



*Schroff*

# FRONT PANELS, PLUG-IN-UNITS, FRAME TYPE PLUG-IN-UNITS

Cabinets ..... 1

Wall mounted cases ..... 2

Accessories for cabinets and wall mounted cases . 3

Climate control . 4

Electronics cases ..... 5

Subracks/ 19" chassis .... 6

**Front panels, plug-in units ... 7**

Systems ..... 8

Power supply units ..... 9

Backplanes ... 10

Connectors, front panel component system ..... 11

Appendix ..... 12

## Front panels

- Extensive standard range
- Individual modification to customer requirements: drill holes, cut-outs
- Individual printing
- Front Panel Express



## Plug-in units

- Front panels with handles in various designs
  - Extensive standard range
  - Individual modification to customer requirements: drill holes, cut-outs
  - Individual printing
  - Front Panel Express



Front panels, plug-in units, frame-type plug-in units

Overview ..... 7.0

Frame-type plug-in units

- To hold and protect PCBs
- High stability
- Outstanding cooling
- With or without EMC shielding



Front panels.. 7.2

Plug-in units.. 7.16

Frame type plug-in units.. 7.64

minipac..... 7.98

PCB accessories... 7.102

minipac

- Convenient small case - flexible enough for all your requirements
- To accommodate non-standardised or standardised PCBs
- As desktop enclosure, for wall mounting or mounting on a DIN support rail

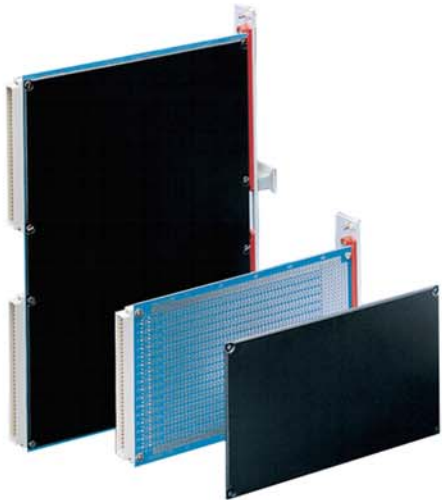


Assembly material..... 7.107

Modules to mount drive units see chapter System Accessories .. 8.110

Accessories

- Brackets, handles, covers
- Assembly material
- Tools



Cabinets ..... 1

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Appendix ..... 12



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Standards

- IEC 60297-3-101/IEEE 1101.1/10



ServicePLUS

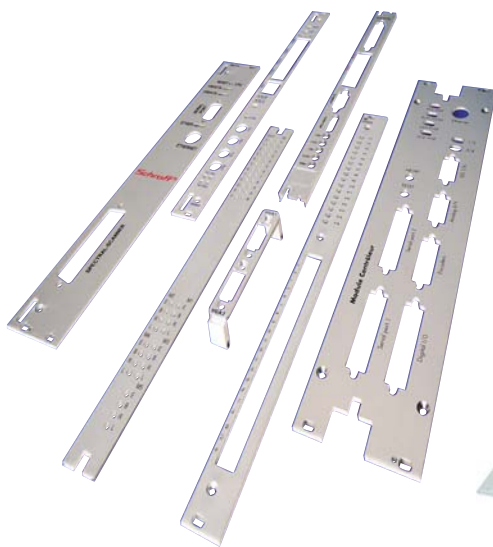
- e.g. individual colouring
- e.g. customised cut-outs
- e.g. printing
- e.g. mounting service
- e.g. special dimensions

[www.frontpanelexpress.eu](http://www.frontpanelexpress.eu)

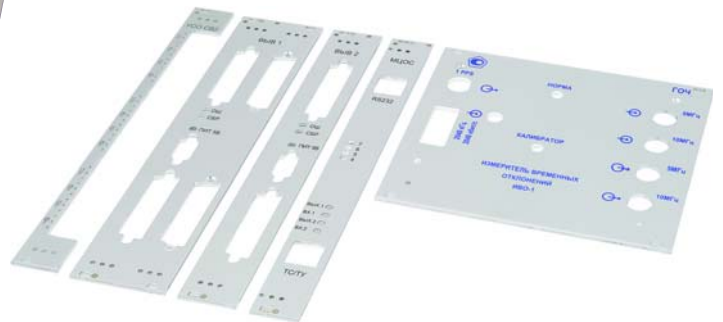
30407004



**FRONT PANEL EXPRESS**



32304003



04210001 044603009

## Front panels

Overview ..... 7.2

### Front panels for fitting in subracks, cases and systems

- Extensive standard range with various finishes and materials (aluminium or stainless steel)
- Front Panel Express:  
Fast delivery service of customised versions (from 2 days)
- EMC shielding retrofittable



04292001

#### Front panels, unshielded

- Aluminium, clear anodised
- Aluminium, clear pre-anodised, cut edge untreated
- Aluminium, front anodised, rear iridescent green chromated
- Other finishes on request



04600006

#### Front panels shieldable, flat

- With lateral grooves to fit EMC gaskets (stainless steel)
- Compatible with the shielded U profile version



04602004

#### Front panels, shieldable, U profile

- With lateral groove to fix a textile self-adhesive EMC gasket
- Compatible with the shielded flat version
- High robustness through U profile



04295001 04295002

#### Further front panels

- Hinged/folding front panels
- Front panels with GND/earthing
- Mezzanine front panels
- AdvancedTCA front panels
- MicroTCA front panels
- AdvancedMC front panels

#### Front panels

Unshielded ..... 7.4  
 Shieldable ..... 7.5  
 EMC stainless steel gaskets .... 7.6  
 Assembly tool .... 7.6

#### Front panels

Shieldable (U profile) ..... 7.7  
 EMC textile gasket ..... 7.6

#### Further front panels

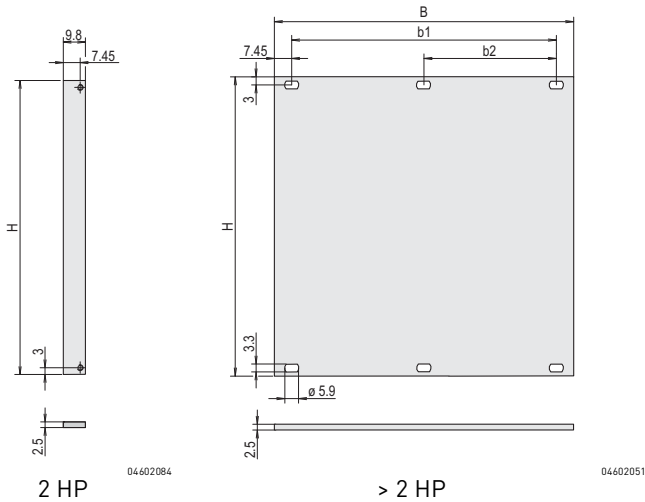
Hinged ..... 7.8  
 Hinged, shielded . 7.9  
 For D-Sub connectors ..... 7.10  
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 3 U with GND/earthing ..... 7.11  
 Mezzanine front panels ..... 7.12

#### Assembly kit ..... 7.107

AdvancedTCA front panels ..... 8.12  
 MicroTCA front panels ..... 8.65  
 AdvancedMC front panels ..... 8.60

## Front panels

### Front panels, unshielded



- Front panel, Al, 2.5 mm
- Versions:
  - Al, anodised
  - Al, anodised, cut edges plain
  - Al, front anodised, rear iridescent green chromated

#### Note

- Other sizes and finishes available on request
- Please order fixing material separately, see chapter Assembly parts, page 7.107

### Order Information

Height H	Width	B	b1	b2	Qty	Anodised, cut edges plain	Anodised	Front anodised, rear colorless chromated	
U	mm	HP	mm	mm	1)	Part no.	Part no.	Part no.	
1	39.5	84	426.4	411.5	203.2	1	-	-	20850-426
2	84.0	84	426.4	411.5	203.2	1	30818-271	30807-416	30847-461
3	128.4	2	9.8	-	-	1 (SPQ 5) <sup>1)</sup>	30810-433	30810-432	30847-470
3	128.4	3	14.9	-	-	1 (SPQ 5) <sup>1)</sup>	30818-272	30807-508	30847-471
3	128.4	4	20.0	-	-	1 (SPQ 5) <sup>1)</sup>	30818-273	30807-481	30838-043
3	128.4	5	25.0	-	-	1 (SPQ 5) <sup>1)</sup>	30818-274	30807-510	30838-044
3	128.4	6	30.1	-	-	1 (SPQ 5) <sup>1)</sup>	30818-275	30807-482	30838-045
3	128.4	7	35.2	-	-	1 (SPQ 5) <sup>1)</sup>	30818-276	30807-509	30838-046
3	128.4	8	40.3	25.4 <sup>2)</sup>	-	1 (SPQ 5) <sup>1)</sup>	30818-277	30807-484	30838-047
3	128.4	10	50.5	35.6	-	1 (SPQ 5) <sup>1)</sup>	30818-279	30807-483	30838-049
3	128.4	12	60.6	45.7	-	1 (SPQ 5) <sup>1)</sup>	30818-281	30807-485	30838-051
3	128.4	14	70.8	55.9	-	1 (SPQ 5) <sup>1)</sup>	30818-282	30807-501	30838-053
3	128.4	21	106.3	91.4	-	1 (SPQ 5) <sup>1)</sup>	30818-289	30807-487	30838-060
3	128.4	28	141.9	127.0	-	1 (SPQ 5) <sup>1)</sup>	30818-296	30807-496	30838-067
3	128.4	42	213.0	198.1	101.6 <sup>2)</sup>	1	30818-310	30807-494	30838-081
3	128.4	63	319.7	304.8	157.5	1	30818-331	30808-067	30838-102
3	128.4	84	426.4	411.5	203.2	1	30818-352	30807-506	30838-123
4	172.9	84	426.4	411.5	203.2	1	30818-434	30807-596	30847-465
6	261.8	2	9.8	-	-	1 (SPQ 5) <sup>1)</sup>	30818-747	30818-741	30847-472
6	261.8	4	20.0	-	-	1 (SPQ 5) <sup>1)</sup>	30818-518	30807-778	30838-124
6	261.8	5	25.0	-	-	1 (SPQ 5) <sup>1)</sup>	30818-519	30807-777	30838-125
6	261.8	6	30.1	-	-	1 (SPQ 5) <sup>1)</sup>	30818-520	30807-752	30838-126
6	261.8	7	35.2	-	-	1 (SPQ 5) <sup>1)</sup>	30818-521	-	30838-127
6	261.8	8	40.3	25.4 <sup>2)</sup>	-	1 (SPQ 5) <sup>1)</sup>	30818-522	30807-779	30838-128
6	261.8	10	50.5	35.6	-	1 (SPQ 5) <sup>1)</sup>	30818-524	30807-753	30838-130
6	261.8	12	60.6	45.7	-	1 (SPQ 5) <sup>1)</sup>	30818-526	30807-755	30838-132
6	261.8	14	70.8	55.9	-	1 (SPQ 5) <sup>1)</sup>	30818-528	30807-758	30838-134
6	261.8	16	80.9	66.0	-	1 (SPQ 5) <sup>1)</sup>	30818-530	30807-780	30838-136
6	261.8	21	106.3	91.4	-	1 (SPQ 5) <sup>1)</sup>	30818-535	30807-757	30838-141
6	261.8	28	141.9	127.0	-	1 (SPQ 5) <sup>1)</sup>	30818-542	30807-766	30838-148
6	261.8	42	213.0	198.1	101.6 <sup>2)</sup>	1	30818-556	30807-764	30838-162
6	261.8	63	319.7	304.8	157.5	1	30818-577	30807-771	30838-183
6	261.8	84	426.4	411.5	203.2	1	30818-598	30807-776	30838-204
9	395.1	84	426.4	411.5	203.2	1	-	-	30847-556

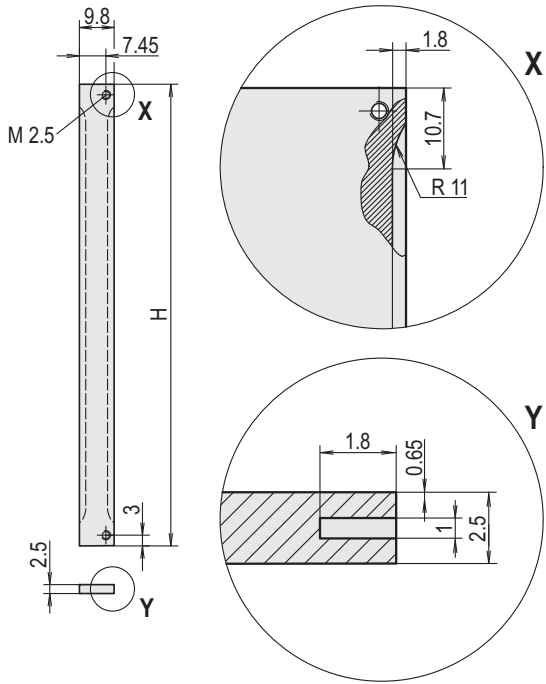
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

2) This dimension is only available for "front anodised, rear iridescent green chromated" version

- Please order fixing material (sleeves, collar screws) separately, see page 7.107

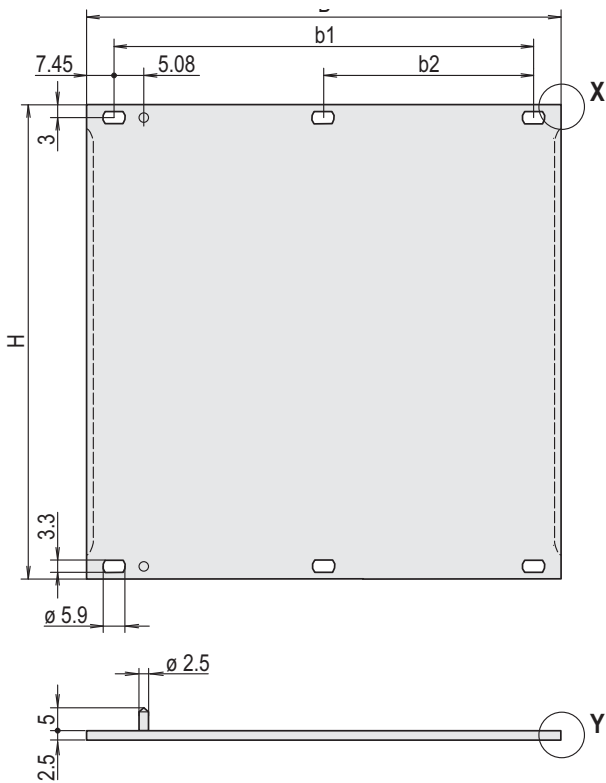
# Front panels

## Front panels, shieldable



2 HP

04602052



> 2 HP

04608154

- Front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated, 2 alignment pins pressed-in, stainless steel
- Shielding with stainless steel EMC gasket

**Order Information**

Height H U	Width B mm	HP	b1 mm	b2 mm	Align- ment pin	Qty	Part no.	
2	84	84	426.4	411.5	203.2	-	1	<b>30846-588</b>
3	128.4	2	9.8	-	-	-	1 (SPQ 5) <sup>1)</sup>	<b>30846-864</b>
3	128.4	3	14.9	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-425</b>
3	128.4	4	20	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-426</b>
3	128.4	5	25	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-427</b>
3	128.4	6	30.1	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-428</b>
3	128.4	7	35.2	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-429</b>
3	128.4	8	40.3	25.4	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-430</b>
3	128.4	10	50.5	35.6	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-431</b>
3	128.4	12	60.6	45.7	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-432</b>
3	128.4	14	70.8	55.9	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-433</b>
3	128.4	21	106.3	91.4	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-434</b>
3	128.4	28	141.9	127	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-436</b>
3	128.4	42	213	198.1	101.6	x	1	<b>20846-437</b>
3	128.4	63	319.7	304.8	157.5	x	1	<b>20846-438</b>
3	128.4	84	426.4	411.5	203.2	-	1	<b>30846-676</b>
4	172.9	84	426.4	411.5	203.2	-	1	<b>30846-683</b>
6	261.8	2	9.8	-	-	-	1 (SPQ 5) <sup>1)</sup>	<b>30846-865</b>
6	261.8	4	20	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-443</b>
6	261.8	5	25	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-444</b>
6	261.8	6	30.1	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-445</b>
6	261.8	7	35.2	-	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-446</b>
6	261.8	8	40.3	25.4	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-447</b>
6	261.8	10	50.5	35.6	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-448</b>
6	261.8	12	60.6	45.7	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-449</b>
6	261.8	14	70.8	55.9	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-450</b>
6	261.8	16	80.9	66	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-456</b>
6	261.8	21	106.3	91.4	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-451</b>
6	261.8	28	141.9	127	-	x	1 (SPQ 5) <sup>1)</sup>	<b>20846-452</b>
6	261.8	42	213	198.1	101.6	x	1	<b>20846-453</b>
6	261.8	63	319.7	304.8	157.5	x	1	<b>20846-454</b>
6	261.8	84	426.4	411.5	203.2	-	1	<b>30846-771</b>
9	395.1	84	426.4	411.5	203.2	-	1	<b>30846-859</b>

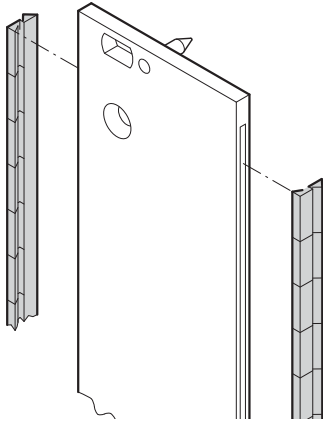
Delivery is exclusively made in Standard Pack Quantity (SPQ):  
Please order at least 5 pieces or a multiple.  
Pricing is per individual item.

**Note**

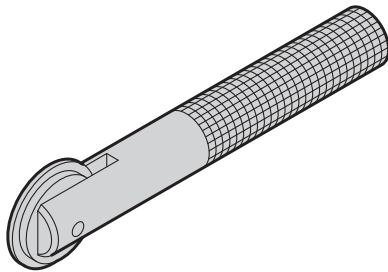
- Please order fixing material (sleeves, collar screws) separately, see page 7.107
- Please order stainless steel EMC gasket separately, see page 7.6

## Front panels

### Stainless steel EMC gasket



Montagewerkzeug



bga45760

aza45937

- The stainless steel EMC gaskets are inserted into the lateral slots of the shieldable front panels (2 pieces per front panel)

#### Delivery comprises

Item	Qty	Description
1	10/100	EMC gasket (stainless steel)

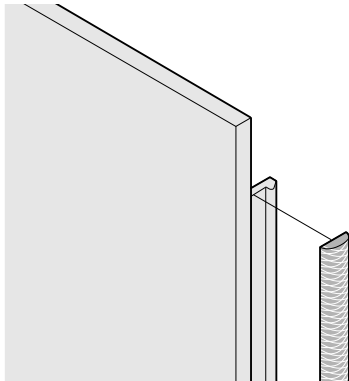
#### Order Information

Height U	Height mm	Qty/PU	Part no.
2	52	10	21101-775
3	97	10	21101-705
3	97	100	21101-706
4	142	10	21101-713
4	142	100	21101-714
5	187	10	21101-777
5	187	100	21101-778
6	232	10	21101-707
6	232	100	21101-708
9	367	10	21101-709
9	367	100	21101-710
Assembly tool for EMC gasket (stainless steel), 1 piece			24560-270

#### Note

- Please order assembly tool separately

### Textile EMC gasket



04602054

- Textile EMC gasket is glued laterally on the front panel, in the groove of the right-hand profile

- 2 temperature ranges

- Temperature range -40... +70 °C
- Temperature range -40... +85 °C

#### Delivery includes

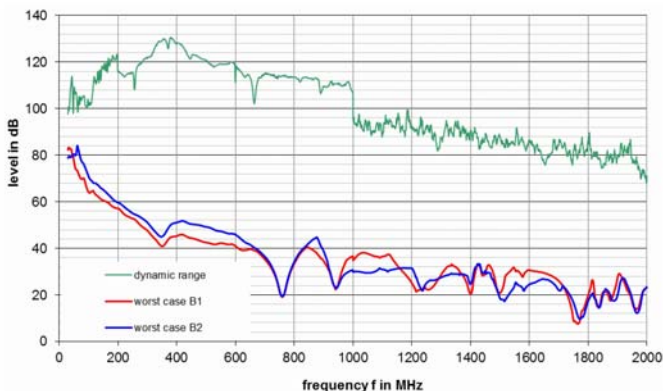
Item	Qty	Description
1	see Order Information	EMC textile gasket, core: TPE foam (-40... +70 °C), Core: silicon with hollow chamber (-40... +85 °C), sleeve: textile cladding with CuNi coating

#### Order Information

Height U	Height mm	Qty/PU piece	Part no. Temperature range -40... +70 °C	Part no. Temperature range -40... +85 °C
2	52	10	21101-857	21102-857
3	97	10	21101-853	21102-853
3	97	100	21101-854	21102-854
4	142	10	21101-858	21102-858
5	187	10	21101-978	21102-978
6	232	10	21101-855	21102-855
6	232	100	21101-856	21102-856
9	365	10	21101-859	21102-859
9	365	100	21101-904	-

#### EMC characteristic (typical, green)

B1 (red): -40 ... -70 °C, B2 (blue): -40 ... -85 °C



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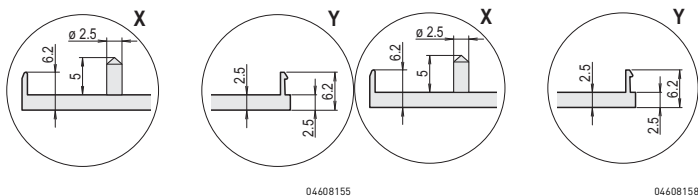
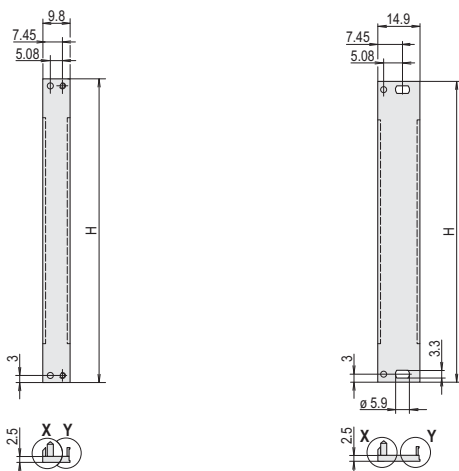


