steel)

| Height | Part-No. 1 pc. | Part-No. 10 pcs. | Part-No. 100 pcs. |
|--------|-------------------|---------------------|----------------------|
| 3 U | 81-062-03 | 81-062-03-1 | 81-062-03-2 |
| 6 U | 81-062-06 | 81-062-06-1 | 81-062-06-2 |

Front Panel Screws

- Front panel width up to 8 HP = 2 screws

| Description | Part-No. 1 pc. | Part-No. 100 pcs. |
|--|-------------------|----------------------|
| Torx screw, M2.5 x 11.3, size T8 | 5443-08 | 1904K41 |
| Round head screw, cross recessed M2.5 x 12.7 | 61-287 | 1904-41 |

Use Elma's front panel service for machining and screen printing of your panels!

3: EMC Sub Rack Magic-/Spirit-Kit 11

3.6.6.2 EMC Front Panels for IEC Plug-In Units with Cutouts for Ejector Handles acc. to IEC

- EMC Front Panels Aluminium with EMC Gasket
- Excellent EMC shielding
- Immune to snagging
- EMC-gasket slides onto the extrusion
- **Scope of delivery:**
 - EMC front panel, incl. pressed-in bushes M2.5 (size ≥ 9 HP)
- EMC-gasket see below
- Handle has to be ordered separately, see 3.6.6.4
- Front panel screw (size ≥10 HP), see below



3.6.6.2 Front Anodised, Rear Conductive (2 cutouts)

- With 2 cutouts (bottom + top)

| Width | Part-No. 3 U | Part-No. 6 U | Part-No. 9 U |
|-------|-----------------|-----------------|-----------------|
| 4 HP | 66-514-23 | 66-514-26 | 66-514-29 |
| 5 HP | 66-515-23 | 66-515-26 | - |
| 6 HP | 66-516-23 | 66-516-26 | 66-516-29 |
| 8 HP | 66-518-23 | 66-518-26 | 66-518-29 |
| 9 HP | 66-519-23 | 66-519-26 | - |
| 10 HP | 66-520-23 | 66-520-26 | 66-520-29 |
| 12 HP | 66-522-23 | 66-522-26 | 66-522-29 |
| 14 HP | 66-534-23 | 66-534-26 | |

3.6.6.2.1 Front Anodised, Rear Conductive (1 cutout)

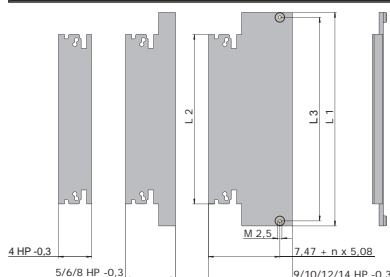
- With 1 cutout (bottom)
- Incl. pressed-in centring pin and bush M2.5 (top)
- Incl. cutout for mounting of card holder 61-156 (top) with screw 5322-08 (see 3.6.6.5)

| Width | Part-No. 3 U |
|-------|-----------------|
| 4 HP | 66-514-43 |
| 5 HP | 66-515-43 |
| 6 HP | 66-516-43 |
| 8 HP | 66-518-43 |
| 9 HP | 66-519-43 |
| 10 HP | 66-520-43 |
| 12 HP | 66-522-43 |
| 14 HP | 66-534-43 |

3.6.6.2.2. Front and Rear Side Raw

- With 2 cutouts (bottom + top)

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 4 HP | 66-514-63 | 66-514-66 |
| 6 HP | 66-516-63 | 66-516-66 |
| 8 HP | 66-518-63 | 66-518-66 |
| 10 HP | 66-520-63 | 66-520-66 |
| 12 HP | 66-522-63 | 66-522-66 |



Dimensions

| Height | L1 mm | L1 inch | L2 mm | L2 inch | L3 mm | L3 inch |
|--------|--------|---------|--------|---------|--------|---------|
| 3 U | 128.55 | 5.06 | 102.05 | 4.01 | 122.50 | 4.82 |
| 6 U | 261.90 | 10.31 | 235.40 | 9.27 | 255.85 | 10.07 |
| 9 U | 395.25 | 15.56 | 368.75 | 14.51 | 389.20 | 15.32 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