## Front panels

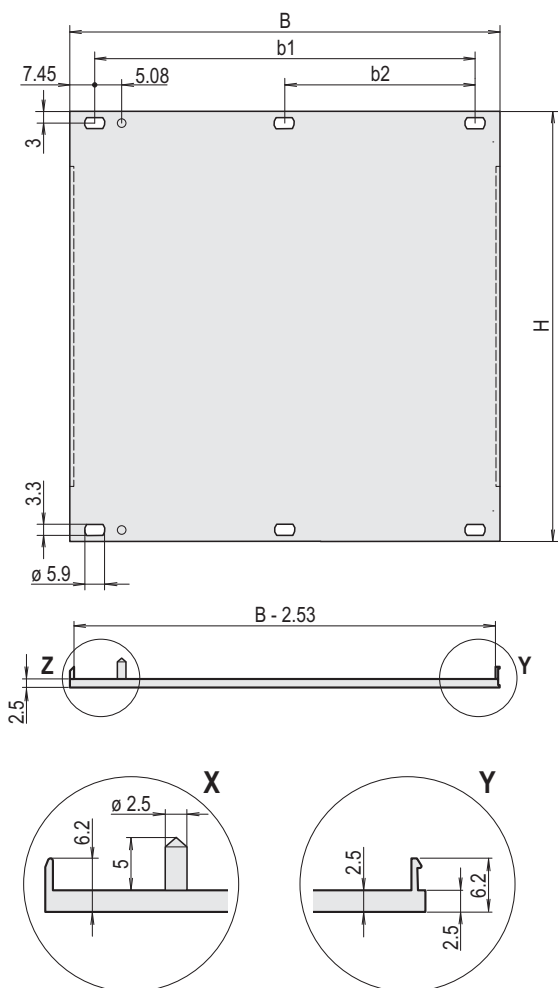
### Front panels, U profile, shieldable

2 HP

3 U



> 3 HP



- High stability through U profile
- Front panel, U profile, Al, front anodised, rear conductive, 2 alignment pins pressed-in, stainless steel
- Differences in the finish between 2 ... 12 HP and 14 ... 84 HP

### Order Information

Height H	Width B	b1	b2	Align-ment pin	Qty	Part no.		
U mm	HP	mm	mm	mm				
2	84	84	426.4	411.5	203.2	-	1 (SPQ 5)1	<b>20848-262</b>
3	128.4	2	9.8	-	-	x	1 (SPQ 5)1	<b>30849-001</b>
3	128.4	3	14.9	-	-	x	1 (SPQ 5)1	<b>30849-004</b>
3	128.4	4	20	-	-	x	1 (SPQ 5)1	<b>30848-354</b>
3	128.4	5	25	-	-	x	1 (SPQ 5)1	<b>30848-378</b>
3	128.4	6	30.1	-	-	x	1 (SPQ 5)1	<b>30848-380</b>
3	128.4	7	35.2	-	-	x	1 (SPQ 5)1	<b>30848-382</b>
3	128.4	8	40.3	25.4	-	x	1 (SPQ 5)1	<b>30848-356</b>
3	128.4	10	50.5	35.6	-	x	1 (SPQ 5)1	<b>30848-386</b>
3	128.4	12	60.6	45.7	-	x	1 (SPQ 5)1	<b>30848-358</b>
3	128.4	14	70.8	55.9	-	x	1 (SPQ 5)1	<b>20848-013</b>
3	128.4	16	80.9	66	-	x	1 (SPQ 5)1	<b>20848-015</b>
3	128.4	21	106.3	91.4	-	x	1 (SPQ 5)1	<b>20848-020</b>
3	128.4	28	141.9	127	-	x	1 (SPQ 5)1	<b>20848-027</b>
3	128.4	42	213	198.1	101.6	x	1	<b>20848-047</b>
3	128.4	63	319.7	304.8	157.5	x	1	<b>20848-068</b>
3	128.4	84	426.4	411.5	203.2	-	1	<b>20848-097</b>
4	172.9	84	426.4	411.5	203.2	-	1	<b>20848-271</b>
6	261.8	2	9.8	-	-	x	1 (SPQ 5)1	<b>30849-002</b>
6	261.8	4	20	-	-	x	1 (SPQ 5)1	<b>30848-355</b>
6	261.8	5	25	-	-	x	1 (SPQ 5)1	<b>30848-379</b>
6	261.8	6	30.1	-	-	x	1 (SPQ 5)1	<b>30848-381</b>
6	261.8	7	35.2	-	-	x	1 (SPQ 5)1	<b>30848-383</b>
6	261.8	8	40.3	25.4	-	x	1 (SPQ 5)1	<b>30848-357</b>
6	261.8	10	50.5	35.6	-	x	1 (SPQ 5)1	<b>30848-387</b>
6	261.8	12	60.6	45.7	-	x	1 (SPQ 5)1	<b>30848-359</b>
6	261.8	14	70.8	55.9	-	x	1 (SPQ 5)1	<b>20848-106</b>
6	261.8	16	80.9	66	-	x	1 (SPQ 5)1	<b>20848-108</b>
6	261.8	21	106.3	91.4	-	x	1 (SPQ 5)1	<b>20848-113</b>
6	261.8	28	141.9	127	-	x	1 (SPQ 5)1	<b>20848-120</b>
6	261.8	42	213	198.1	101.6	x	1	<b>20848-139</b>
6	261.8	63	319.7	304.8	157.5	x	1	<b>20848-160</b>
6	261.8	84	426.4	411.5	208.3	-	1	<b>20848-189</b>
9	395.1	84	426.4	411.5	203.2	-	1	<b>20848-280</b>

1) Delivery is exclusively made in Standard Pack Quantity (SPQ):  
Please order at least 5 pieces or a multiple.  
Pricing is per individual item.

### Note

- Differences in finish between 2 ... 12 HP and 14 ... 84 HP
  - 2 ... 12 HP: one-part U-profile
  - 14 ... 84 HP: multi-part U-profile (front panel with crimped profiles)
- Please order fixing material (sleeves, collar screws) separately, see page 7.107
- Please order textile EMC gasket separately, see page 7.6

## Front panels

### Front panels, bottom-hinged



- Suitable for subracks (europacPRO) and cases (ratiopacPRO, propacPRO, compacPRO)
- Front panel can be unhinged at 135° (not ratiopacPRO) opening angle
- The useable width is not restricted
- Mounts on the horizontal rails
- 2 versions:
  - unshielded
  - shielded, U front panel with textile EMC gasket

04295001

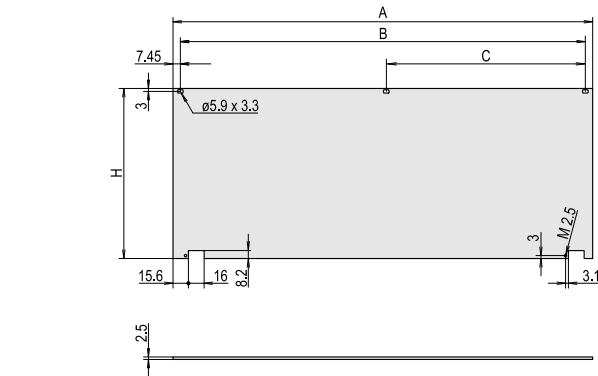
### Delivery comprises (kit)

Item	Qty		Description
	Unshielded	Shielded	
1	1	-	Front panel, hinged, Al, 2.5 mm, anodised, cut edges plain
1a	-	1	Front panel, U profile, hinged, Al, 2.5 mm, front anodised, rear iridescent green chromated
2	2	3	Hinge, Zn die-cast, nickel-plated
3	2	3	Sleeve, PA
4	2	3	Knurled screw M2.5 x 12.3, nickel-plated
5	-	1	EMC textile gasket, core: foam, sleeve: textile cladding with CuNi coating
6	1	1	Assembly kit

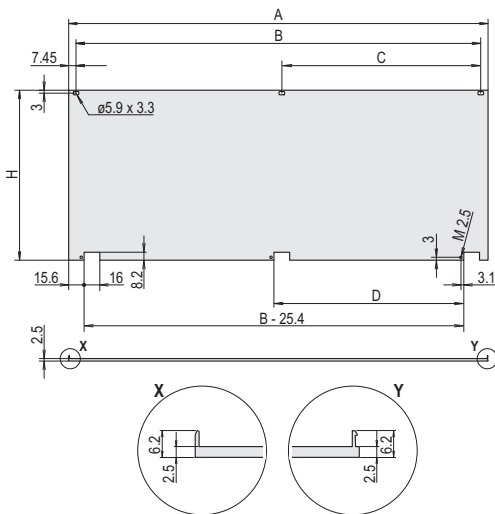
04602080

### Note

- Unshielded: Dimension C for 84 HP only



Unshielded



Shielded

04602079

### Order Information

Dimensions							Shielded	Unshielded
Height	Width	A	B	C	D	H	Part no.	Part no.
U	HP	mm	mm	mm	mm	mm		
3	28	141.9	127.0	-	-	128.4	20848-608	20838-280
3	42	213.0	198.1	101.6	86.4	128.4	20848-599	20838-271
3	63	319.7	304.8	157.5	137.2	128.4	20848-600	20838-272
3	84	426.4	411.5	208.3 <sup>1)</sup>	193.0	128.4	20848-601	20838-273
4	42	213.0	198.1	101.6	86.4	172.9	20848-605	20838-277
4	63	319.7	304.8	157.5	137.2	172.9	20848-606	20838-278
4	84	426.4	411.5	208.3 <sup>1)</sup>	193.0	172.9	20848-607	20838-279
6	28	141.9	127.0	-	-	261.8	20848-696	-
6	42	213.0	198.1	101.6	86.4	261.8	20848-602	20838-274
6	63	319.7	304.8	157.5	137.2	261.8	20848-603	20838-275
6	84	426.4	411.5	208.3 <sup>1)</sup>	193.0	261.8	20848-604	20838-276

1) Dimension with unshielded front panel

Front panels

Front panel, hinged, shielded



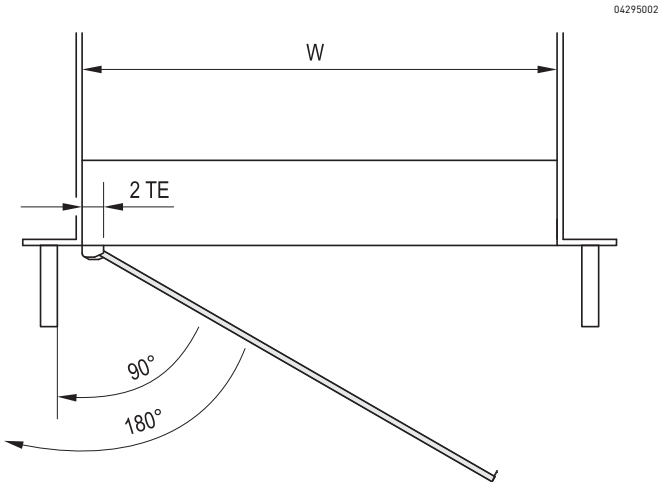
- Suitable for subracks (europacPRO) and cases (ratiopacPRO, propacPRO, compacPRO)
- Mounts on horizontal rails
- Front panel with textile EMC gasket
- Hinges can be fitted on left or right

Delivery comprises (kit)

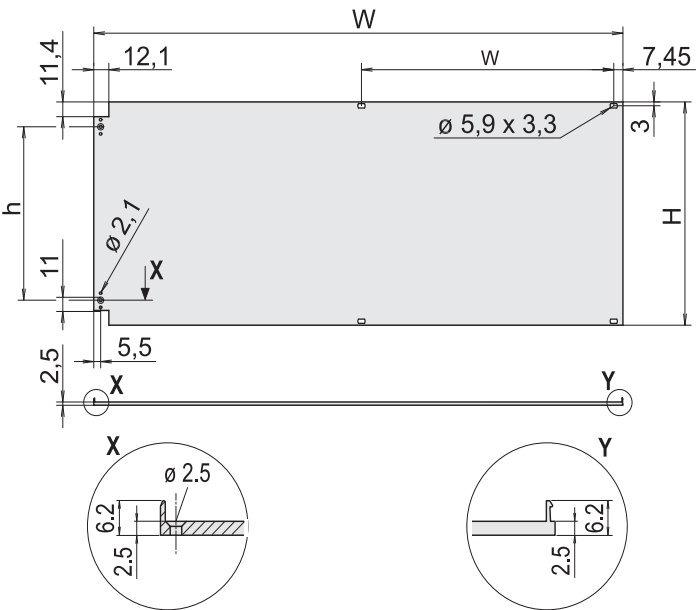
Item	Qty	Description
1	1	Front panel, hinged, Al, 2.5 mm, front anodised, rear iridescent green chromated
2	2	Hinge, Zn die-cast, chrome-plated
3	1	Textile EMC gasket, core: foam, sleeve: textile cladding with CuNi coating
4	1	Assembly kit

Order Information

Height U	H mm	h mm	W mm	w mm	Part no.
3	128.4	89.9	426.4	203.2	<b>20848-611</b>
6	261.8	223.2	426.4	203.2	<b>20848-617</b>



04295002

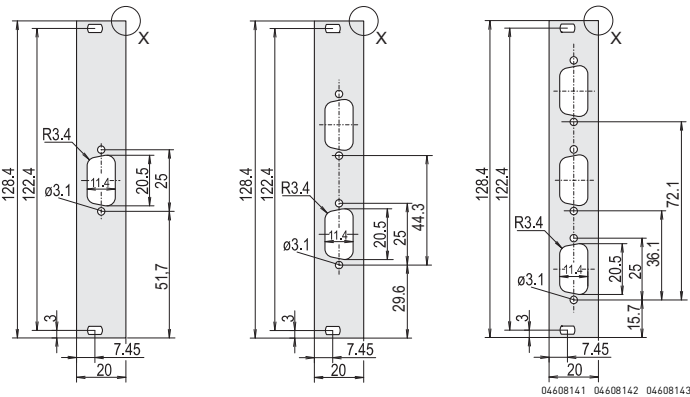


06106053

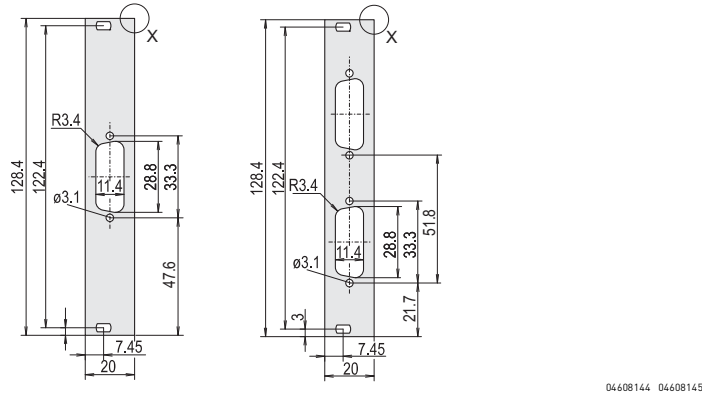
04602081

## Front panels

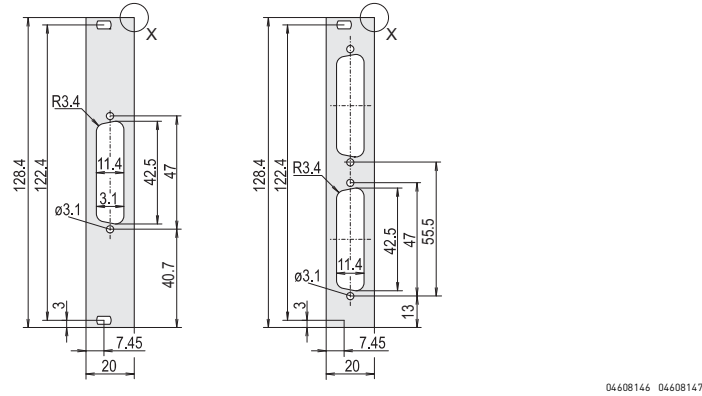
### Front panels for D-Sub connectors



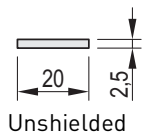
Cut-out 9-pin



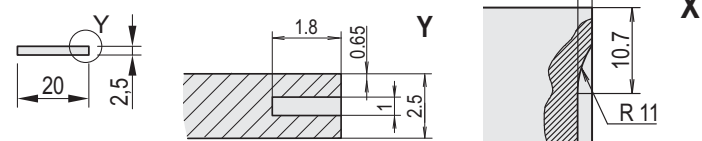
Cut-out 15-pin



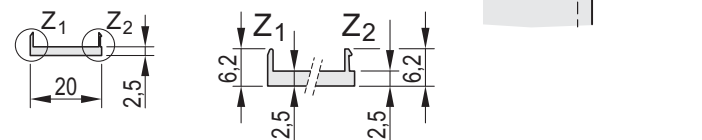
Cut-out 25-pin



Unshielded



EMC gasket, stainless steel



For textile EMC gasket

04608150 04608151 04608149 04608148 04608152 04608153

- 3 U/4 HP
- Aluminium, front anodised, rear iridescent green chromated
- Shielding through: stainless steel EMC or textile EMC gasket (please order separately)

### Delivery comprises

Item	Description
1a	Front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated
1b	Front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated; for EMC stainless steel gasket
1c	Front panel, U profile, Al, 2.5 mm, front anodised, rear conductive; for EMC gasket (textile)

### Order Information

Cut-out	Qty	Unshielded Part no. 1a	For EMC gasket	
			Stainless steel Part no. 1b	Textile Part no. 1c
1 × 9-polig	1 piece (SPQ 5)	<b>30118-341</b>	<b>30118-348</b>	30849-749
2 × 9-polig	1 piece (SPQ 5)	<b>30118-344</b>	<b>30118-351</b>	30849-750
3 × 9-polig	1 piece (SPQ 5)	<b>30118-347</b>	30118-354	30849-751
1 × 15-polig	1 piece (SPQ 5)	<b>30118-342</b>	<b>30118-349</b>	30849-752
2 × 15-polig	1 piece (SPQ 5)	<b>30118-345</b>	30118-352	30849-753
1 × 25-polig	1 piece (SPQ 5)	<b>30118-343</b>	30118-350	30849-754
2 × 25-polig	1 piece (SPQ 5)	<b>30118-346</b>	30118-353	30849-755

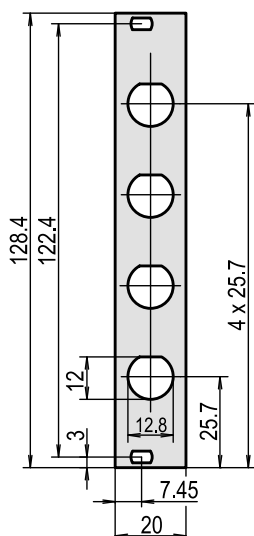
Delivery is exclusively made in Standard Pack Quantity (SPQ):  
Please order at least 5 pieces or a multiple.  
Pricing is per individual item.

### Note

- Please order fixing material (sleeves, collar screws) separately, see page 7.107
- Please order stainless steel EMC gasket separately, see page 7.6
- Please order textile EMC gasket separately, see page 7.6

## Front panels

### Front panels for Coax connectors



04602057

- 3 U/4 HP

- Aluminium, 2.5 mm, front anodised, rear iridescent green chromated

#### Order Information

Description	Qty/PU	Part no.
Cut-out 4 x Coax, unshielded	1	<b>30118-355</b>

#### Note

- Please order fixing material (sleeves, collar screws) separately, see page 7.107

### Front panels 3 U with GND/earthing connection



02998001

- Earthed front panel (protection class 1)

#### Delivery comprises (items 1 – 3 assembled)

Item	Qty	Description
1	1	Front panel 3 U, Al, 2.5 mm, front anodised, rear iridescent green chromated with GND/earthing connection
2	4	Plastic sleeve, PA, grey
3	4	Collar screws, M2.5 x 11 and 12.3 Pozidrive, St, nickel-plated
4	1	GND/earthing kit, length of GND/earthing cable 320 mm

#### Order Information

Height U	Width HP	Qty	Part no.
3	7	1 piece (SPQ 5)	<b>20119-159</b>
3	14	1 piece (SPQ 5)	<b>20119-160</b>
3	21	1 piece (SPQ 5)	<b>20119-161</b>
3	28	1 piece (SPQ 5)	<b>20119-162</b>
3	42	1	<b>20119-163</b>

Delivery is exclusively made in Standard Pack Quantity (SPQ):

Please order at least 5 pieces or a multiple.

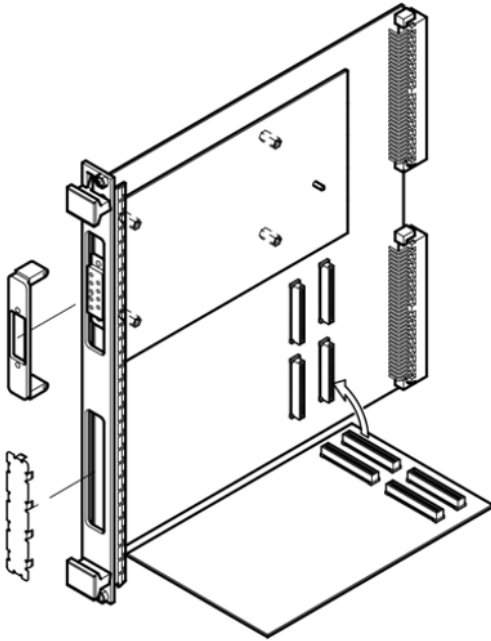
Pricing is per individual item.

#### Note

- Please order fixing material (sleeves, collar screws) separately, see page 7.107

## Front panels

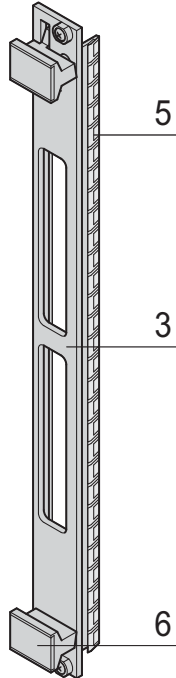
### PMC Mezzanine front panels



04615054

- Based on PCI 2.2 specification (PCI = Peripheral Component Interface)
- In accordance with PMC mezzanine specification IEEE P 1386

### PMC mezzanine front panel kit, shielded, with trapezoidal extractor handle Type 1



Item 3: front panel, item 5: EMC gasket, item 6: front handle

MPA44845

- PMC= PCI Mezzanine Card
- For module size 194 x 74 mm<sup>2</sup>
- In accordance with specification IEEE P1386 (CMC= Common Mezzanine Card)
- 6 U/4 HP front panel with stainless steel EMC gasket and front handles

#### Delivery includes (assembled)

Item	Qty	Description
3	1	PMC front panel, Al extrusion, 6 U, 4 HP, clear passivated
5	1	EMC gasket (St, stainless)
6	2	Trapeziform extractor handle, type 1

#### Order Information

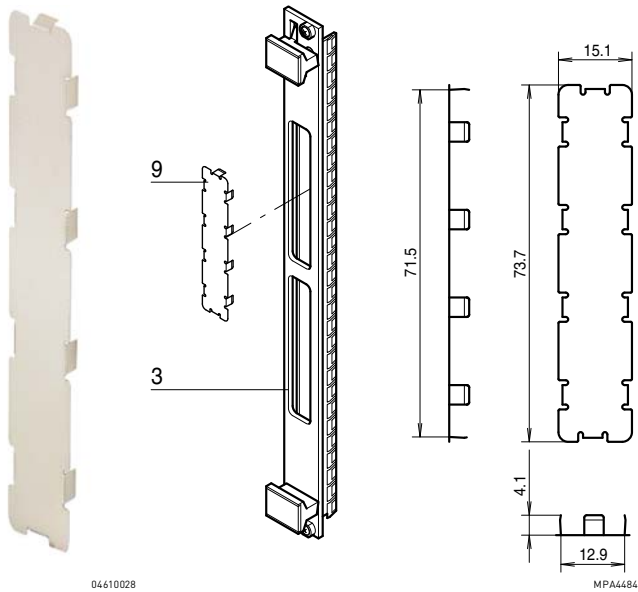
Item	Description	Part No.
3+5+6	Front panel with 2 cut-outs	20897-950

#### Accessories

Spacer to mount PMC and FMC mezzanine boards	see page 7.15
Voltage keying/coding pin for PMC mezzanine boards	see page 7.15
PMC cover for front panel cutouts for EMC shielding, PMC gasket for mezzanine front panels	see page 7.13
PMC gasket for mezzanine front panels	see page 7.13

## Front panels

### PMC cutout cover for EMC protection



04610028

Item 9: EMC cover; Item 3: front panel

MPA44847

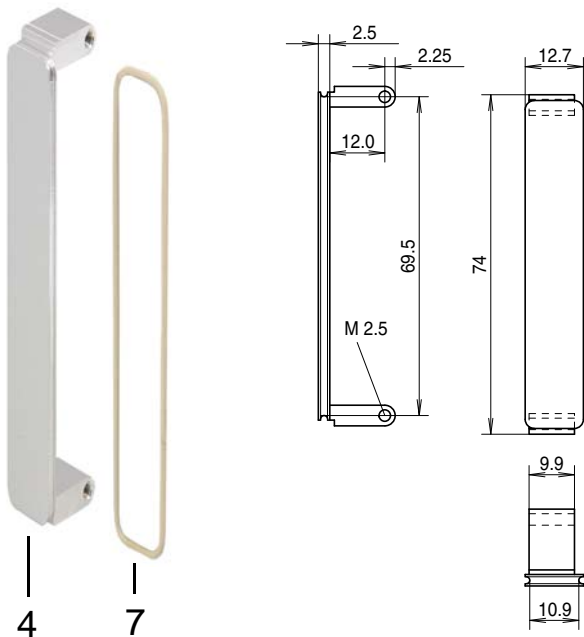
- EMC cover to close unused cut-outs in the PMC mezzanine front panels
- Material stainless steel, 0.2 mm
- Colour: black or bright

#### Order Information

Colour	Qty	Part no.
Black	1 piece (SPQ 10)	<b>60835-024</b>
Bright	1 piece (SPQ 10)	<b>60835-022</b>

Delivery is exclusively made in Standard Pack Quantity (SPQ):  
Please order at least 10 pieces or a multiple.  
Pricing is per individual item.

### PMC bezel for mezzanine front panels



04610029

mpa44846

- Mezzanine front panel is fitted into PMC front panel cut-outs; EMC shielding with conductive O-ring
- Material:
  - Aluminium extrusion (anodised, contact surfaces conductive)
  - Zinc die-cast (untreated, black or chrome-plated, matt)

#### Delivery comprises (kit)

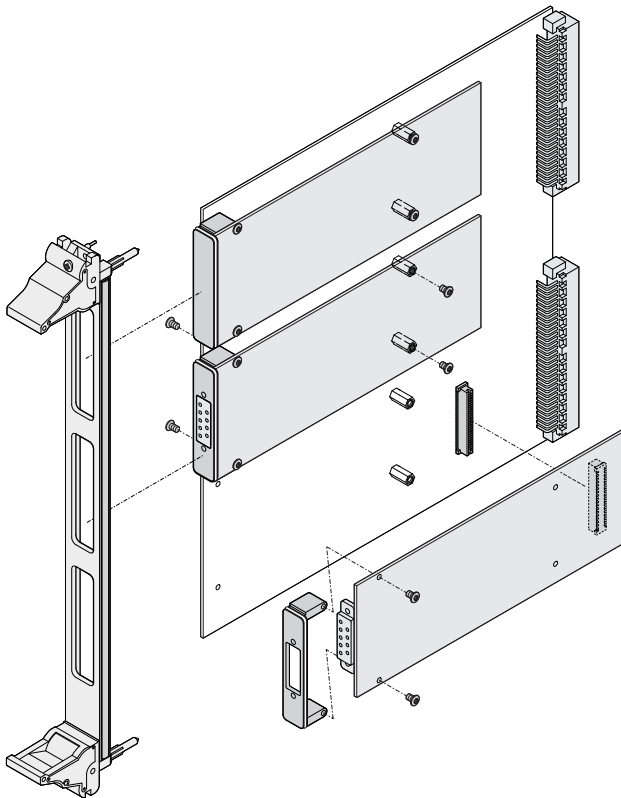
Item	Qty	Description
4	1	PMC bezel for mezzanine front panel, Zn die-cast or Al extrusion
7	1	EMC gasket (O-ring), Cho-Seal

#### Order Information

PMC mezzanine front panel	Qty/PU	with EMC gasket Part no.	without EMC gasket Part no.
<b>Material</b>			
Al extrusion, anodised, contact surfaces conductive	1	<b>20835-598</b>	-
Al extrusion, anodised, contact surfaces conductive	10	<b>20835-889</b>	<b>20835-899</b>
Zn die-cast, untreated	1	<b>20835-890</b>	-
Zn die-cast, untreated	10	20835-893	20835-896
Zinc die-cast, black, chromated	1	<b>20835-922</b>	-
Zinc die-cast, black, chromated	10	20835-924	20835-931
Zinc die-cast, chrome-plated, matt	1	<b>20835-923</b>	-
Zinc die-cast, chrome-plated, matt	10	20835-928	20835-929
<b>Cheesehead screw</b> M2.5 × 5 mm, PU 100 pieces			<b>21100-624</b>
<b>EMC gasket</b> O-ring, 1 piece (Standard Pack Quantity 10 pieces)			<b>60835-021</b>

## Front panels

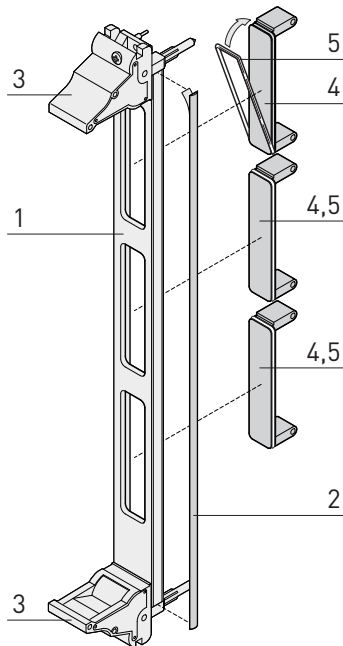
### FMC mezzanine front panels



04615052

- FMC = FPGA mezzanine card
- For standard defined I/O mezzanine modules which connect to carrier cards
- For single 69.0 x 76.5 mm or double 139.0 x 76.5 mm modules
- In accordance with Vita 57.1 specification

### FMC mezzanine front panel kit, shielded, with IEL handle



04615050

- 3 U or 6 U, 4 HP, U-shaped front panels with textile gasketing
- 1 or 3 FMC cutouts (depending on height)
- 1 or 2 IEL front handles (depending on height)
- EMC shielded, both the front panel and the FMC bezels

#### Delivery includes (assembled)

Item	Qty		Description
	3 U	6 U	
1	1	1	FMC front panel, U profile, Al, 4 HP, front anodized, rear conductive, 3 U has 1 cut out, 6 U has 3 cut outs
2	1	1	EMC textile gasket for front panel
3	1	2	IEL handle (handel, black, RAL 9005; button, light grey, RAL 7035)
4	1	3	FMC bezel for front panel cut outs
5	1	3	EMC gasket (O-ring)
6	1	1	Assembly kit

#### Order Information

Height	Part no.
U	
3	20836-253
6	20836-254

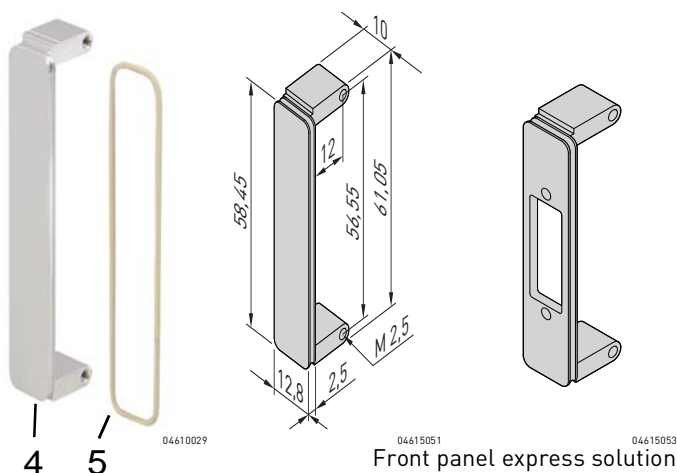
#### Accessories

Spacer to mount PMC mezzanine boards	see page 7.15
--------------------------------------	---------------



## Front panels

### EMC bezel for FMC Mezzanine front panel cut-outs



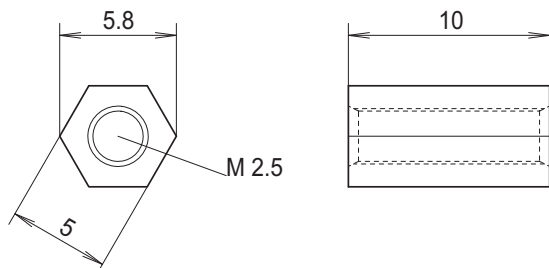
Front panel express solution

- FMC bezel is fitted into FMC Mezzanine front panel cut-outs
- Material, Al extrusion (anodised, contact surface conductive)
- Shielding for FMC bezels with an optional conductive O-ring, please order separately

#### Order Information

Description	Item	Qty/PU piece	Part no.
EMC bezel for FMC Mezzanine front panel cut outs	4	10	20835-849
<b>Accessories</b>			
EMC gasket for mezzanine front panel item 5, O-ring, (VITA 57.1), 1 piece (standard pack quantity 10 pieces)			<b>60835-077</b>
Cheesehead screw M2.5 x 5 mm, PU 100 pieces			<b>21100-624</b>

### Spacer to mount PMC and FMC mezzanine boards



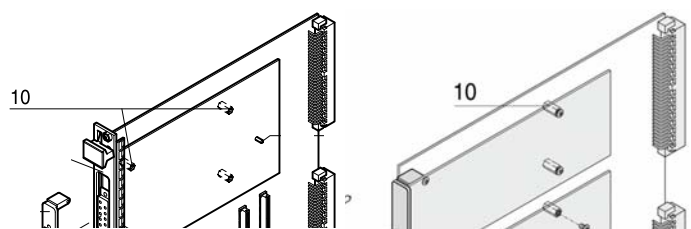
MPA44850

- To provide a standoff between mezzanine boards per the IEEE P1386 or VITA 57.1 specification and the carrier card

#### Order Information

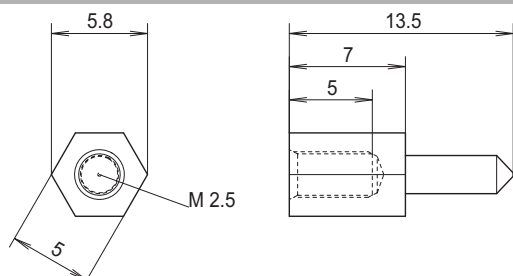
Description	Item	Material	Qty	Part no.
Spacer	10	St, zinc-plated	1 piece (SPQ 10)	<b>60897-278</b>

Delivery is exclusively made in Standard Pack Quantity (SPQ): Please order at least 10 pieces or a multiple. Pricing is per individual item.



Spacer within PMC application

### Voltage keying/coding pin for PMC mezzanine boards



MPZU6325

- To prevent accidental damage when fitting mezzanine boards, keying/coding pins are bolted to the VMEbus boards to distinguish between 3.3 V and 5 V operation. The mezzanine boards have a hole drilled in the appropriate position. The keying/coding pin thus ensures that only mezzanine boards with the same operating voltage can be inserted. For double-height euroboards 2 pieces are required.

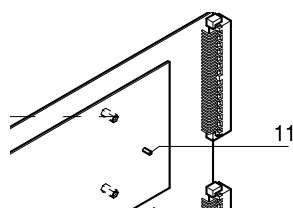
#### Order Information

Description	Item	Material	Qty	Part no.
Keying/coding pin 5 V/3.3 V	11	St, zinc-plated	1 piece (SPQ 10)	<b>60827-026</b>

Delivery is exclusively made in Standard Pack Quantity (SPQ): Please order at least 10 pieces or a multiple. Pricing is per individual item.



06710007



mpa44437

Application

Cabinets ..... 1

Wall mounted cases ..... 2

Accessories for cabinets and wall mounted cases . 3

Climate control . 4

Electronics cases ..... 5

Subracks/ 19" chassis .... 6

Front panels, plug-in units ... 7

Systems ..... 8

Power supply units ..... 9

Backplanes ... 10

Connectors, front panel component system ..... 11

Appendix ..... 12



04612001

Plug-in units as kits or from individual parts

- Handles in different designs for various applications
- Inserter/extractor handles for forces up to 1500 N
- Upgradable EMC shielding

Standards

- IEC 60297-3-101 / IEEE 1101.1/11
- IEC 60297-3-102 / IEEE 1101.10
- IEC 60297-3-103
- IEC 1296



30407004

ServicePLUS

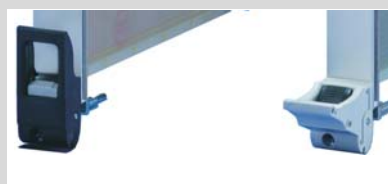
- e.g. individual configuration and assembly
- e.g. modifications (special colours or sizes)
- e.g. custom solutions with modification to the plug-in units

[www.frontpanelexpress.eu](http://www.frontpanelexpress.eu)

## Plug-in units

Overview ..... 7.17

### Handles for plug-in units



04602005

**For CompactPCI and VME64x applications**  
Inserter/extractor handle, type IEL/IET, allows keying/coding and insertion/extraction forces up to 700 N per pair

**Kit**  
**Page**

7.18

**Individual components**  
**Page**

7.20

Plug-in units with injector and extractor handles

For CompactPCI and VME64x applications ..... 7.18



04605005

**For VPX, VXS, CompactPCI and VME64x applications**

Inserter/extractor handle, type XL, allows keying/coding and insertion/extraction forces up to 1500 N per pair

7.30

7.31

For VPX, VXS, CompactPCI and VME64x applications ..... 7.30



04604059

**For e.g. VMEbus applications**

Trapeziform extractor handle, type 2

7.33

7.35

For e.g. VMEbus applications type 2 ..... 7.33



04692005

**For e.g. VMEbus applications**

Trapeziform extractor handle, type 1

7.40

7.42

For e.g. VMEbus applications type 1 ..... 7.40



04692011

**For Multibus® II applications**

Extractor handle, multibus type II, IEC 60297

-

7.46

For Multibus® II applications .... 7.46



04692008

**For plug-in units in accordance with IEC 60297**

Extractor handle in key form 1

-

7.48

For plug-in units in accordance with IEC 60297 ... 7.48



04692010

**For plug-in units in accordance with IEC 60297**

Extractor handle in key form 2

-

7.51

For plug-in units in accordance with IEC 60297 ... 7.51



04692003

**For plug-in units in accordance with IEC 60297**

Static handle

7.54

7.56

For plug-in units in accordance with IEC 60297 ... 7.54



04692004

**Accessories for plug-in units**

Mechanical protection for static trapeziform handle and fixing materials kit

7.64

-

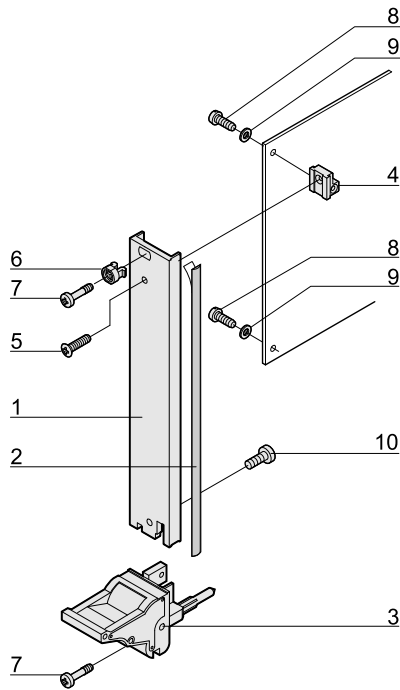
Accessories for plug-in units ..... 7.62

PCB cover ..... 7.64

## Plug-in units – for CompactPCI, VME64x

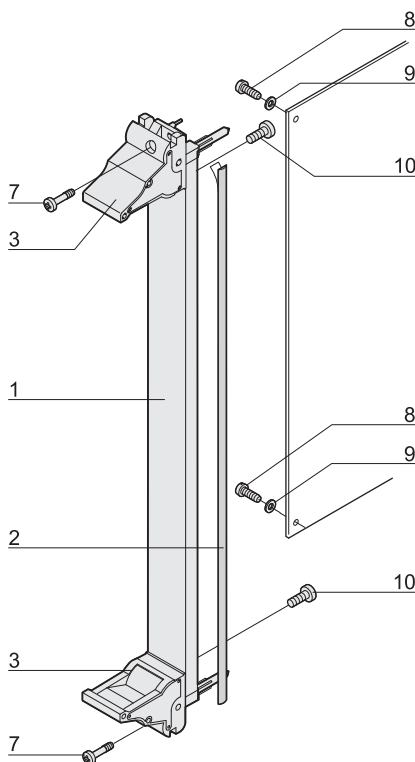
### Kits

3 U



04602073

6 U



04602074

### Plug-in units with IEL inserter/extractor handle for CompactPCI/VME64x applications

- In accordance with IEEE 1101.10 and IEC 60297-3-102
- Codable to IEC 60297-3-103/ IEEE 1101.10
- Front panel shielded
- Suitable for insertion and extraction forces up to 700 N (per pair)
- Suitable for fitting microswitches

### Delivery comprises (kit)

Item	3 U		6 U		Description
	<8HP	>8HP	<8HP	>8HP	
1	1	1	1	1	Front panel (U profile), Al, front anodised, rear conductive
2	1	1	1	1	EMC sealing (textile), core: foam, sleeve: textile cladding, CuNi coated
3	1	1	2	2	Handle with integrated alignment pin for perforated strips and guide rails, lever: plastic, PC, black, RAL 9005 key: plastic, PC, light grey, RAL 7035
4	1	1	-	-	Board support, die-cast zinc
5	1	1	-	-	Raised Pozidrive countersunk screw M2.5 x 8, St, nickel-plated
6	1	3	-	2	Sleeve, PA, grey
7	2	4	2	4	Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated
8	2	2	2	2	Panhead screw with Torx/slot, M2.5 x 6, St, zinc-plated, self-locking
9	2	2	2	2	Washer A2.7, DIN 125, St, nickel-plated
10	1	1	2	2	Panhead screw with Torx, M2.5 x 7, St, nickel-plated

### Order Information

Width HP	Part no. Rear I/O	Part no. Front assembly
<b>3 U Height</b>		
4	20848-751	20848-585
6	-	20848-587
8	20848-752	20848-589
10	-	20848-590
12	-	20848-591
<b>6 U Height</b>		
4	-	20848-592
6	-	20848-594
8	-	20848-596
10	-	20848-597
12	-	20848-598

### Accessories

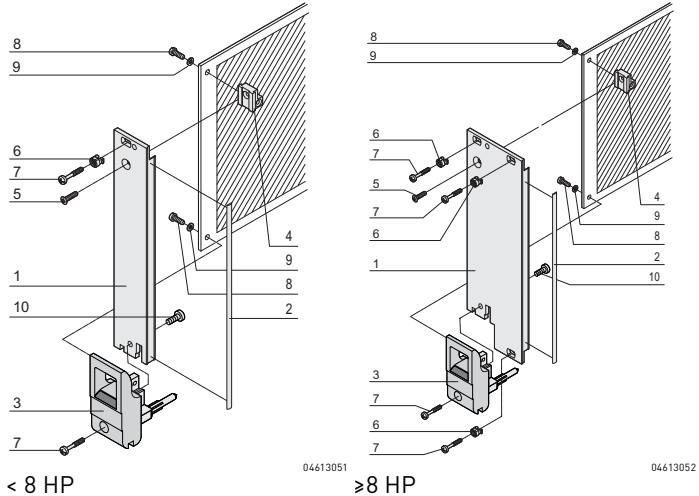
Microswitch for handles, CompactPCI/VME64x application PU 10 pieces	20817-606
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- Dimension drawing of front profile see page 7.26
- Description of microswitch see page 7.31

Plug-in units – for CompactPCI, VME64x

**Kits** **Plug-in units with IET insertion/extractor handle for CompactPCI/VME64x applications**

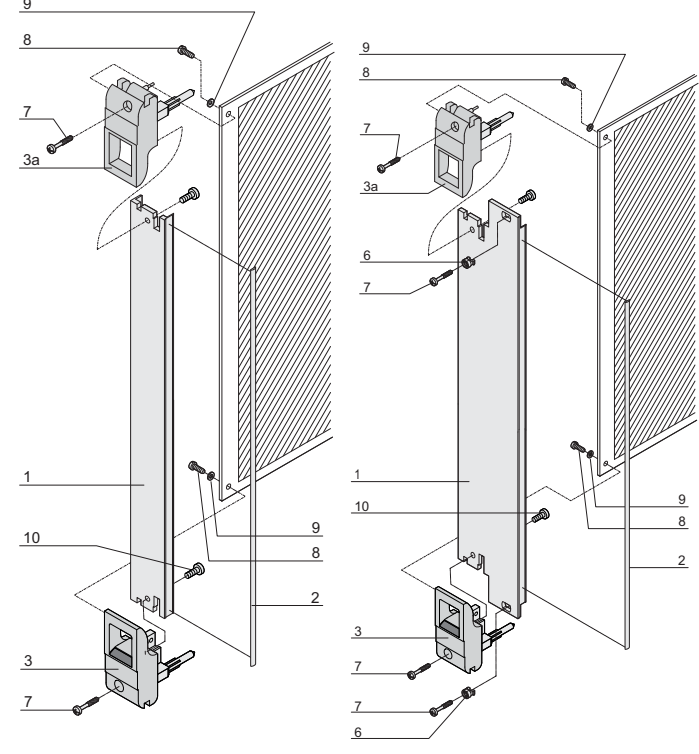
3 U



< 8 HP

≥8 HP

6 U



< 8 HP

≥8 HP

- Suitable for insertion and extraction forces up to 700 N (per pair)
- Version for telecoms applications
- To IEEE 1101.10 and IEC 60297-3-102
- Codable to IEC 60297-3-103/ IEEE 1101.10
- Front panel, shielded (3 U, 6 HP)
- designed for fitting of microswitches
- Online download of 3D CAD data