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3.6.6.3 EMC-Gasket (Stainless Steel)

| Unit | Part-No. 3 U | Part-No. 6 U | Part-No. 9 U |
|----------|-----------------|-----------------|-----------------|
| 1 pc. | 81-062-03 | 81-062-06 | 81-062-09 |
| 10 pcs. | 81-062-03-1 | 81-062-06-1 | 81-062-09-1 |
| 100 pcs. | 81-062-03-2 | 81-062-06-2 | 81-062-09-2 |

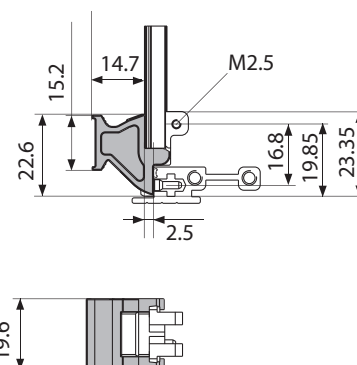
3.6.6.3.1 Front Panel Screw

- For EMC front panels size ≥ 10 HP = 2 additional screws are needed

| Description | Part-No. 2 pcs. | Part-No. 100 pcs. |
|--|--------------------|----------------------|
| Cross recessed round head screws M2.5 x 12.7 | 61-287-4 | 1904-41 |
| Torx screws M2.5 x 11.3, size T8 | 63K482 | 1904K41 |

3.6.6.4 Ergonomic Ejector Handles acc. to IEC

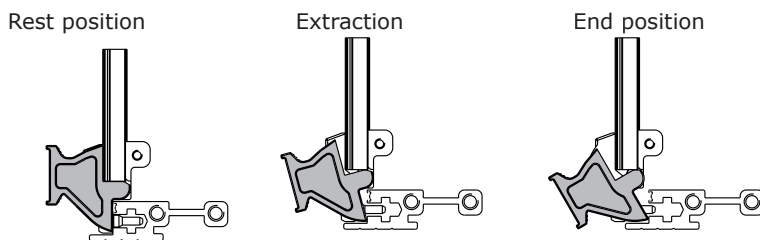
- Simple assembly of plug-in units
- Allows trouble-free extraction of electronic units with multi-pole connectors
- Main features in one part: card holder, ejector handle and centring pin
- Reset spring for safe insertion
- One version for top and bottom only
- Handle is injection moulded, glass-reinforced plastic, UL94 V-0
- Card holder is zinc die-cast, nickel plated
- Reset spring is stainless steel
- Scope of delivery:**
 - Ejector handle
 - Assembly material (cross recessed screws M2.5 for fixing of card holder/printed board/front panel)
- Front panel with special cutouts have to be ordered separately



3.6.6.4 Ejector Handle acc. to IEC

| Description | Part-No. 10 pcs. | Part-No. 100 pcs. |
|----------------------|---------------------|----------------------|
| Ejector handle black | 81-233-1 | 81-233-2 |
| Ejector handle grey | 81-234-1 | 81-234-2 |

Extraction process:



Label

| Description | Part-No. |
|--------------------------|----------|
| 1 sheet A4 of 220 labels | 81-031 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

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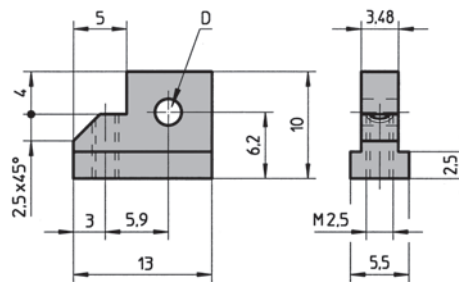
3.6.6.5 Card Holder acc. to IEC Standard