**NEW**

**Delivery includes (Kit)**

Item	Qty				Description
	3 U		6 U		
	<8 HP	≥8 HP	<8 HP	≥8 HP	
1	1	1	1	1	Front panel (U profile), Al, front anodized, rear conductive
2	1	1	1	1	EMC sealing (textile), core: foam, sleeve: textile cladding, CuNi coated
3	1	1	2	2	Handle with integrated alignment pin for perforated strips and guide rails, lever: plastic, PC, black, RAL 9005 Key: Plastic, PC, light gray, RAL 7035
4	1	1	-	-	Board support, die-cast zinc
5	1	1	-	-	Raised Pozidrive countersunk screw M2.5 × 8, St, nickel-plated
6	1	3	-	2	Sleeve, PA, gray
7	2	4	2	4	Pozidrive collar screw, M2.5 × 12.3, St, nickel-plated
8	2	2	2	2	Panhead screw with Torx/slot, M2.5 × 6, St, zinc-plated, self-locking
9	2	2	2	2	Washer A2.7, DIN 125, St, nickel-plated
10	1	1	2	2	Panhead screw with Torx, M2.5 × 7, St, nickel-plated

**Order Information**

Width HP	Part no.
<b>3 U Height</b>	
4	<b>20848-763</b>
8	<b>20848-764</b>
12	<b>20848-765</b>
<b>6 U Height</b>	
4	<b>20848-766</b>
8	<b>20848-767</b>
12	<b>20848-768</b>
<b>Accessories</b>	
Coding peg, PC, UL 94 V-0, grey, RAL 7035 PU 100 pieces	<b>20817-501</b>
Microswitch for handles, CompactPCI/VME64x application PU 10 pieces	<b>20817-606</b>

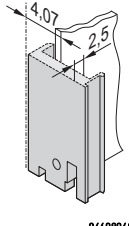
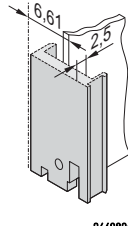
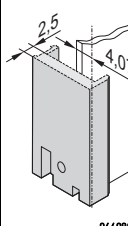
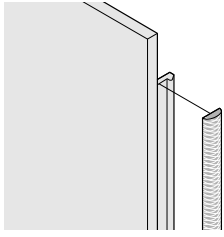
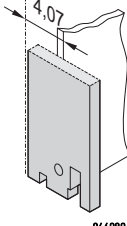
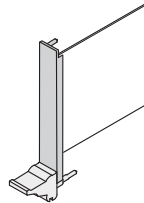
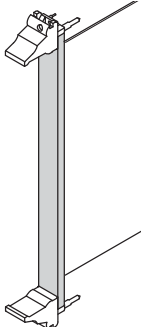
- For description of coding peg and microswitch see page 7.23
- Description of microswitch see page 7.31

## Plug-in units – for CompactPCI, VME64x

Individual components

Front panels, U-profiles, for extractor handles, type IEL, IET

### Order Information

	Front panel, U profile, shieldable			Textile EMC gasket		Front panel, flat, unshielded, front mounting	
	Front mounting	Front mounting, PCB fixing with 0.1" offset	Rear I/O mounting				
	 04608060	 04608062	 04608061	 B9A45760		 04608063	
	Al extrusion, 2.5 mm, front anodised, rear conductive; alignment pin pressed-in (3 U only), stainless steel; manufacturing process causes various surface structures to appear between 4 to 12 HP and 14 to 16 HP			always fixed laterally on the front panel, in the groove of the profile, textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C		front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated	
Width HP	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>	PU 10 pieces	PU 100 pieces	1 piece (SPQ 5) <sup>1)</sup>	
<b>3 U Height</b>							
 04608067	4	30848-312	30848-426	30848-867			30848-327
	5	30848-300	30848-427	-			30848-328
	6	30848-313	30848-428	-			30848-329
	7	30848-301	30848-429	-			30848-330
	8	30848-314	30848-430	30848-869			30848-331
	9	20848-227	-	-	21101-853	21101-854	-
	10	30848-315	30848-431	-			30848-333
	11	20848-228	-	-			-
	12	30848-316	30848-432	30848-985			30848-335
	14	20848-230	-	-			-
16	20848-232	-	-			-	
<b>6 U Height</b>							
 04608066	4	30848-317	30848-317	30848-317			30848-336
	5	30848-304	30848-304	30848-304			30848-337
	6	30848-318	30848-318	30848-318			30848-338
	7	30848-305	30848-305	30848-305			30848-339
	8	30848-319	30848-319	30848-319			30848-340
	9	20848-243	20848-243	20848-243	21101-855	21101-856	-
	10	30848-320	30848-320	30848-320			30848-342
	11	20848-244	20848-244	20848-244			-
	12	30848-321	30848-321	30848-321			30848-344
	14	20848-246	20848-246	20848-246			-
16	20848-248	20848-248	20848-248			-	
Fixing material see page	7.23	7.23	7.23			7.23	
Dimensions see page	7.26	7.26	7.25			7.27	

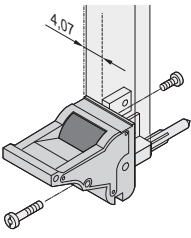
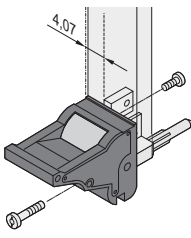
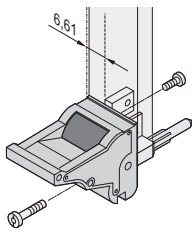
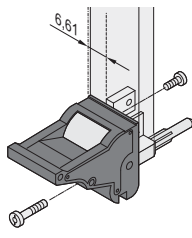
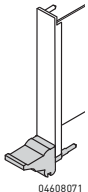
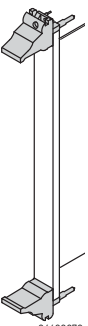
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

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

**Plug-in units – for CompactPCI, VME64x**

**Individual components**      **Insertor/extractor handle, type IEL**

**Order Information**

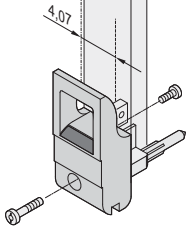
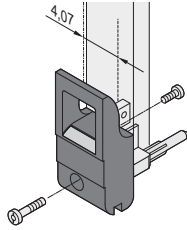
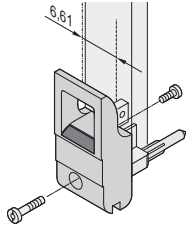
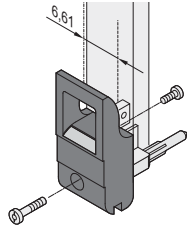
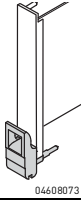
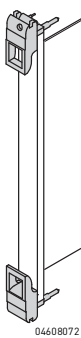
	Insertor/extractor handle, type IEL, board fixing without offset				Insertor/extractor handle, type IEL, board fixing with 0.1" offset				
	lever: light grey, RAL 7035 key: black, RAL 9005		lever: black, RAL 9005 key: light grey, RAL 7035		lever: light grey, RAL 7035 key: black, RAL 9005		lever: black, RAL 9005 key: light grey, RAL 7035		
	 <p>04608050</p>		 <p>04608052</p>		 <p>04608051</p>		 <p>04608053</p>		
	<p>in accordance with IEEE 1101.10 and IEC 60297-3-102, with locking, suitable for insertion and extraction forces up to 700 N (per pair), suitable for fitting of microswitches; block die-cast zinc, nickel-plated, with integrated alignment pin for perforated strip, codable to IEEE 1101.10 and IEC 60297-3-103, lever/key UL 94 V-0, slotted Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated, panhead screw with Torx, M2.5 x 7, St, nickel-plated</p>				<p>in accordance with IEEE 1101.10 and IEC 60297-3-102, with locking, suitable for insertion and extraction forces up to 700 N (per pair), suitable for fitting of microswitches; 0.1" offset is used for PSUs with SMD Plus, block die-cast zinc, nickel plated; with integrated alignment pin for perforated strip, codable to IEEE 1101.10 and IEC 60297-3-103, lever/key UL 94 V-0, slotted Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated, panhead screw with Torx, M2.5 x 7, St, nickel-plated</p>				
<b>Assembly</b>	<b>PU 10 pieces</b>	<b>PU 100 pieces</b>	<b>PU 10 pieces</b>	<b>PU 100 pieces</b>	<b>PU 10 pieces</b>	<b>PU 100 pieces</b>	<b>PU 10 pieces</b>	<b>PU 100 pieces</b>	
 <p>04608071</p>	<b>3 U Height bottom</b>								
	<b>Front side</b>	<b>20817-620</b>	<b>20817-621</b>	<b>20817-612</b>	<b>20817-613</b>	<b>20817-690</b>	<b>20817-691</b>	<b>20817-682</b>	<b>20817-683</b>
	<b>Rear I/O</b>	<b>20817-622</b>	<b>20817-623</b>	<b>20817-614</b>	<b>20817-615</b>	-	-	-	-
 <p>04608070</p>	<b>6 U Height top</b>								
	<b>Front side</b>	<b>20817-622</b>	<b>20817-623</b>	<b>20817-614</b>	<b>20817-615</b>	<b>20817-692</b>	<b>20817-693</b>	<b>20817-684</b>	<b>20817-685</b>
	<b>Rear I/O</b>	<b>20817-620</b>	<b>20817-621</b>	<b>20817-612</b>	<b>20817-613</b>	-	-	-	-
	<b>bottom</b>								
	<b>Front side</b>	<b>20817-620</b>	<b>20817-621</b>	<b>20817-612</b>	<b>20817-613</b>	<b>20817-690</b>	<b>20817-691</b>	<b>20817-682</b>	<b>20817-683</b>
	<b>Rear I/O</b>	<b>20817-622</b>	<b>20817-623</b>	<b>20817-614</b>	<b>20817-615</b>	-	-	-	-
<b>Dimensions see page</b>	7.28				7.28				

## Plug-in units – for CompactPCI, VME64x

Individual components

Insertor/extractor handle, type IET

### Order Information

	Insertor/extractor handle, type IET, board fixing without offset				Insertor/extractor handle, type IET, board fixing with 0.1" offset				
	lever: light grey, RAL 7035 key: black, RAL 9005		lever: black, RAL 9005 key: light grey, RAL 7035		lever: light grey, RAL 7035 key: black, RAL 9005		lever: black, RAL 9005 key: light grey, RAL 7035		
	 04608054		 04608056		 04608055		 04608057		
	<p>in accordance with IEEE 1101.10 and IEC 60297-3-102, with locking, suitable for insertion and extraction forces up to 700 N (per pair), suitable for fitting of microswitches; block die-cast zinc, nickel-plated, with integrated alignment pin for perforated strip, codable to IEEE 1101.10 and IEC 60297-3-103, lever/key UL 94 V-0, Slotted Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated, panhead screw with Torx, M2.5 x 7, St, nickel-plated</p>				<p>in accordance with IEEE 1101.10 and IEC 60297-3-102, with locking, suitable for insertion and extraction forces up to 700 N (per pair), suitable for fitting of microswitches; 0.1" offset is used for PSUs with SMD Plus: block die-cast zinc, nickel plated; with integrated alignment pin for perforated strip, codable to IEEE 1101.10 and IEC 60297-3-103, lever/key UL 94 V-0, slotted Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated, panhead screw with Torx, M2.5 x 7, St, nickel-plated</p>				
Assembly	PU 10 pieces	PU 100 pieces	PU 10 pieces	PU 100 pieces	PU 10 pieces	PU 100 pieces	PU 10 pieces	PU 100 pieces	
 04608073	<b>3 U Height bottom</b>								
	Front side	20817-660	20817-661	20817-652	20817-653	20817-714	20817-715	20817-706	20817-707
	Rear I/O	20817-662	20817-663	20817-654	20817-655	-	-	-	-
 04608072	<b>6 U Height top</b>								
	Front side	20817-662	20817-663	20817-654	20817-655	20817-716	20817-717	20817-708	20817-709
	Rear I/O	20817-660	20817-661	20817-652	20817-653	-	-	-	-
	<b>bottom</b>								
	Front side	20817-660	20817-661	20817-652	20817-653	20817-714	20817-715	20817-706	20817-707
	Rear I/O	20817-662	20817-663	20817-654	20817-655	-	-	-	-
	Fixing material see page	7.23				7.23			
Dimensions see page	7.29				7.29				

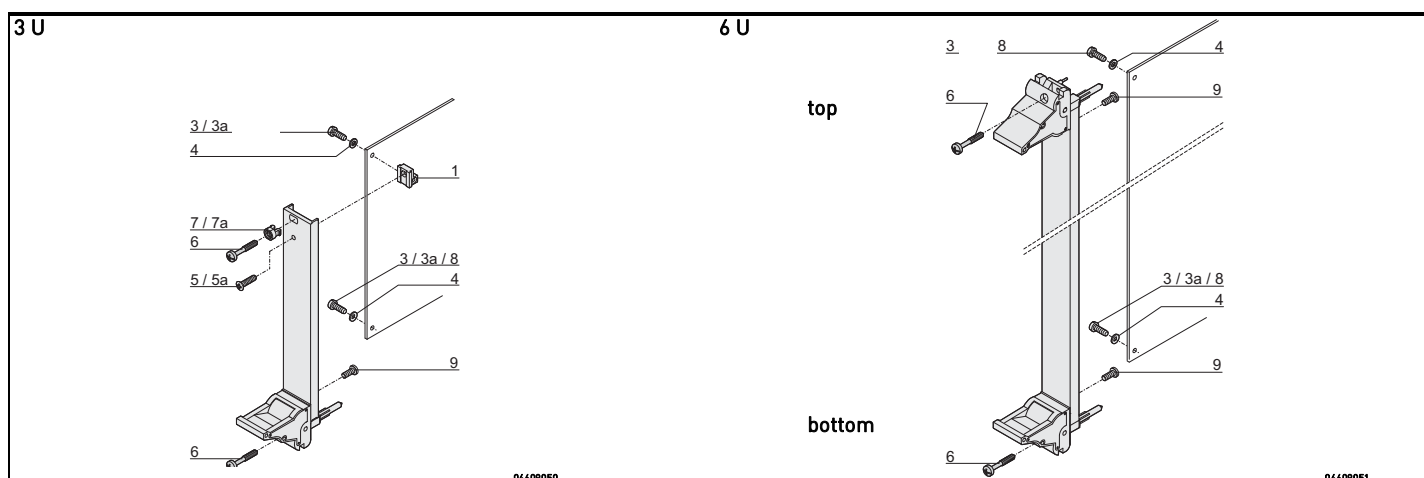













## Plug-in units – for CompactPCI, VME64x

Individual components

inserter/extractor handles, type IEL/IET, fixing material

### Order Information



Fixing material	Item	Image	Required quantity				Qty/PU	Part no.
			3 U < 8 HP	3 U ≥ 8 HP	6 U < 8 HP	6 U ≥ 8 HP		
Printed board bracket Zn die-cast	1		1	1	-	-	1 piece (SPG 10) <sup>1)</sup>	<b>60807-181</b>
Pozidrive panhead screw M2.5 × 6, St, nickel-plated , not for 0.1" offset	3		2	2	2	2	100	<b>21101-219</b>
Slotted panhead screw with Torx 8 M2.5 × 6, St, zinc-plated, self-securing thread not for 0.1" offset	3a		2	2	2	2	100	<b>24560-159</b>
Washer 2.7, DIN 125, St, nickel-plated	4		2	2	2	2	100	<b>21100-721</b>
Raised Pozidrive countersunk panhead screw M2.5 × 8, St, nickel-plated	5		1	1	-	-	100	<b>21100-429</b>
Raised countersunk panhead screw with Torx 8 M2.5 × 8, St, nickel-plated	5a		1	1	-	-	100	<b>24560-164</b>
Pozidrive/slotted collar screw M2.5 × 12.3, St, nickel-plated	6		1	3	-	2	100	<b>21101-101</b>
Plastic sleeve, for form hole 5.9 x 3.3 PA, UL 90 V-2, grey	7		1	3	-	2	100	<b>21100-464</b>
Metal sleeve, for form hole 5.9 x 3.3, press-in Stainless steel	7a		1	3	-	2	100	<b>21100-662</b>
Pozidrive panhead screw for IEL/IET handle with 0.1" offset M2.5 × 10, nickel-plated steel	8		2	2	2	2	100	<b>21101-220</b>
Torx panhead screw M2.5 × 7, St, nickel-plated, Torx 8,	9		1	1	2	2	100	<b>24560-147</b>

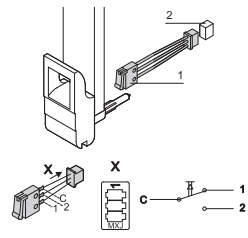
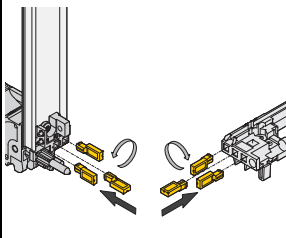
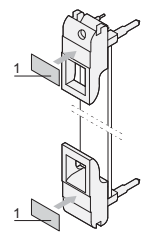
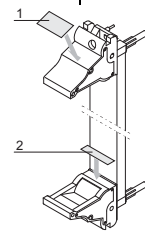
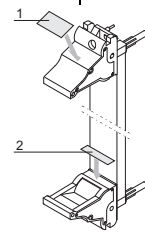
SPQ [standard pack quantity]: Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

## Plug-in units – for CompactPCI, VME64x

**Individual components**

**Inserters/extractors handles, type IEL/IET, accessories**

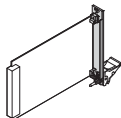
### Order Information

Microswitch	Keying/coding	Label strips	Label strips	
<p><b>with cable and plug</b></p>  <p style="font-size: small;">bge46314 bge46315</p> <p>Molex connector housing 51021-0300, Molex crimp contact 50058-8000 and fixing clip (item 3), plastic, PC, UL 94 V-0, max. switched current 50 mA, operating range -25 °C to +70 °C, mech. life ≥ 20,000 switching cycles, electr. life ≥ 20,000 switching cycles; suitable mating connectors (item 2) e.g. Molex 53261-0319, 53048-0310, 53047-0310, 53398-0319, 51047-0300 not included in scope of delivery</p> <p style="text-align: center;"><b>PU 10 pieces</b></p>	<p><b>in accordance with IEC 60297-3-103</b></p>  <p style="font-size: small;">04612052</p> <p>The keying/coding pegs prevent plug-in units to be mounted in wrong slots. They are inserted in the chambers of the codable card guides as well as in the insertion/extraction handles IEL or IET (4 possible positions), resulting in 64 codings per card guide; when coding the upper and lower card guide, 4096 codings will result; guide rails for coding see page 6.40</p> <p style="text-align: center;"><b>PU 100 pieces</b></p>	<p><b>19 x 9.5 mm</b></p>  <p style="font-size: small;">04606050</p> <p>Polyester, self-adhesive, white, 1 sheet 210 pieces (Item 1)</p> <p style="text-align: center;"><b>PU 210 pieces</b></p>	<p><b>19 x 9.5 mm</b></p>  <p style="font-size: small;">bge46317</p> <p>Polyester, self-adhesive, white, 1 sheet 210 pieces (item 1)</p> <p style="text-align: center;"><b>PU 210 pieces</b></p>	<p><b>19 x 4.8 mm</b></p>  <p style="font-size: small;">bge46317</p> <p>Polyester, self-adhesive, white, 1 sheet 320 pieces (item 2)</p> <p style="text-align: center;"><b>PU 320 pieces</b></p>
<b>3 U Height</b>				
bottom				
20817-606	20817-501	60817-340	60817-340	60817-341
<b>6 U Height</b>				
top				
20817-606	20817-501	60817-340	60817-340	60817-341
bottom				
20817-606	20817-501	60817-340	60817-340	60817-341

**Plug-in units – for CompactPCI, VME64x**

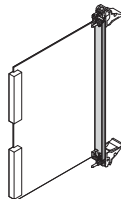
**Dimensions** Front panels, U-profiles, inserter/extractor handles, type IEL/IET, rear I/O, shieldable  
PCB fixing without offset

3 U

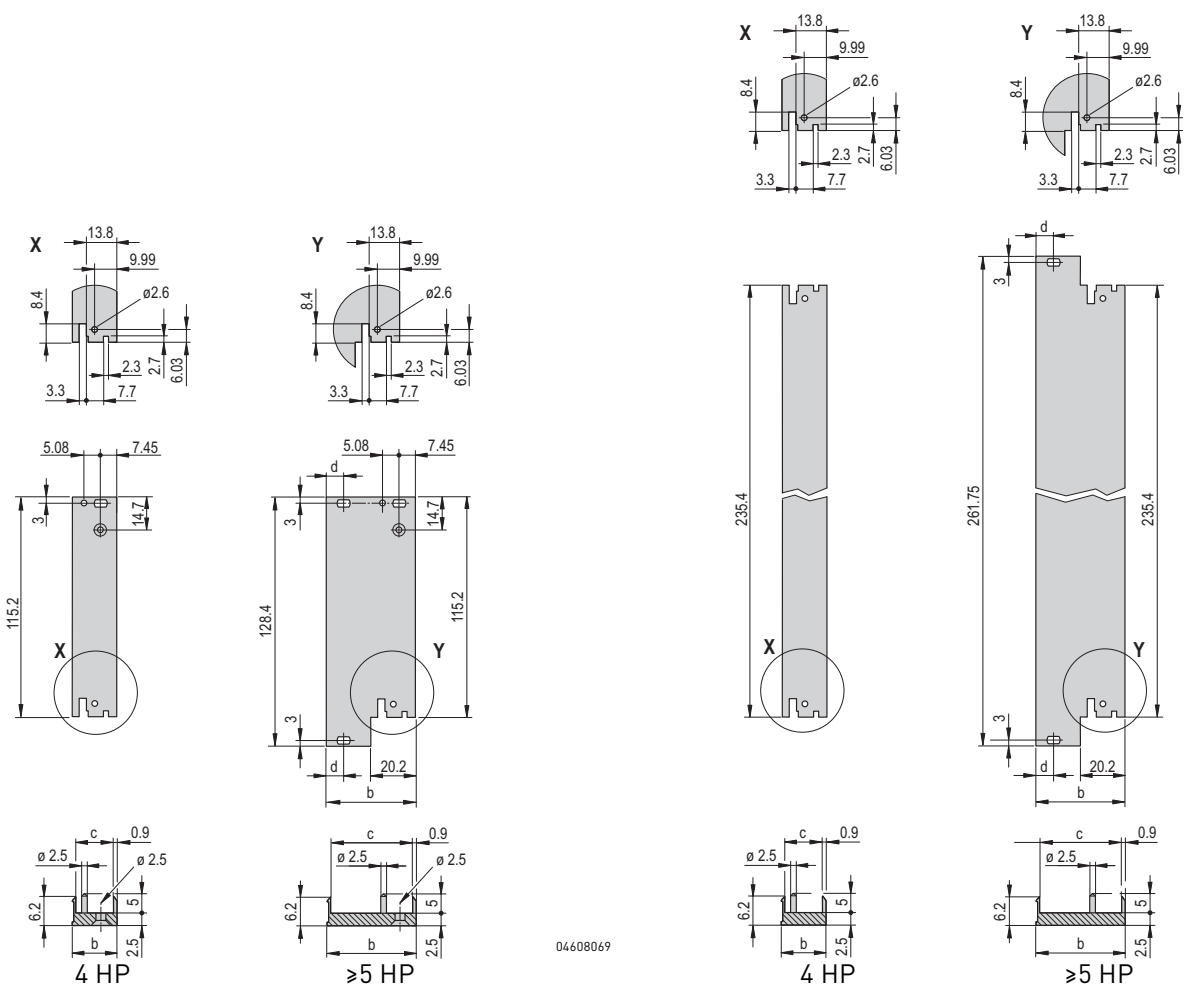


04608068

6 U



04608076



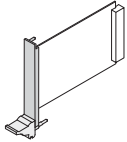
**Dimensions table**

Width	b	c	d
HP	mm	mm	mm
4	19.98	17.45	-
5	25.06	22.53	-
6	30.14	27.61	-
7	35.22	32.69	-
8	40.30	37.77	7.45
9	45.38	42.85	7.45
10	50.46	47.93	7.45
11	55.54	53.01	7.45
12	60.62	58.09	7.45
14	70.78	68.25	7.45
16	80.94	78.41	7.45

## Plug-in units – for CompactPCI, VME64x

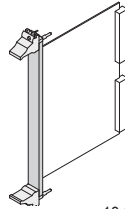
Dimensions Front panels, U-profiles, inserter/extractor handles, type IEL, IET, shieldable  
PCB fixing without offset / with 0.1" offset

3 U

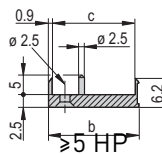
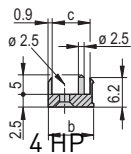
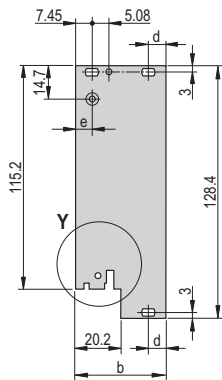
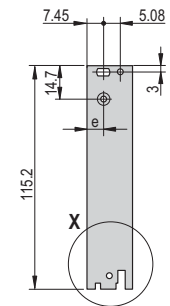
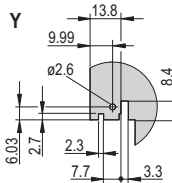
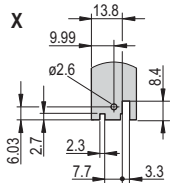


04608067

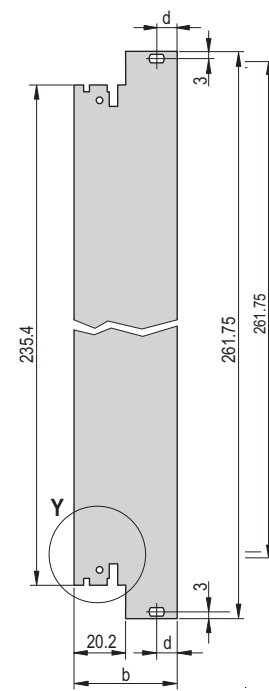
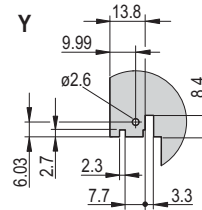
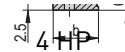
6 U



04608066



04608064



04608065

Dimensions table

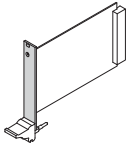
Width HP	b mm	c mm	d mm	without offset	with 0.1" offset
				e mm	e mm
4	19.98	17.45	-	7.45	9.99
5	25.06	22.53	-	7.45	9.99
6	30.14	27.61	-	7.45	9.99
7	35.22	32.69	-	7.45	9.99
8	40.30	37.77	7.45	7.45	9.99
9	45.38	42.85	7.45	7.45	9.99
10	50.46	47.93	7.45	7.45	9.99
11	55.54	53.01	7.45	7.45	9.99
12	60.62	58.09	7.45	7.45	9.99
14	70.78	68.25	7.45	7.45	9.99
16	80.94	78.41	7.45	7.45	9.99

**Plug-in units – for CompactPCI, VME64x**

**Dimensions Front panels, inserter/extractor handles, type IEL/IET, unshielded**

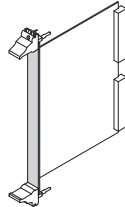
PCB fixing without offset

3 U

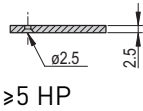
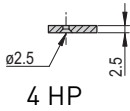
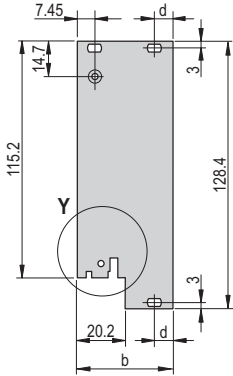
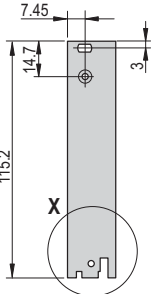
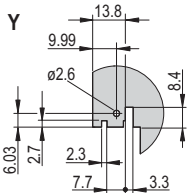
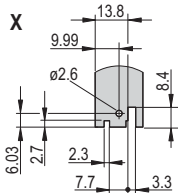


04608080

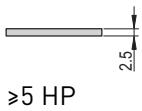
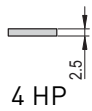
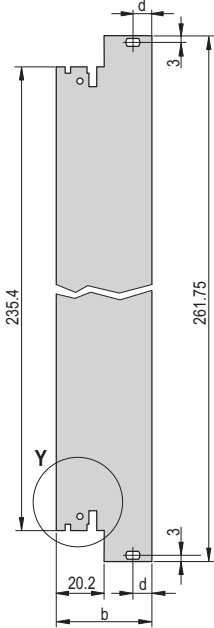
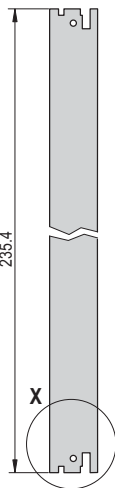
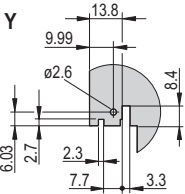
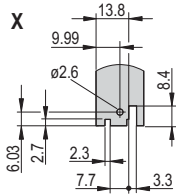
6 U



04608079



04608077



04608078

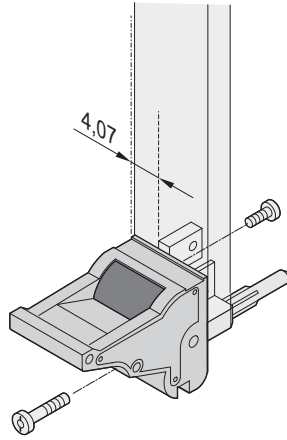
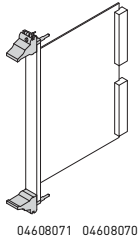
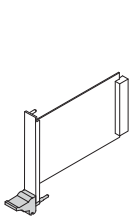
**Dimensions table**

Width HP	b mm	d mm
4	19.98	-
5	25.06	-
6	30.14	-
7	35.22	-
8	40.30	7.45
9	45.38	7.45
10	50.46	7.45
11	55.54	7.45
12	60.62	7.45
14	70.78	7.45
16	80.94	7.45

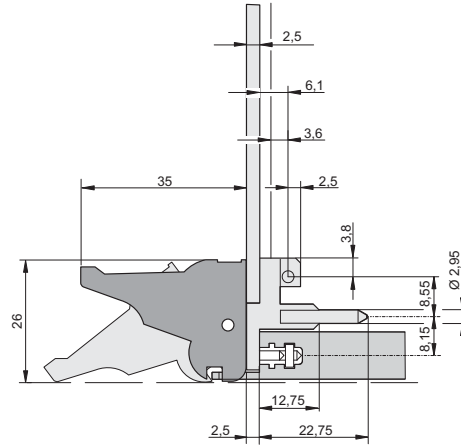
## Plug-in units – for CompactPCI, VME64x

### Dimensions

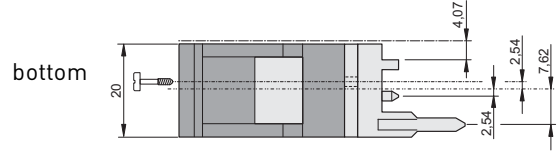
### Inserter/extractor handle, type IEL



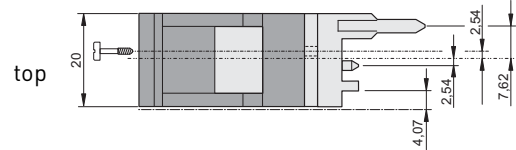
04608050



04603059



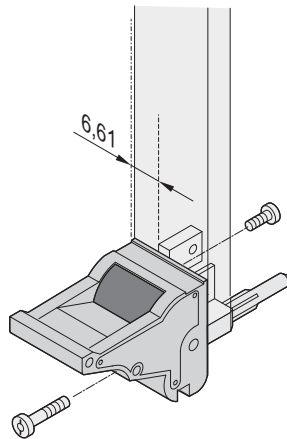
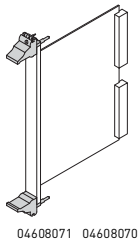
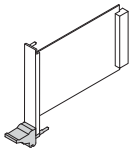
04607053



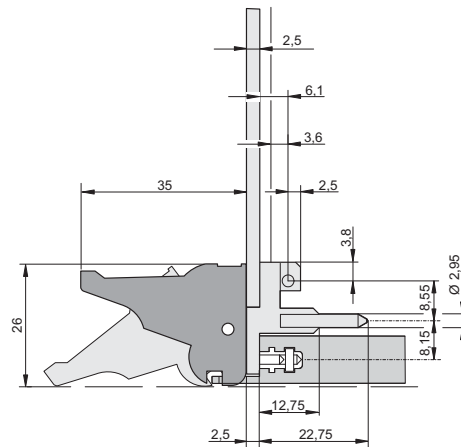
04607054

### Dimensions

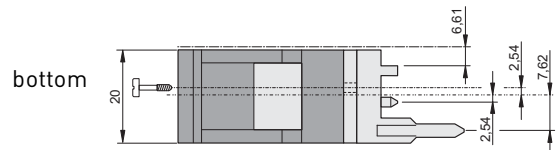
### Inserter/extractor handle, type IEL, 0.1" offset



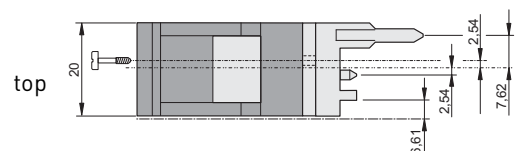
04608051



04603059



04603061

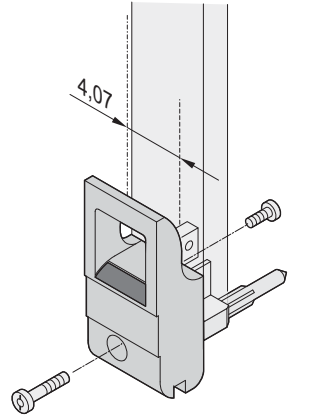
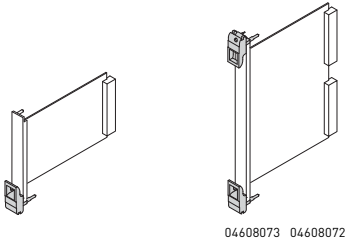


04607055

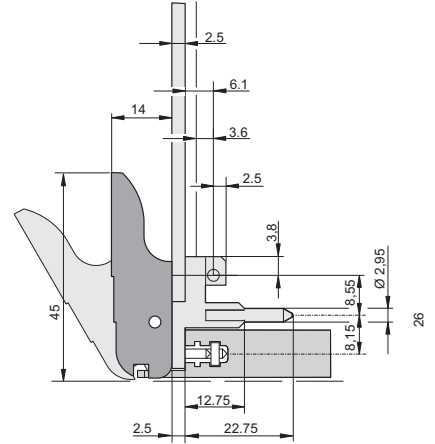
Plug-in units – for CompactPCI, VME64x

Dimensions

Insert/extractor handle, type IET

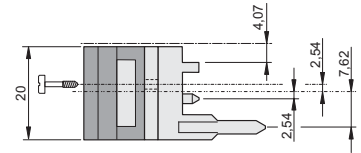


04608054



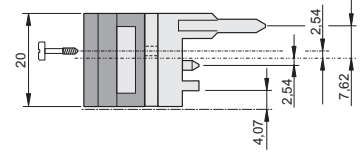
04603060

bottom



04607056

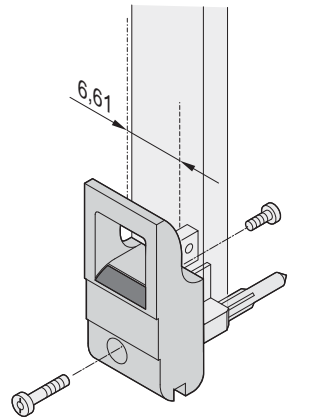
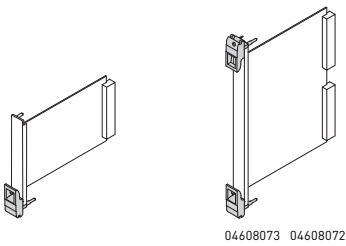
top



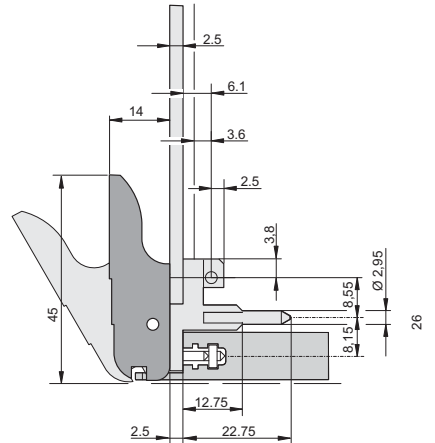
04607057

Dimensions

Insert/extractor handle, type IET, 0.1" offset

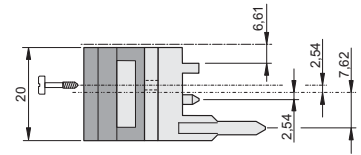


04608055



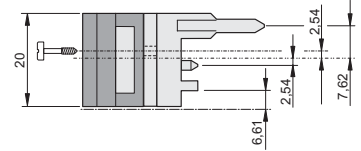
04603060

bottom



04603062

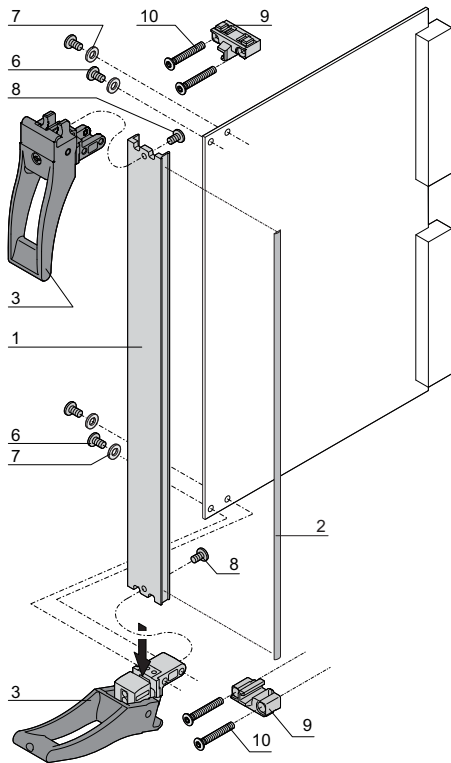
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04607058

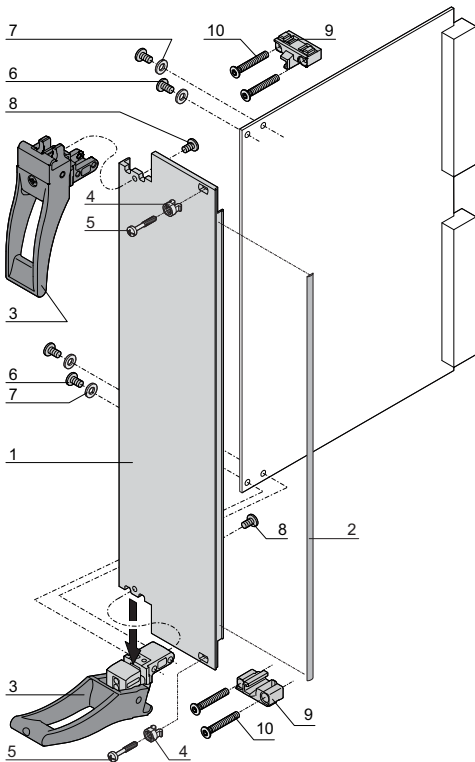
## Plug-in units – for CompactPCI, VME64x, VXS, VPX

### Plug-in units with XL insertion/extractor handle for CompactPCI, VME64x, VXS and VPX applications



< 8 HP

04613055



≥ 8 HP

04613056

- Suitable for insertion and extraction forces up to 1500 N (per pair)
- To IEEE 1101.10 and IEC 60297-3-102
- Codable to IEC 60297-3-103/ IEEE 1101.10
- Front panel, shielded (6 U)
- Versions allowing microswitches to be fitted on request
- Online download of 3D CAD data

**NEW**

#### Delivery includes (Kit)

Item	Qty		Description
	<8 HP	≥8 HP	
1	1	1	Front panel (U profile), Al, front anodized, rear conductive
2	1	1	EMC sealing (textile), core: foam, sleeve: textile cladding, CuNi coated
3	2	2	Handle with integrated alignment pin for perforated strips and guide rails, lever: plastic, PC, black, RAL 9005 Key: Plastic, PC, light gray, RAL 7035
4	-	2	Sleeve, PA, gray
5	-	2	Pozidrive collar screw, M2.5 × 12.3, St, nickel-plated
6	4	4	Panhead screw with Torx/slot, M2.5 × 6, St, zinc-plated, self-locking
7	4	4	Washer A2.7, DIN 125, St, nickel-plated
8	4	4	Pan head screw with torx M2.5 × 7, St, zinc-plated
9	1	1	XL bearing, zinc diecast, nickel-plated
10	4	4	Countersunk screw with torx M2.5 × 17, St, zinc-plated

#### Order Information


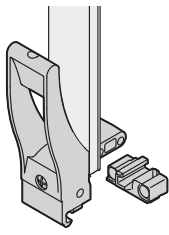
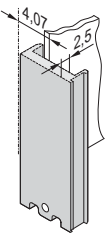
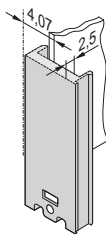
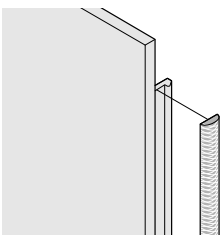
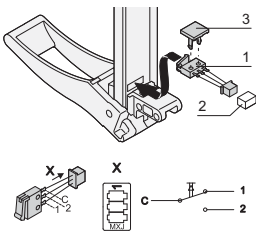
Width HP	Part no.
<b>6 U Height</b>	
4	<b>20848-769</b>
8	<b>20848-770</b>
12	<b>20848-771</b>

- Dimension drawing of front profile, see page 7.32



**Plug-in units – for CompactPCI, VME64x, VXS, VPX**

**Individual components      Inserter/extractor handle, type XL, front panels, microswitch**

	Inserter/extractor handle, type XL	U front profile, shieldable, for inserter/extractor handle, type XL		EMC gasket (textile)		Microswitch item 1 with cable and plug
		without cut-out for microswitch	with cut-out for microswitch			
 <p>04605008</p>	 <p>04608081</p>	 <p>04608082</p>	 <p>04608083</p>	 <p>BGA45760</p>	 <p>04608084 bga46315</p>	
	<p>kit, incl. die-cast bearing and assembly kit; insertion and extraction force up to 1500 Nm per pair;</p> <p>handle in PA, fibreglass reinforced, UL 94V 0;</p> <p>robust board fixing with double bolt fixing, microswitches can be fitted</p>	<p>Al, front anodised, sides and rear conductive, for sleeve and collar screw see page 7.37</p>	<p>Al, front anodised, sides and rear conductive for sleeve and collar screw see page 7.37</p>	<p>always fixed laterally on the front panel, in the groove of the profile, textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0</p>	<p>Molex connector housing 51021-0300, Molex crimp contact 50058-8000 and fixing clip (item 3), plastic, PC, UL 94 V-0, max. switched current 50 mA, operating range -25 °C to +70 °C, mech. life &gt; 20,000 switching cycles, electr. life &gt; 20,000 switching cycles; suitable mating connector (item 2) e.g. Molex 53261-0319, 53048-0310, 53047-0310, 53398-0319, 51047-0300, not included in scope of delivery</p>	
<b>Width</b>	<b>PU 10 pieces</b>	<b>1 piece (SPQ 5)<sup>1)</sup></b>	<b>1 piece (SPQ 5)<sup>1)</sup></b>	<b>PU 10 pieces</b>	<b>PU 100 pieces</b>	<b>PU 10 pieces</b>
<b>HP</b>	<b>6 U Height</b>					
4		<b>30849-153</b>	<b>30849-154</b>			
8	<b>20817-874</b>	<b>30849-155</b>	<b>30849-156</b>	<b>21101-855</b>	<b>21101-856</b>	<b>20817-877</b>
12		<b>30849-157</b>	<b>30849-158</b>			
Dimensions see page	7.30	7.30	7.30			

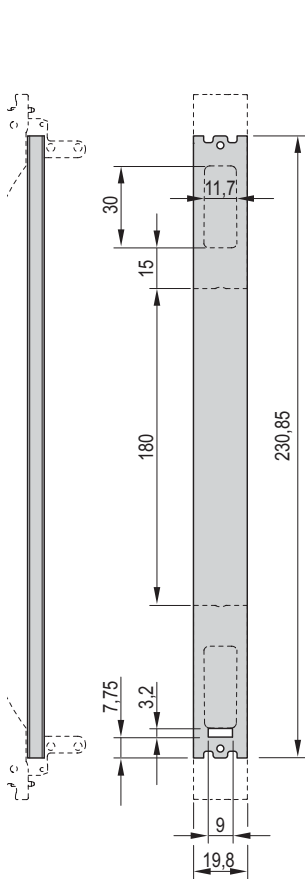
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
 Part no. includes one packing unit (PU); delivery is exclusively made in PU

**Note**  
 ■ Please order front panels separately

## Plug-in units – for CompactPCI, VME64x, VXS, VPX

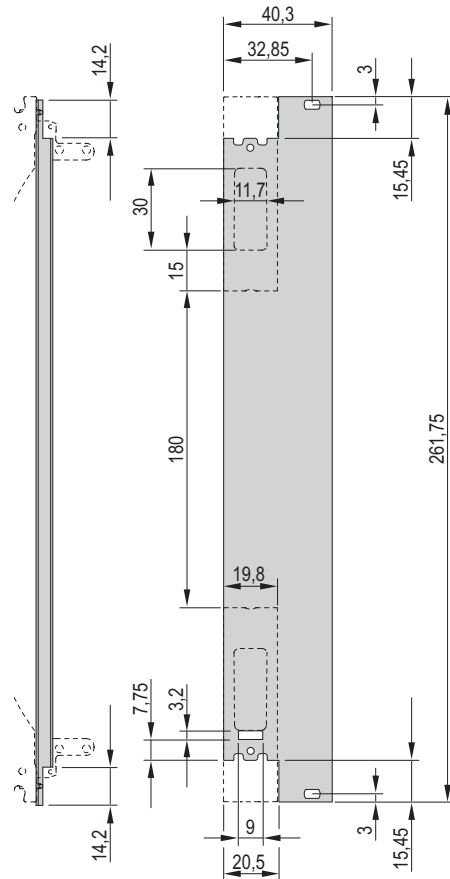
### Dimensions U front profile for extractor handle type XL, shieldable