- By using the zinc die-cast card holder, flat front panels and EMC front panels acc. to IEC can be connected to a PC card to form a plug-in unit
- The card can be mounted both in the standard position and offset 1 HP (5.08 mm)
- **Scope of delivery:**
 - Card holder
- Assembly material see below



3.6.6.5 Card Holder without Swivel Stop

| Description | Application | D | Part-No. 1 pc. | Part-No. 10 pcs. | Part-No. 100 pcs. |
|---------------------------------|-----------------------------------|------|----------------|------------------|-------------------|
| Card holder without swivel stop | Without injector / ejector handle | M2.5 | 61-156 | 63-366 | 63-466 |

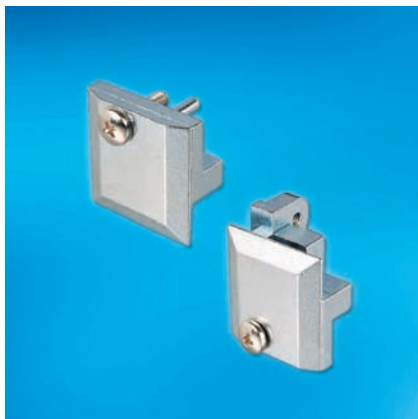


Assembly Material

| Description | Application | Part-No. 1 pc. | Part-No. 100 pcs. |
|--|-------------------|----------------|-------------------|
| Cross recessed counter-sunk screw M2.5 x 8 | For card holder | 5322-08 | 1906-08 |
| Torx countersunk screw M2.5 x 8, size T8 | For card holder | 5470-21 | |
| Slotted pan head screw M2.5 x 6 | For printed board | 5571-06 | 1901-06 |
| Torx cylinder head screw M2.5 x 6, size T8 | For printed board | 5470-04 | |

3.6.6.6 Card Holder/End Piece without ESD Pin

- **Scope of delivery:**
 - End piece card holder (zinc die-cast, nickel plated)
 - Assembly material (screws M2.5 for fixing of front panel/card holder/printed board)



Card Holder/End Piece *without* ESD Pin

| Description | Part-No. 1 pc. | Part-No. 100 pcs. |
|-------------|----------------|-------------------|
| Top | 81-018-01 | 81-018-01-2 |
| Bottom | 81-019-01 | 81-019-01-2 |



3.6.7 Plug-In Units acc. to IEEE

3.6.7.1 EMC Front Panels Aluminium with EMC Gasket acc. IEEE

- Excellent EMC shielding
- Immune to snagging
- EMC-gasket slides onto the extrusion
- **Scope of delivery:**
 - EMC front panel, incl. press-in bushes M2.5 (size \geq 10 HP)
- EMC-gasket see below
- Handle has to be ordered separately, see 3.6.7.5
- Front panel screw (size \geq 10 HP), see below



3.6.7.1 Front Anodised, Side Conductive (2 cutouts)

- With 2 cutouts (bottom + top)

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 4 HP | 66-514-23 | 66-514-26 |
| 5 HP | 66-515-23 | 66-515-26 |
| 6 HP | 66-516-23 | 66-516-26 |
| 8 HP | 66-518-23 | 66-518-26 |
| 9 HP | 66-519-23 | 66-519-26 |
| 10 HP | 66-520-23 | 66-520-26 |
| 12 HP | 66-522-23 | 66-522-26 |
| 14 HP | 66-534-23 | 66-534-26 |

3.6.7.2 Front Anodised, Rear Conductive (1 cutout)

- With 1 cutout (bottom)
- Incl. pressed-in centring pin and bush M2.5 (top)
- Incl. cutout for mounting of card holder 61-156 (top) with screw 5322-08 (see 2.7.6.2)

| Width | Part-No. 3 U |
|-------|-----------------|
| 4 HP | 66-514-43 |
| 5 HP | 66-515-43 |
| 6 HP | 66-516-43 |
| 8 HP | 66-518-43 |
| 9 HP | 66-519-43 |
| 10 HP | 66-520-43 |
| 12 HP | 66-522-43 |
| 14 HP | 66-534-43 |