6 U/4 HP



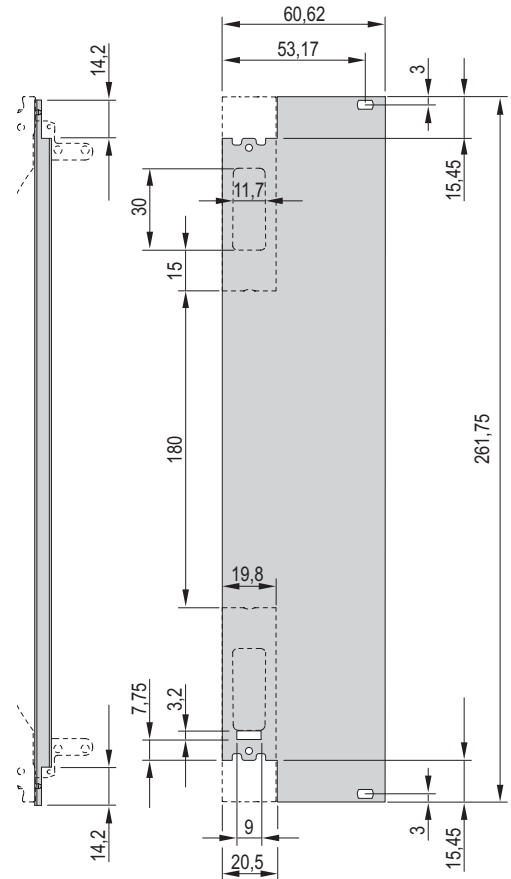
04605053

6 U/8 HP



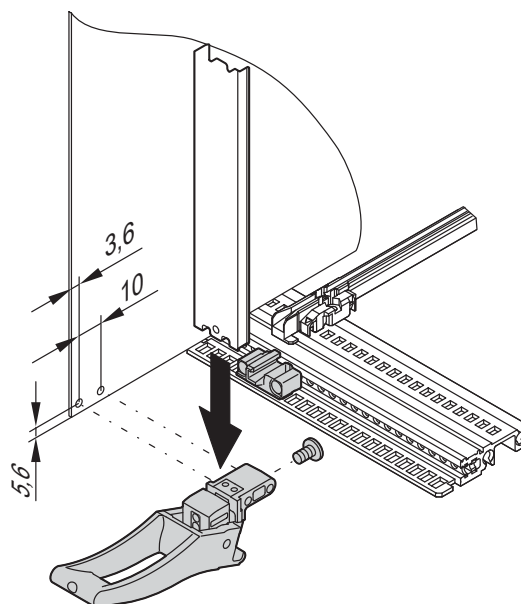
04605054

6 U/12 HP



04605055

### Dimensions Inserter/extractor handle, type XL



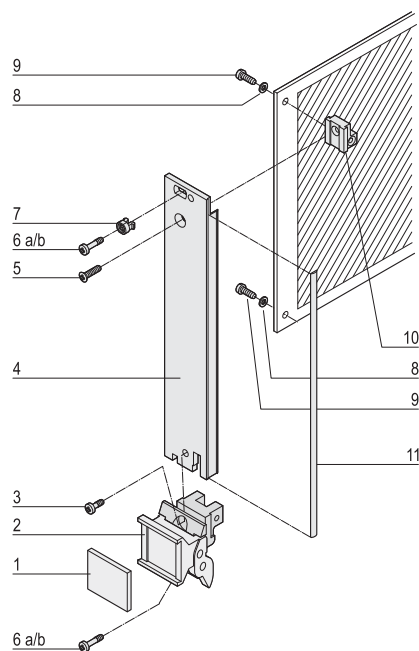
04608113

## Plug-in units – for VME

### Kits

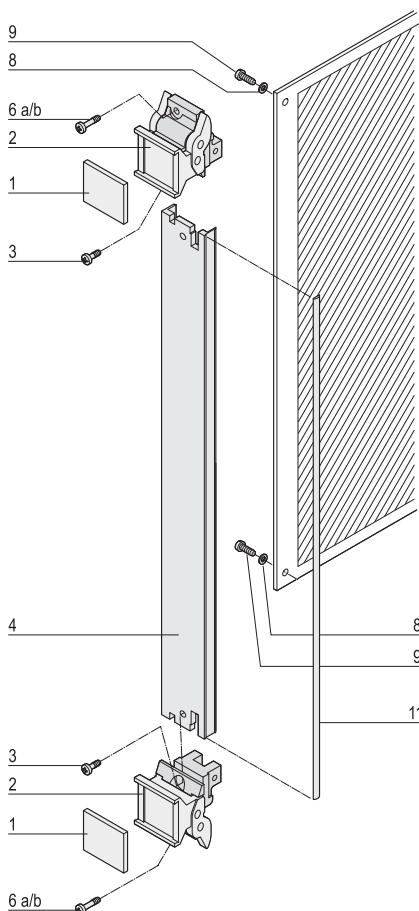
### Plug-in units with trapeziform extractor handle, type 2

3 U



04604050

6 U



04604051

#### ■ Shielded

#### Delivery comprises (kit)

Item	3 U		6 U		Description
	<8HP	≥8HP	<8HP	≥8HP	
1	1	1	2	2	Identification plate, Al, 1.5 mm, anodised, cut edges untreated
2	1	1	2	2	Extractor handle, trapeziform, type 2, lever: PPE, light grey, RAL 7035, block die-cast zinc, nickel-plated, with integrated alignment pin for perforated strip
3	1	1	2	2	Pozidrive flathead screw, St, M2.5 x 6, nickel-plated
4	1	1	1	1	Front panel, U profile, Al, front anodised, rear conductive
5	1	1	–	–	Raised Pozidrive countersunk screw M2.5 x 8, St, nickel-plated
6a	2	4	2	4	Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated,
6b	2	4	2	4	collar screw, Pozidrive/slot, M2.5 x 11, St, nickel-plated,
7	1	3	–	2	Sleeve, PA, grey
8	2	2	2	2	Washer A 2.7, DIN 125
9	2	2	2	2	Panhead screw with Torx/slot, M2.5 x 6, St, zinc-plated, self-locking
10	1	1	–	–	Board support, die-cast zinc
11	1	1	1	1	EMC sealing (textile), core: foam, sleeve: textile cladding, Cu-Ni coated

#### Order Information

Height	Width	Part no.
U	HP	
3	4	<b>20848-686</b>
3	6	<b>20848-687</b>
3	8	<b>20848-688</b>
3	10	20848-689
3	12	20848-690
6	4	<b>20848-691</b>
6	6	<b>20848-692</b>
6	8	<b>20848-693</b>
6	10	20848-694
6	12	20848-695

■ Dimension drawings of front profile see page 7.38

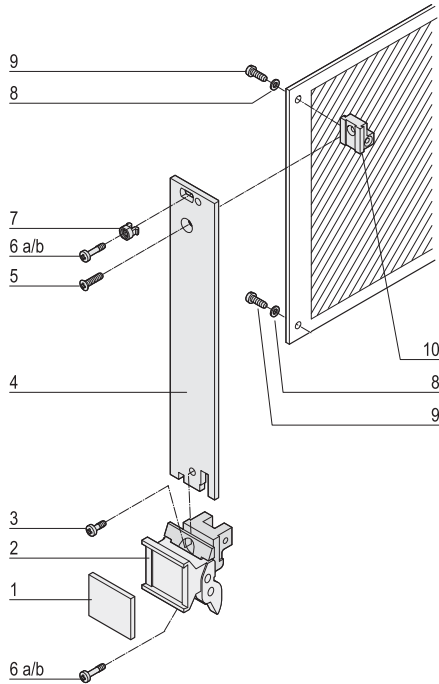
■ Description of microswitch see page 7.31

## Plug-in units – for VME

### Kits

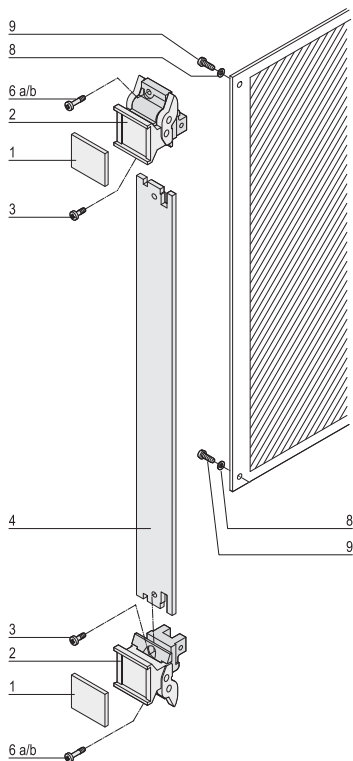
### Plug-in units with trapeziform extractor handle, type 2

3 U



04604052

6 U



04604053

■ Unshielded

#### Delivery comprises (kit)

Item	3 U		6 U		Description
	<8HP	≥8HP	<8HP	8 HP	
1	1	1	2	2	Identification plate, Al, 1.5 mm, anodised, cut edges plain
2	1	1	2	2	Extractor handle, trapeziform, type 2, lever: PPE, light grey, RAL 7035, block: die-cast zinc, nickel-plated
3	1	1	2	2	Flathead screw M2.5 x 6, nickel-plated
4	1	1	1	1	Front panel, Al, 2.5 mm, front: anodised, rear: iridescent green chromated
5	1	1	-	-	Raised Pozidrive countersunk screw, M2.5 x 8, St, nickel-plated
6a	2	4	2	4	Slotted Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated,
6b	2	4	2	4	slotted Pozidrive collar screw, M2.5 x 11, St, nickel-plated
7	1	3	-	2	Sleeve, PA, grey
8	2	2	2	2	Washer A 2.7, DIN 125
9	2	2	2	2	Slotted Torx panhead screw, M2.5 x 6, St, zinc-plated, self-locking
10	1	1	-	-	Board support, die-cast zinc

#### Order Information

Height U	Width HP	Part no.
3	4	20817-860
3	5	20817-861
3	6	20817-862
3	7	20817-863
3	8	20817-864
3	10	20817-865
3	12	20817-866
6	4	20817-867
6	5	20817-868
6	6	20817-869
6	7	20817-870
6	8	20817-871
6	10	20817-872
6	12	20817-873

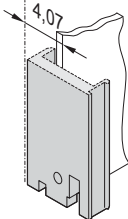
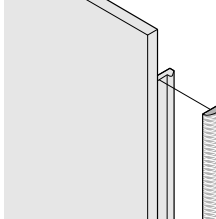
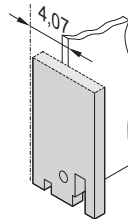
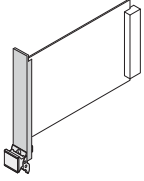
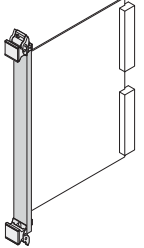
■ Dimension drawing of front profile see page 7.38

■ Description of microswitch see page 7.31

**Plug-in units – for VME**

**Individual components**      **U front profiles/front panels for trapeziform extractor handle, type 2**

**Order Information**

		Front panel, U profile, shieldable	Textile EMC gasket		Front panel, flat, unshielded																						
		 <p style="text-align: right;">04608060</p> <p>Al extrusion, 2.5 mm, front anodised, rear conductive; alignment pin pressed-in (3 U only), stainless steel; manufacturing process causes various surface structures to appear between 4 to 12 HP and 14 to 16 HP</p>	 <p style="text-align: right;">B8A45760</p> <p>always fixed laterally on the front panel, in the groove of the profile, textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C</p>		 <p style="text-align: right;">04608063</p> <p>Front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated</p>																						
<b>Width</b>	<b>HP</b>	<b>1 piece (SPQ 5)<sup>1)</sup></b>	<b>PU 10 pieces</b>	<b>PU 100 pieces</b>	<b>1 piece (SPQ 5)<sup>1)</sup></b>																						
		<b>3 U Height</b>																									
 <p style="text-align: right;">04608109</p>		<table border="1"> <tr><td>4</td><td><b>30848-312</b></td><td rowspan="7" style="text-align: center;">21101-853</td><td rowspan="7" style="text-align: center;">21101-854</td><td>30848-327</td></tr> <tr><td>5</td><td><b>30848-300</b></td><td>30848-328</td></tr> <tr><td>6</td><td><b>30848-313</b></td><td>30848-329</td></tr> <tr><td>7</td><td><b>30848-301</b></td><td>30848-330</td></tr> <tr><td>8</td><td><b>30848-314</b></td><td>30848-331</td></tr> <tr><td>10</td><td><b>30848-315</b></td><td>30848-333</td></tr> <tr><td>12</td><td><b>30848-316</b></td><td>30848-335</td></tr> </table>	4	<b>30848-312</b>	21101-853	21101-854	30848-327	5	<b>30848-300</b>	30848-328	6	<b>30848-313</b>	30848-329	7	<b>30848-301</b>	30848-330	8	<b>30848-314</b>	30848-331	10	<b>30848-315</b>	30848-333	12	<b>30848-316</b>	30848-335		
4	<b>30848-312</b>	21101-853	21101-854	30848-327																							
5	<b>30848-300</b>			30848-328																							
6	<b>30848-313</b>			30848-329																							
7	<b>30848-301</b>			30848-330																							
8	<b>30848-314</b>			30848-331																							
10	<b>30848-315</b>			30848-333																							
12	<b>30848-316</b>			30848-335																							
		<b>6 U Height</b>																									
 <p style="text-align: right;">04608107</p>		<table border="1"> <tr><td>4</td><td><b>30848-317</b></td><td rowspan="7" style="text-align: center;">21101-855</td><td rowspan="7" style="text-align: center;">21101-856</td><td>30848-336</td></tr> <tr><td>5</td><td><b>30848-304</b></td><td>30848-337</td></tr> <tr><td>6</td><td><b>30848-318</b></td><td>30848-338</td></tr> <tr><td>7</td><td><b>30848-305</b></td><td>30848-339</td></tr> <tr><td>8</td><td><b>30848-319</b></td><td>30848-340</td></tr> <tr><td>10</td><td><b>30848-320</b></td><td>30848-342</td></tr> <tr><td>12</td><td><b>30848-321</b></td><td>30848-344</td></tr> </table>	4	<b>30848-317</b>	21101-855	21101-856	30848-336	5	<b>30848-304</b>	30848-337	6	<b>30848-318</b>	30848-338	7	<b>30848-305</b>	30848-339	8	<b>30848-319</b>	30848-340	10	<b>30848-320</b>	30848-342	12	<b>30848-321</b>	30848-344		
4	<b>30848-317</b>	21101-855	21101-856	30848-336																							
5	<b>30848-304</b>			30848-337																							
6	<b>30848-318</b>			30848-338																							
7	<b>30848-305</b>			30848-339																							
8	<b>30848-319</b>			30848-340																							
10	<b>30848-320</b>			30848-342																							
12	<b>30848-321</b>			30848-344																							
Dimensions see page		7.38			7.36																						

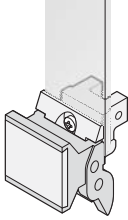
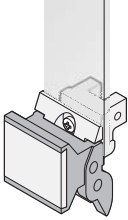
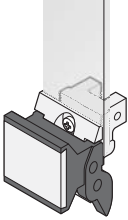
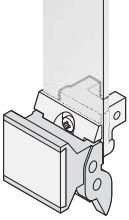
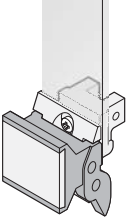
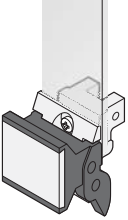
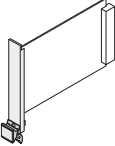
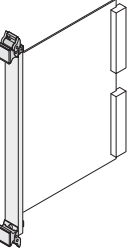
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
 Part no. includes one packing unit (PU); delivery is exclusively made in PU

## Plug-in units – for VME

Individual components

Extractor handle, trapeziform, type 2

### Order Information

	Trapeziform extractor handle, type 2 without alignment pin			Trapeziform extractor handle, type 2 with alignment pin		
	lever, light grey, RAL 7035	lever, dark grey, RAL 7032	lever, black, RAL 9005	lever, light grey, RAL 7035	lever, dark grey, RAL 7032	lever, black, RAL 9005
						
	04608085	B6A45760	04608087	B6A45760	04608086	04608087
	Extractor handle, PPE; block, die-cast zinc, zinc-plated; identification plate, Al, 1.5 mm, anodised, cut edges plain; Pozidrive flat-head screw, M2.5 x 6, nickel-plated; slotted Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated; slotted Pozidrive collar screw, M2.5 x 11, St, nickel-plated,			Extractor handle, PPE; block, die-cast zinc, zinc-plated; Identification plate, Al, 1.5 mm, anodised, cut edges plain; Pozidrive flat-head screw, M2.5 x 6, nickel-plated; slotted Pozidrive collar screw, M2.5 x 12.3, St, nickel-plated; slotted Pozidrive collar screw, M2.5 x 11, St, nickel-plated,		
Width HP	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
	<b>3 U Height bottom</b>					
	20817-858	20817-854	20817-856	20817-833	20817-829	20817-831
	<b>6 U Height top</b>					
	20817-858	20817-854	20817-856	20817-833	20817-829	20817-831
	<b>bottom</b>					
	20817-858	20817-854	20817-856	20817-833	20817-829	20817-831
Dimensions see page	7.39			7.39		

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

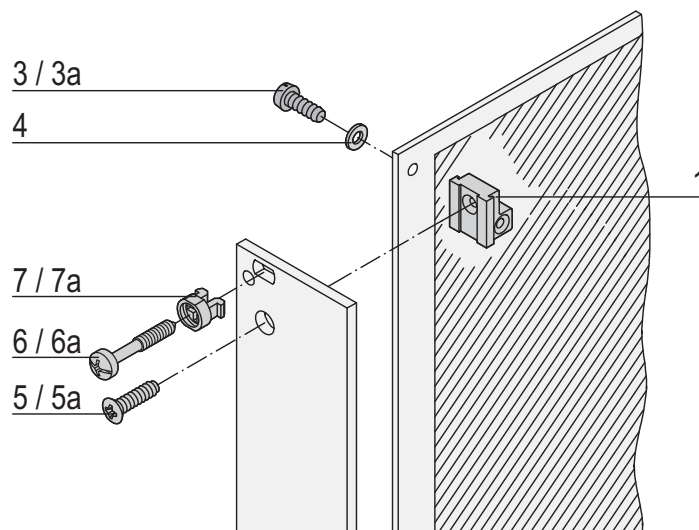
Part no. includes one packing unit (PU); delivery is exclusively made in PU

## Plug-in units – for VME







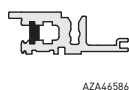
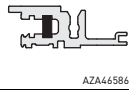


**Individual components**

**Fixing material for trapeziform extractor handle, type 2**

### Order Information



bge46045

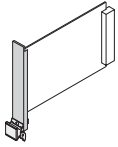
Fixing material	Item	Image	Required quantity				Qty/PU	Part no.
			3 U		6 U			
			< 8 HP	≥ 8 HP	< 8 HP	≥ 8 HP		
Printed board bracket Zn die-cast	1		1	1	–	–	1 Stück (LLG 10) <sup>1)</sup>	<b>60807-181</b>
Pozidrive panhead screw M2.5 × 6, St, nickel-plated	3		2	2	2	2	100	<b>21101-219</b>
Slotted panhead screw with Torx 8 M2.5 × 6, St, zinc-plated Self-securing thread	3a		2	2	2	2	100	<b>24560-159</b>
Washer 2.7, St, nickel-plated	4		2	2	2	2	100	<b>21100-721</b>
Raised Pozidrive countersunk panhead screw M2.5 × 8, St, nickel-plated	5		1	1	–	–	100	<b>21100-429</b>
Raised countersunk panhead screw with Torx 8 M2.5 × 8, St, nickel-plated	5a		1	1	–	–	100	<b>24560-164</b>
Slotted Pozidrive collar screw M2.5 × 11, St, nickel-plated	6		1	3	–	2	100	<b>21100-748</b>
Slotted Pozidrive collar screw M2.5 × 12.3, St, nickel-plated	6a		1	3	–	2	100	<b>21101-101</b>
Plastic sleeve, for form hole 5.9 x 3.3 PA, UL 90 V-2, grey	7		1	3	–	2	100	<b>21100-464</b>
Metal sleeve, for form hole 5.9 x 3.3, press-in Stainless steel	7a		1	3	–	2	100	<b>21100-662</b>

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

## Plug-in units – for VME

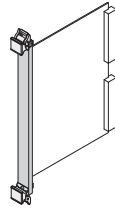
Dimensions Front panels, U profiles, for trapeziform extractor handles, type 2

3 U

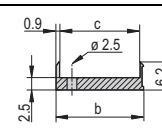
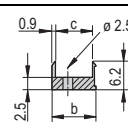
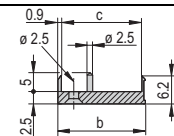
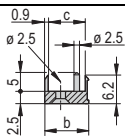
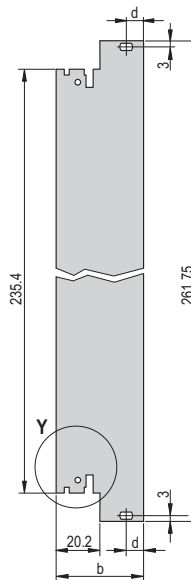
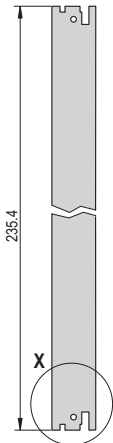
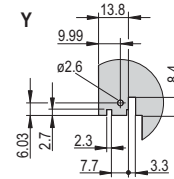
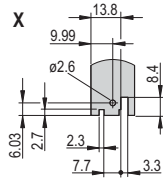
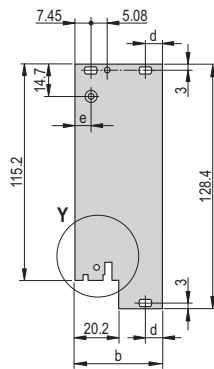
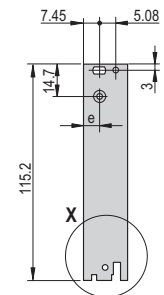
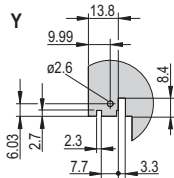
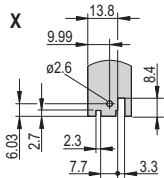


04608109

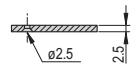
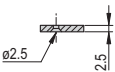
6 U



04608107



shieldable



unshielded

4 HP

≥5 HP

04608064 04608077

4 HP

≥5 HP

04608065 04608078

### Dimensions table

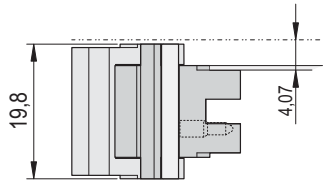
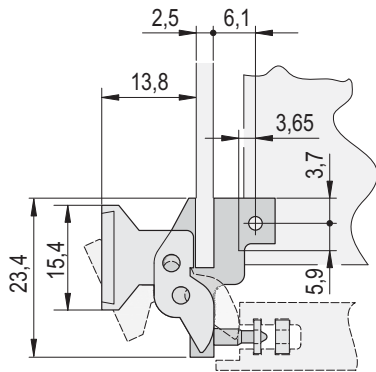
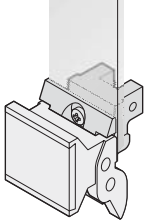
Width	b	c	d
HP	mm	mm	mm
4	19.98	17.45	-
5	25.06	22.53	-
6	30.14	27.61	-
7	35.22	32.69	-
8	40.30	37.77	7.45
9	45.38	42.85	7.45
10	50.46	47.93	7.45
11	55.54	53.01	7.45
12	60.62	58.09	7.45
14	70.78	68.25	7.45
16	80.94	78.41	7.45



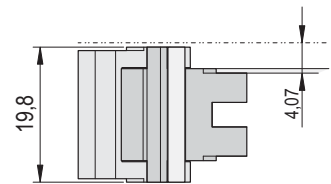
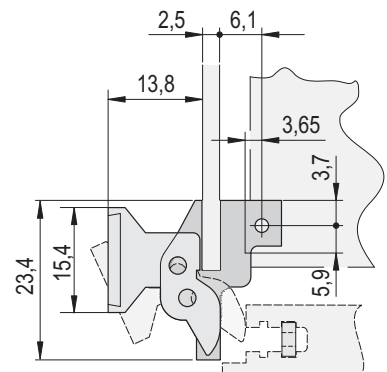
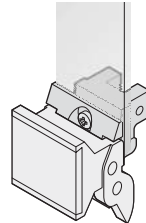
Plug-in units – for VME

Dimension drawings Extractor handle, trapeziform, type 2

with alignment pin



without alignment pin

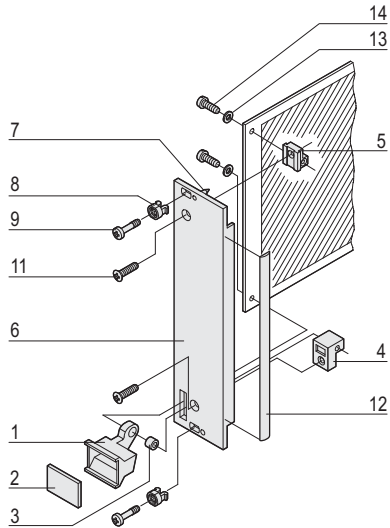


## Plug-in units – for VME

### Kits

### Plug-in units with trapeziform extractor handle, type 1 – front panel, U-profile, shielded

3 U



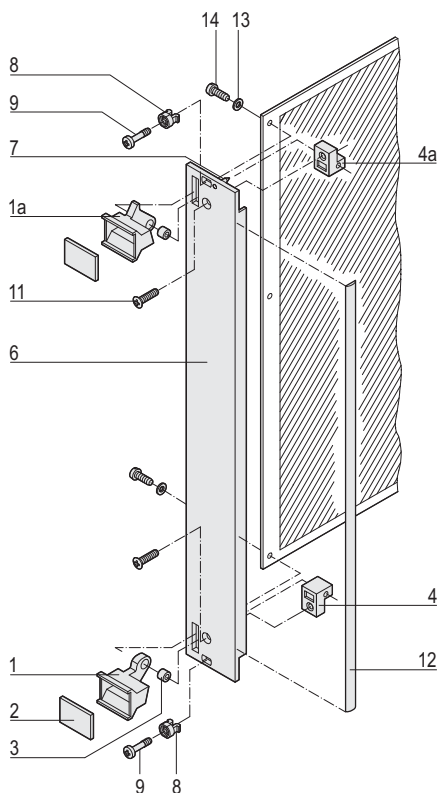
- At 6 U the board position can be offset by 1 HP to the right by swapping the top and bottom board supports; thus space is created for SMD components on the left (solder) side; for board thickness 1.6 mm only

#### Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	1	1	Extractor handle, trapeziform type, PPE, grey, bottom
1a	-	1	Extractor handle, trapeziform type, PPE, grey, top
2	1	2	Identification plate, Al, 1.5 mm, anodised, cut edges plain
3	1	2	Pivot bush, Ms
4	1	1	Board support, die-cast zinc, bottom
4a	-	1	Board support, die-cast zinc, top
5	1	-	Board support, die-cast zinc
6	1	1	Front panel, U profile, for trapeziform extractor handle, front anodised, rear conductive
7	2	2	Alignment pin, pressed-in, stainless steel
8	2	2	Sleeve, PA, grey, up to 7 HP front panel width
8	4	4	Sleeve, PA, grey, from 8 HP front panel width
9	2	2	Collar screw, Pozidrive/slot, St, nickel-plated, M2.5 × 12.3, front panel width up to 7 HP
9	4	4	Collar screw, Pozidrive/slot, St, nickel-plated, M2.5 × 12.3, front panel width from 8 HP
11	1	2	Raised countersunk panhead screw, M2.5 × 8
12	1	1	EMC gasket (textile)
13	2	2	Washer, A2.7, DIN 125
14	2	2	Pozidrive flathead screw, St, nickel-plated, M2.5 × 10

04602058

6 U



04602059

#### Order Information

Width HP	3 U		6 U	
	Part no.	Part no.	Part no.	Part no.
4	20848-485	20848-492		
6	20848-487	20848-494		
8	20848-489	20848-496		
10	20848-490	20848-497		
12	20848-491	20848-498		

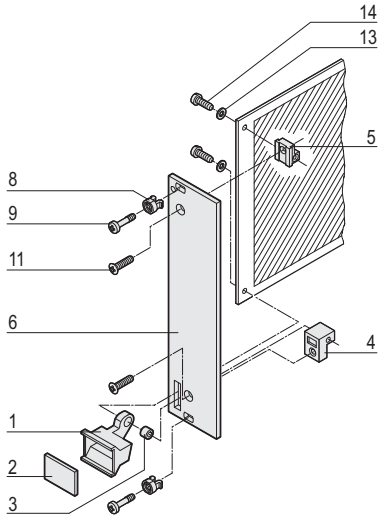
#### Note

- Dimension front panel see page 7.45

Plug-in units – for VME

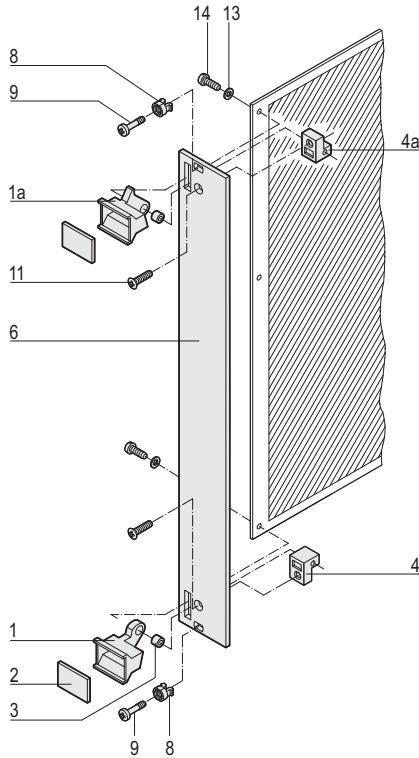
Kits Plug-in units with trapeziform extractor handle, type 1 – front panel unshielded

3 U



04602060

6 U



04602061

■ At 6 U the board position can be offset by 1 HP to the right by swapping the top and bottom board supports; thus space is created for SMD components on the left (solder) side; for board thickness 1.6 mm only

Delivery comprises (kit)

Item	Qty		Description
	3 U	6 U	
1	1	1	Extractor handle, trapezium shape, PPE, grey, bottom
1a	-	1	Extractor handle, trapezium shape, PPE, grey, top
2	1	2	Identification plate, Al, 1.5 mm, anodised, cut edges plain
3	1	2	Pivot bush, Ms
4	1	1	Board support, die-cast zinc, bottom
4a	-	1	Board support, die-cast zinc, top
5	1	-	Board support, die-cast zinc
6	1	1	Front panel for trapeziform extractor handle, front anodised, rear iridescent green chromated
8	2	2	Sleeve, PA, grey, up to 7 HP front panel width
8	4	4	Sleeve, PA, grey, from 8 HP front panel width
9	2	2	Collar screw, Pozidrive/slot, St, nickel-plated, M2.5 x 11 and 12.3, front panel width up to 7 HP
9	4	4	Collar screw, Pozidrive/slot, St, nickel-plated, M2.5 x 11 and 12.3, front panel width from 8 HP
11	1	2	Raised countersunk panhead screw, M2.5 x 8
13	2	2	Washer, A2.7, DIN 125
14	2	2	Pozidrive flathead screw, St, nickel-plated, M2.5 x 10

Order Information

Width HP	3 U		6 U	
	Part no.	Part no.	Part no.	Part no.
4	<b>20817-443</b>	<b>20817-448</b>		
5	<b>20817-444</b>	<b>20817-449</b>		
6	<b>20817-445</b>	<b>20817-450</b>		
7	<b>20817-446</b>	<b>20817-451</b>		
8	<b>20817-447</b>	<b>20817-452</b>		
10	<b>20817-456</b>	<b>20817-458</b>		
12	<b>20817-457</b>	<b>20817-459</b>		

Note

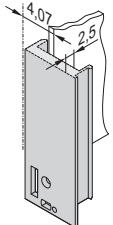
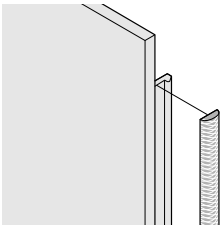
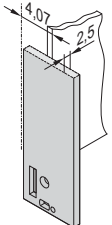
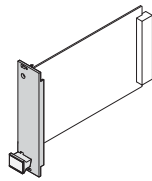
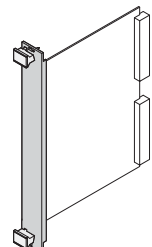
■ Dimension front panel see page 7.45

## Plug-in units – for VME

Individual components

Front panels and EMC gaskets, for trapezoidal extractor handle, type 1

### Order Information

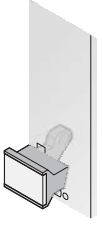

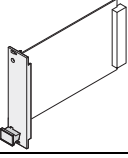
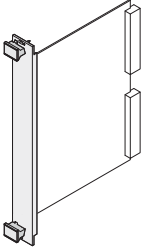
	<b>Front panel, U profile, shieldable</b>  <small>04608091</small> Al profile, front anodised, rear conductive, alignment pin pressed-in, stainless steel	<b>Textile EMC gasket</b>  <small>B0A45760</small> always fixed laterally on the front panel, in the groove of the profile, textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C	<b>Front panel, unshielded</b>  <small>04608092</small> front panel, Al, 2.5 mm, front anodised, rear iridescent green chromated		
<b>Width HP</b>	1 piece (SPQ 5) <sup>1)</sup>	PU 10 pieces   PU 100 pieces	1 piece (SPQ 5) <sup>1)</sup>		
<b>3 U Height</b>					
 <small>04608117</small>	4	30848-461		30847-659	
	5	-		30847-660	
	6	30848-463		30847-661	
	7	-	21101-853	21101-854	30847-662
	8	30848-465			30847-663
	10	30848-466			30847-664
	12	30848-467			30847-665
<b>6 U Height</b>					
 <small>04608116</small>	4	30848-468		30847-666	
	5	-		30847-667	
	6	30848-470		30847-668	
	7	-	21101-855	21101-856	30847-669
	8	30848-472			30847-670
	10	30848-473			30847-671
	12	30848-474			30847-672
Dimensions see page	7.45			7.45	

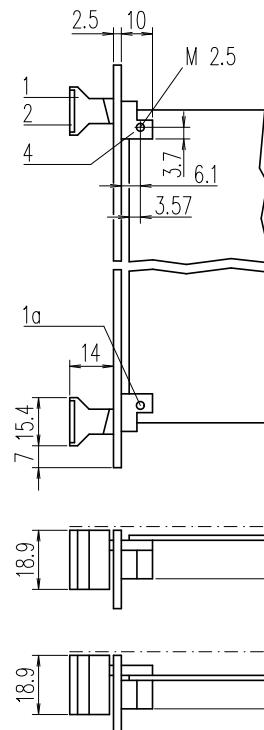
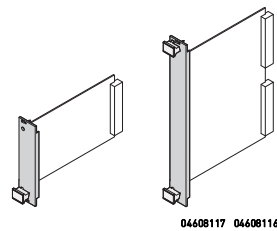
<sup>1)</sup> SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
 Part no. includes one packing unit (PU); delivery is exclusively made in PU

Plug-in units – for VME

Individual components Trapeziform extractor handles, type 1

Order Information

		Trapeziform extractor handle	
		black	grey
			
		04608093	04608094
		handle closed laterally, PPE, UL 94 V-1, black; pivot bush; identification plate, Al, 1.5 mm, anodised, cut edges plain; board support die-cast zinc; in the 6 U version, space can be created for SMD components on the left side by swapping the top and bottom handles and thus moving the PCB position 1 HP to the right	
Width HP		1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
	<b>3 U Height top</b>		
		<b>20817-329</b>	<b>20817-327</b>
	<b>6 U Height top</b>		
		<b>20817-330</b>	<b>20817-328</b>
	<b>bottom</b>		
	<b>20817-329</b>	<b>20817-327</b>	



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

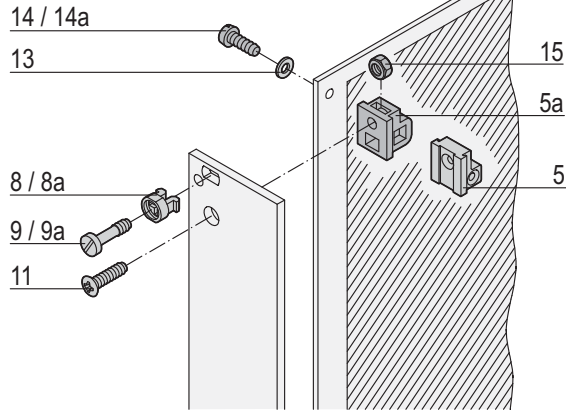
bga42556

## Plug-in units – for VME












**Individual components**

**Fixing material for trapeziform extractor handle, type 1**

**Order Information**



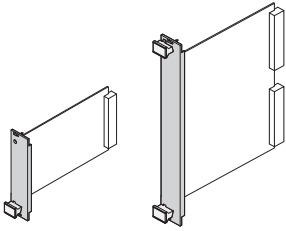
bga42545

Fixing material	Item	Image	Required Qty				Qty/PU	Part no.
			3 U		6 U			
			< 8 HP	≥ 8 HP	< 8 HP	≥ 8 HP		
Board support, die-cast zinc, with thread M2.5, for front panel and PCB fixing	5	 <small>06707050</small>	1	2	2	4	1 piece [SPQ 10] <sup>1)</sup>	<b>60807-181</b>
Board support, plastic, PBT, UL 94 V-0, grey, with recess for hexagon nut M2.5, for fixing front panel	5a	 <small>AZA45177</small>	1	2	2	4	1 piece [SPQ 10] <sup>1)</sup>	<b>60807-183</b>
Plastic sleeve, for form hole 5.9 x 3.3 PA, UL 90 V-2, grey	8	 <small>aza45933</small>	2	4	2	4	100	<b>21100-464</b>
Metal sleeve, for form hole 5.9 x 3.3, press-in Stainless steel	8a	 <small>aza45934</small>	2	4	-	-	100	<b>21100-662</b>
Pozidrive/slotted collar screw M2.5 x 11, St, nickel-plated	9	 <small>AZA46586</small>	2	4	2	4	100	<b>21100-748</b>
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated	9a	 <small>AZA46586</small>	2	4	2	4	100	<b>21101-101</b>
Raised Pozidrive countersunk screw M2.5 x 8, St, nickel-plated	11	 <small>06702056</small>	2	2	2	2	100	<b>21100-429</b>
Washer 2.7 DIN 125, St, nickel-plated, 100 pieces	13	 <small>AZA46586</small>	2	2	2	2	100	<b>21100-721</b>
Pozidrive panhead screw M2.5 x 10, St, nickel-plated for item 5	14	 <small>AZA45177</small>	2	2	2	2	100	<b>21101-220</b>
Panhead screw, self-tapping 2.5 x 8, St, zinc-plated for item 5b	14a	 <small>06702057</small>	1	1	-	-	100	<b>21100-710</b>
Hexagon nut M2.5, nickel-plated steel for item 5b	15	 <small>aza43229</small>	1	1	-	-	100	<b>21100-144</b>

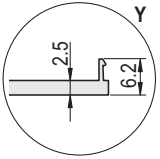
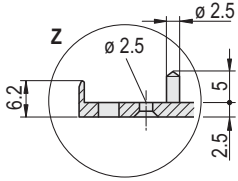
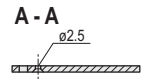
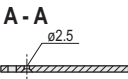
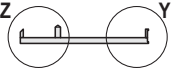
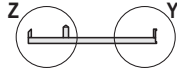
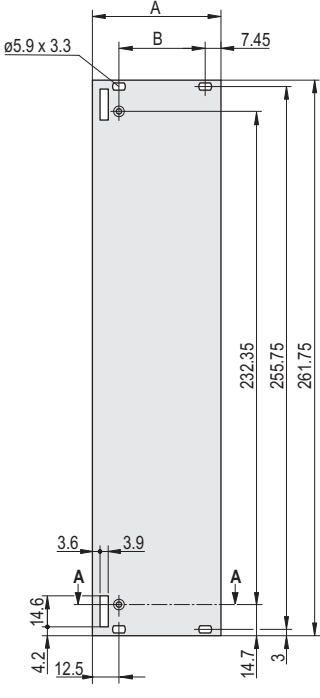
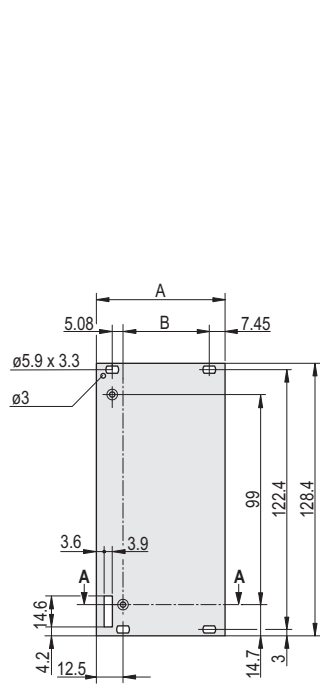
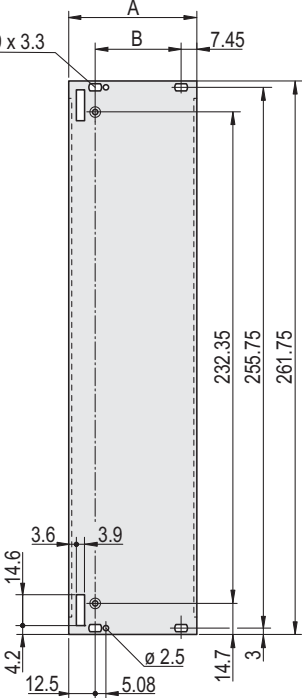
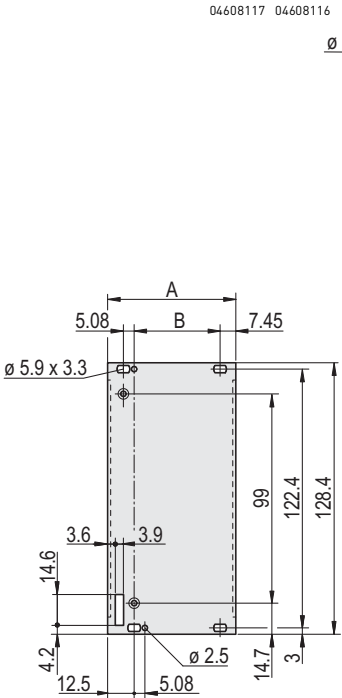
<sup>1)</sup> SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

Plug-in units – for VME

Dimensions Front panels for trapezoidal extractor handles, type 1, shielded/unshielded



04608117 04608116



3 U

6 U

04603054

3 U

6 U

04603063

Dimensions table

Width	A	B
HP	mm	mm
4	19.98	-
5	25.06	-
6	30.14	-
7	35.22	-
8	40.30	20.32
10	50.46	30.48
12	60.62	40.64

## Plug-in units – for Multibus II

**Individual components**

**Front panels/extractor handles for Multibus® II, symmetrical/SMDversion**

**Order Information**

		U front profile	Mounting block for D-Sub connector (50 pin)	Extractor handle for Multibus® II symmetrical handle grey, RAL 7032	SMD handle grey, RAL 7032
		 Al extrusion, 1 mm <small>04608095</small>	 <small>04608098</small> for fixing D-Sub connectors 50-pin, thread on front UNC4/40; required quantity: for 6 U 1x, for 9 U 2x	 <small>04608099</small> extractor handle for Multibus® II, PC, UL 94 V-0; bearing, Zn die-cast, nickel-plated; slotted cheesehead screw, M2.5 x 6, Pozidrive/slotted collar screw, M2.5 x 12.3, St, nickel-plated in the 6 U version, space can be created for SMD components on the left side by swapping the top and bottom handles and thus moving the PCB position 1 HP to the right	 <small>04608108</small>
	Width HP	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
 <small>04608120</small>		<b>6 U Height</b>		<b>6 U Height top</b>	
	4	30829-001	60829-008	20829-011	20829-004
				bottom	
				20829-011	20829-003
		<b>9 U Height</b>		<b>9 U Height top</b>	
	4	30829-007	60829-008	20829-011	20829-004
			bottom		
			20829-011	20829-003	
Dimensions see page		7.47	7.47	7.47	7.47

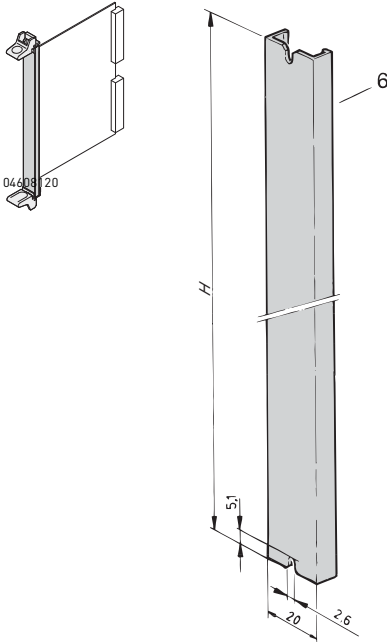
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
 Part no. includes one packing unit (PU); delivery is exclusively made in PU