3.6.7.3 Front and Rear Side Raw

- With 2 cutouts (bottom + top)

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 4 HP | 66-514-63 | 66-514-66 |
| 6 HP | 66-516-63 | 66-516-66 |
| 8 HP | 66-518-63 | 66-518-66 |
| 10 HP | 66-520-63 | 66-520-66 |
| 12 HP | 66-522-63 | 66-522-66 |

3: EMC Sub Rack Magic-/Spirit-Kit 11

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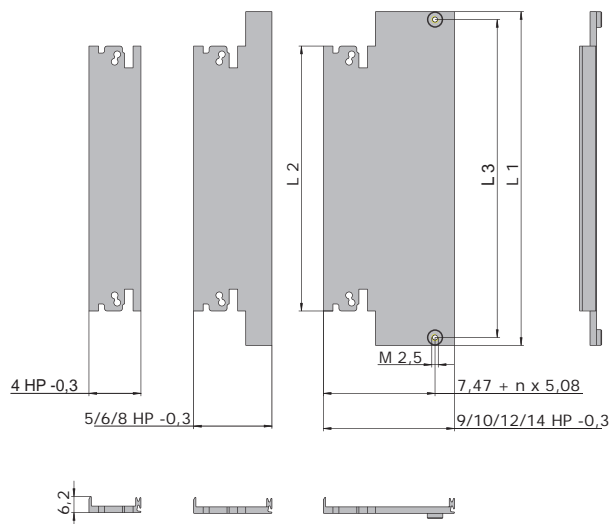
EMC-Gasket (Stainless Steel)

| Unit | Part-No. 3 U | Part-No. 6 U |
|----------|-----------------|-----------------|
| 1 pc. | 81-062-03 | 81-062-06 |
| 10 pcs. | 81-062-03-1 | 81-062-06-1 |
| 100 pcs. | 81-062-03-2 | 81-062-06-2 |

Front Panel Screw

- For EMC front panels size ≥ 10 HP = 2 additional screws are needed

| Description | Part-No. 2 pcs. | Part-No. 100 pcs. |
|--|--------------------|----------------------|
| Cross recessed round head screws M2.5 x 12.7 | 61-287-4 | 1904-41 |
| Torx screws M2.5 x 11.3, size T8 | 63K482 | 1904K41 |

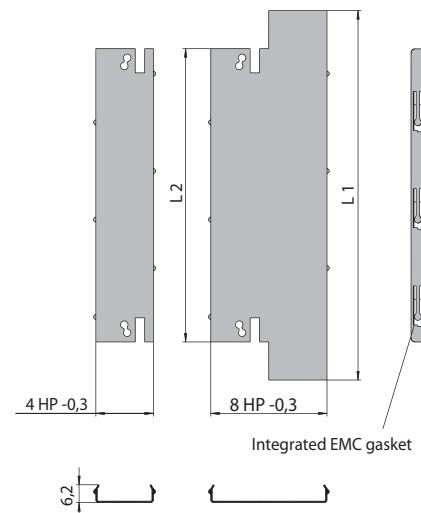


Dimensions

| Height | L1 mm | L1 inch | L2 mm | L2 inch | L3 mm | L3 inch |
|--------|--------|---------|--------|---------|--------|---------|
| 3 U | 128.55 | 5.06 | 102.05 | 4.01 | 122.50 | 4.82 |
| 6 U | 261.90 | 10.31 | 235.40 | 9.27 | 255.85 | 10.07 |

3.6.7.4 EMC Front Panel Stainless Steel acc. IEEE

- Very good EMC shielding
- Economic solution
- EMC-spring integrated in front panel
- Stainless steel
- Scope of delivery:**
 - EMC front panel
- Handle has to be ordered separately, see 3.6.7.5



3.6.7.4 Front and Rear Side Untreated, Stainless Steel

| Width | Part-No. 3 U | Part-No. 6 U |
|-------|-----------------|-----------------|
| 4 HP | 28-304 | 28-604 |
| 8 HP | 28-308 | 28-608 |