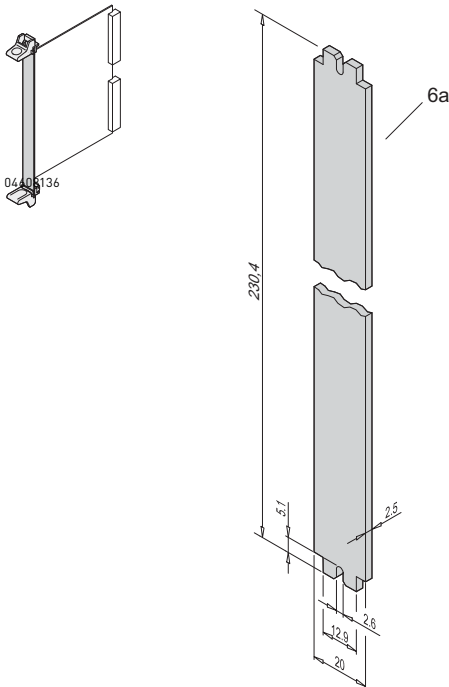
# Plug-in units – for Multibus II

## Dimension drawings Front panels, U profile / front panel for Multibus® II

6/9 U



6 U



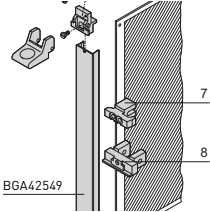
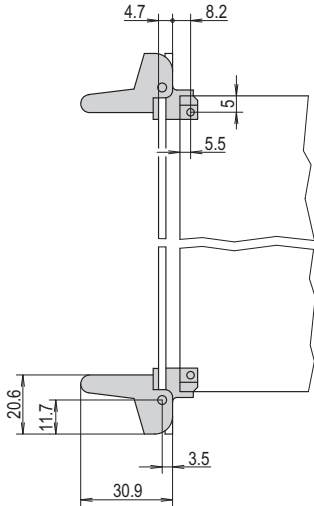
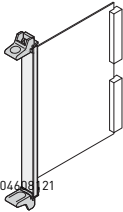
Dimensions table

Height U	Height mm
6	230.4
9	363.7

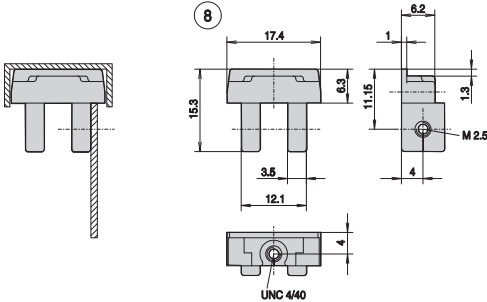
A4-2580

BGA46120

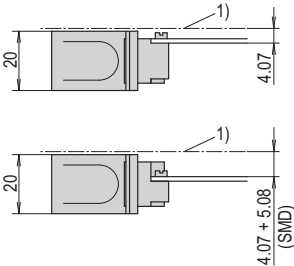
## Dimensions Extractor handles, mounting block for Multibus® II



for D-Sub connector (50 pin)



BGA42585



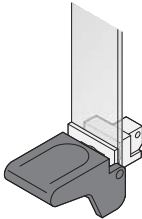
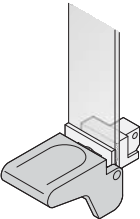

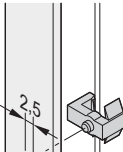
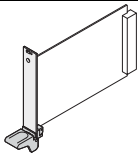
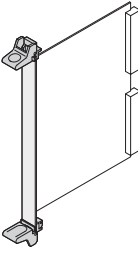
gba42579

## Plug-in units – for IEC 60297, key form 1

Individual components

Extractor handles in key form 1

### Order Information

	Extractor handle		Front panel	Fixing clip
	black	grey		
	 04608101	 04608102	 04608103	 bga42544
	<p>extractor handle in key form 1, PC, UL 94 V-0; bearing Zn die-cast, nickel-plated; slotted cheesehead screw, M2.5 x 6 (fitted); in the 6 U version, space can be created for SMD components on the left side by swapping the top and bottom handles and thus moving the PCB position 1 HP to the right</p>		<p>Al, 2.5 mm; available on request</p>	<p>for fixing PCB to the front panel (blind hole X2.6, depth 1.3 mm); also for SMD applications; clip, PPE, UL 94 V-0, red</p>
<b>Width HP</b>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>		PU 100 pieces
 04608123	<b>3 U Height bottom</b>			
	20817-345	20817-325	-	-
 04608122	<b>6 U Height top</b>			
	20817-346	20817-326	-	21100-719
	<b>bottom</b>			
20817-345	20817-325	-		
Dimensions see page	7.50	7.50	7.50	

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

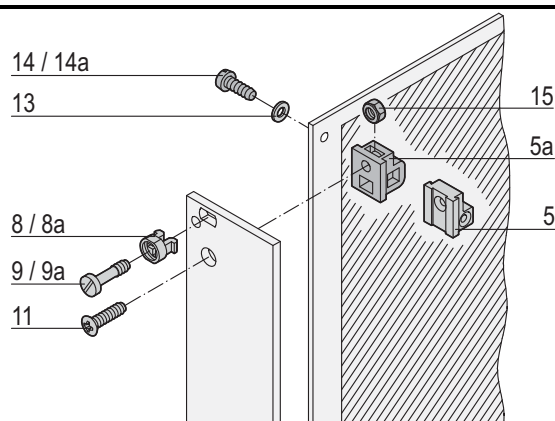
Part no. includes one packing unit (PU); delivery is exclusively made in PU

## Plug-in units – for IEC 60297, key form 1






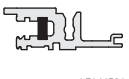





Individual  
components

Fixing material for extractor handle in key form 1

### Order Information



bge42545

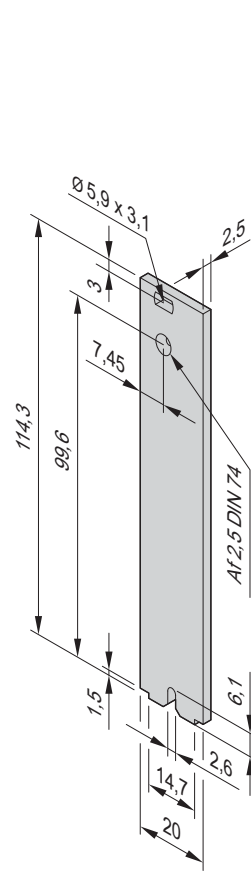
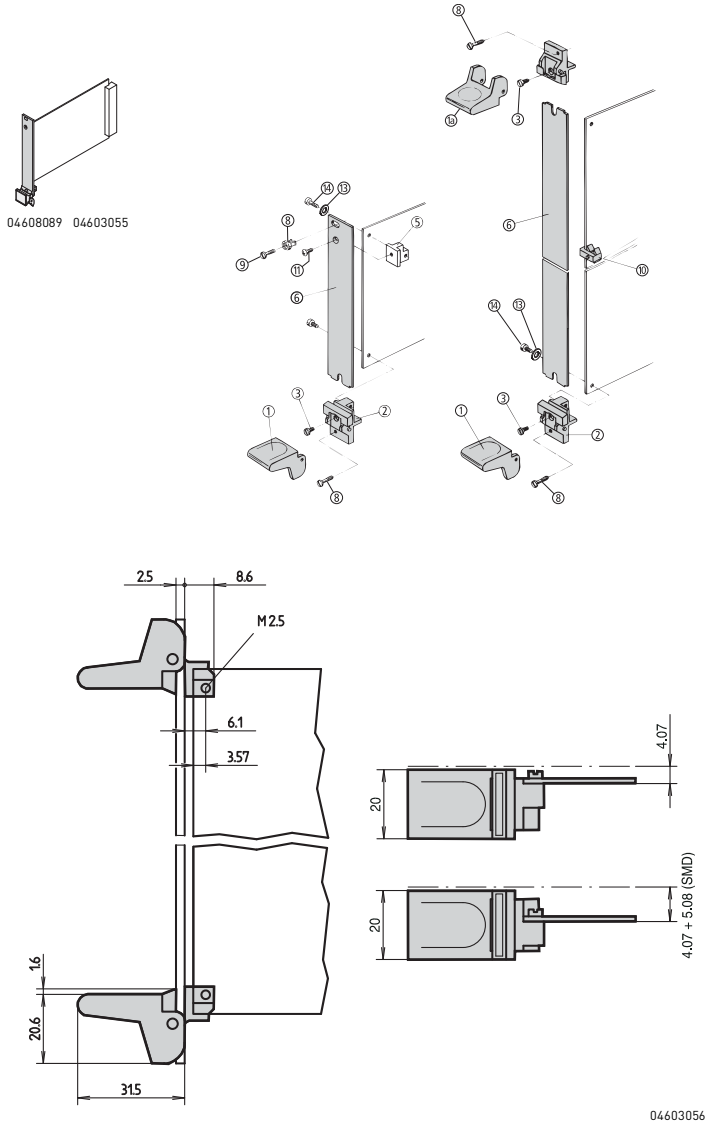
Fixing material	Item	Image	Required Qty		Qty/PU	Part no.
			3 U	6 U		
Board support, die-cast zinc, with thread M2.5, for front panel and PCB fixing	5	 06707050	1	-	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-181</b>
Board support, plastic, PBT, UL 94 V-0, grey, with recess for hexagon nut M2.5, for fixing front panel	5a	 AZA45177	1	-	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-183</b>
Plastic sleeve, for form hole 5.9 x 3.3 PA, UL 90 V-2, grey	8	 aza45933	1	-	100	<b>21100-464</b>
Metal sleeve, for form hole 5.9 x 3.3, press-in Stainless steel	8a	 aza45934	1	-	100	<b>21100-662</b>
Pozidrive/slotted collar screw M2.5 x 11, St, nickel-plated	9	 AZA46586	2	2	100	<b>21100-748</b>
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated	9a	 AZA46586	2	2	100	<b>21101-101</b>
Raised Pozidrive countersunk screw M2.5 x 8, St, nickel-plated	11	 06702056	1	-	100	<b>21100-429</b>
Washer 2.7 DIN 125, St, nickel-plated, 100 pieces	13	 AZA46586	2	2	100	<b>21100-721</b>
Pozidrive panhead screw M2.5 x 10, St, nickel-plated for item 5	14	 AZA45177	2	2	100	<b>21101-220</b>
Pan head screw, self-tapping 2.5 x 8, St, zinc-plated for item 5b	14a	 06702057	1	-	100	<b>21100-710</b>
Hexagon nut M2.5, nickel-plated steel for item 5b	15	 aza43239	3	6	100	<b>21100-144</b>

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

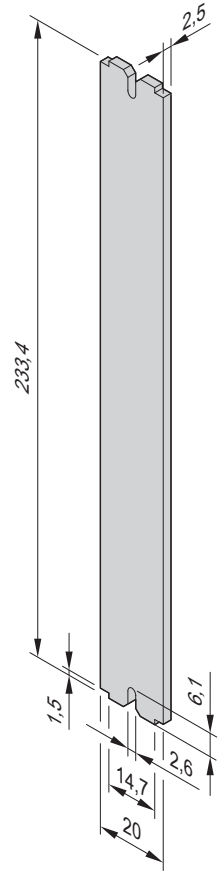
# Plug-in units – for IEC 60297, key form 1

Dimensions

Extractor handles/front panels key form 1



3 U



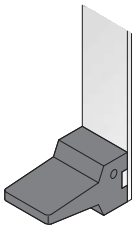

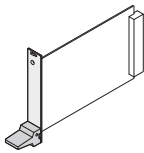
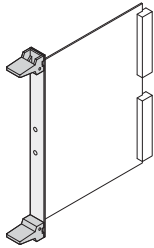
6 U

04603057

**Plug-in units – for IEC 60297, key form 2**

**Individual components    Extractor handles in key form 2**

**Order Information**

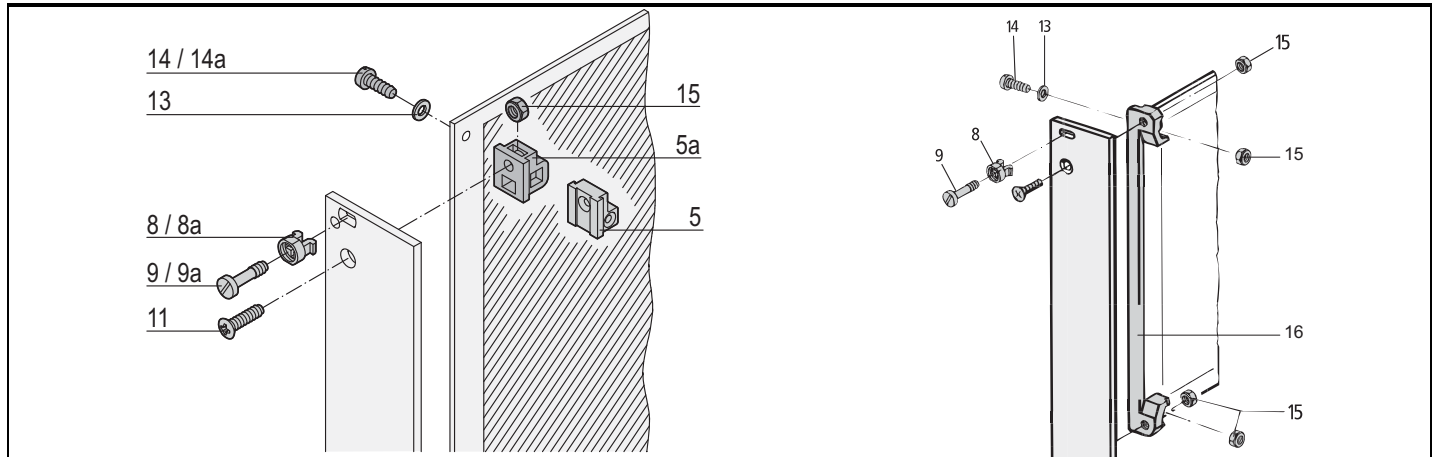
	<p><b>Extractor handle black</b></p>  <p>04608104</p> <p>extractor handle, PBT, UL 90 V-0; bearing Zn die-cast, nickel-plated; incl. assembly kit for handle mounting</p> <p><b>1 piece (SPQ 10)<sup>1)</sup></b></p>	<p><b>Front panel</b></p>  <p>04608106</p> <p>Al, 2.5 mm; available on request</p>
 <p>04608124</p>	<p><b>3 U Height top</b></p>	
 <p>04608125</p>	<p><b>6 U Height top</b></p>	
	<p><b>20808-137</b>      -</p>	
	<p><b>bottom</b></p>	
	<p><b>20808-137</b>      -</p>	
<p>Dimensions see page</p>	<p>7.53</p>	<p>7.53</p>

1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
Part no. includes one packing unit (PU); delivery is exclusively made in PU













## Plug-in units – for IEC 60297, key form 2

### Individual components Fixing material for extractor handles, key form 2

#### Fixing material for extractor handles, key form 2



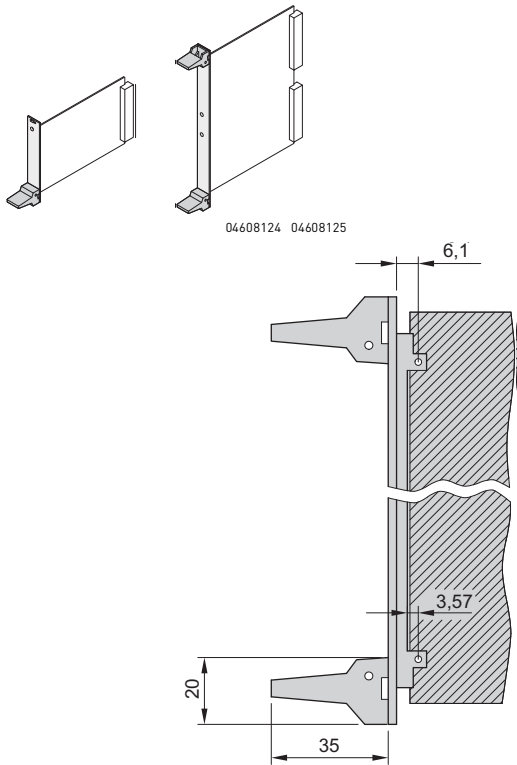
bgm2545 04608137

Fixing material	Item	Image	Required Qty		Qty/PU	Part no.
			3 U	6 U		
Board support, die-cast zinc, with thread M2.5, for front panel and PCB fixing	5		1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-181</b>
Board support, plastic, PBT, UL 94 V-0, grey, with recess for hexagon nut M2.5, for fixing front panel	5a		1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-183</b>
Plastic sleeve, for form hole 5.9 x 3.3 PA, UL 90 V-2, grey	8		1	-	100	<b>21100-464</b>
Metal sleeve, for form hole 5.9 x 3.3, press-in Stainless steel	8a		1	-	100	<b>21100-662</b>
Pozidrive/slotted collar screw M2.5 x 11, St, nickel-plated	9		2	2	100	<b>21100-748</b>
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated	9a		2	2	100	<b>21101-101</b>
Raised Pozidrive countersunk screw M2.5 x 8, St, nickel-plated	11		1	-	100	<b>21100-429</b>
Washer 2.7 DIN 125, St, nickel-plated, 100 pieces	13		2	2	100	<b>21100-721</b>
Pozidrive panhead screw M2.5 x 10, St, nickel-plated for item 5	14		2	2	100	<b>21101-220</b>
Panhead screw, self-tapping 2.5 x 8, St, zinc-plated for item 5b	14a		1	-	100	<b>21100-710</b>
Hexagon nut M2.5, nickel-plated steel for item 5b	15		3	-	100	<b>21100-144</b>
PCB bracket 4 clearance holes for front panel/PCB fixing, 4 recesses for hexagon nuts; PBT, UL 94 V?0, red	16		1	2	1 piece (SPQ 10)	<b>60807-011</b>

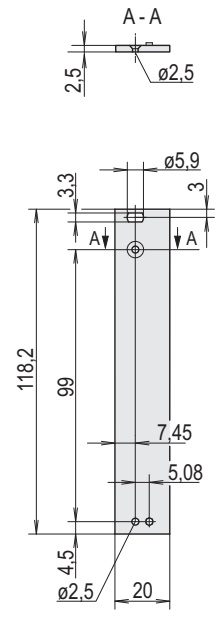
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

Plug-in units – for IEC 60297, key form 2

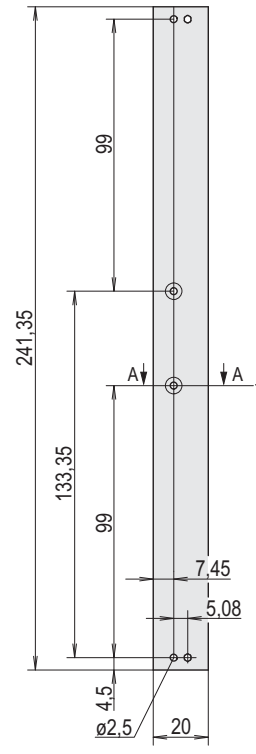
Dimensions Handles/front panels key form 2



BGA42573



3 U

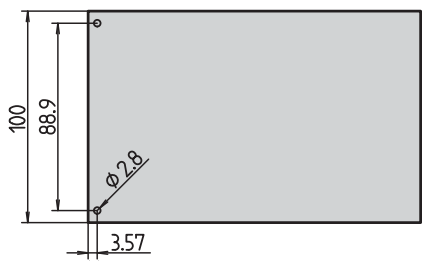


6 U

BGA42578

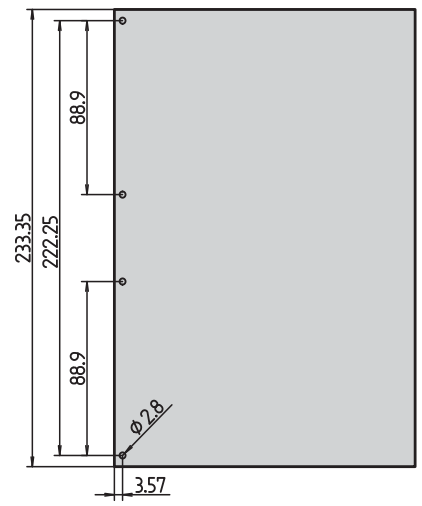
Dimensions Drill hole dimensions on the PCB key form 2

3 U



BGA43076

6 U



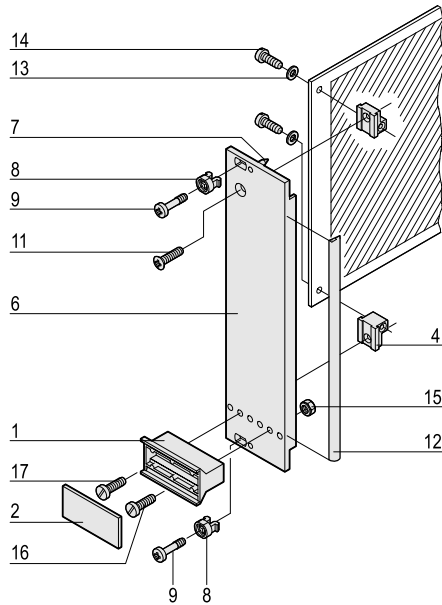
BGA43077

## Plug-in units – for IEC 60297, trapeziform

### Kits

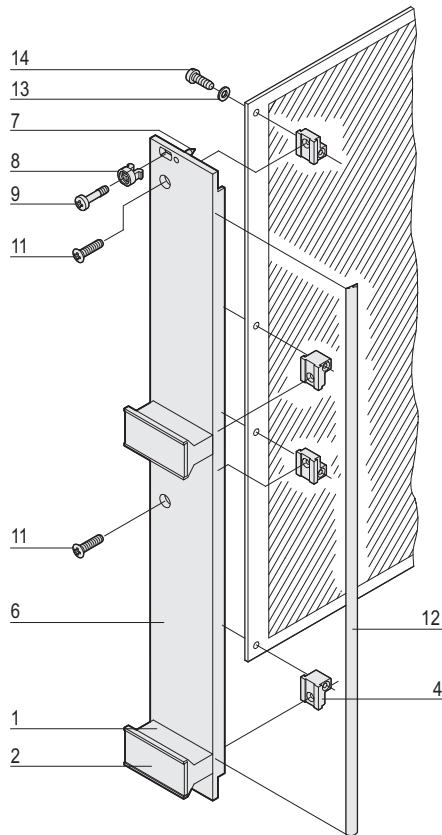
### Plug-in unit with static trapeziform handle

3 U



04602062

6 U



04602063

- Front panel, U-profile, shielded
- Handle without extraction function

#### Delivery comprises

Item	Qty		Description
	3 U	6 U	
1	1	2	Plastic handle, trapeziform, PPE, grey
2	1	2	Identification plate, Al, 1.5 mm, anodised, cut edges plain
4	2	4	Board support, die-cast zinc
6	1	1	Front panel, U profile, for trapeziform handle, front anodised, rear conductive
7	2	2	Alignment pin, pressed-in, stainless steel
8	2	2	Sleeve, PA, grey, up to 7 HP front panel width
8	4	4	Sleeve, PA, grey, from 8 HP front panel width
9	2	2	Pozidrive/slotted collar screw, St, nickel-plated, M2.5 × 11 and 12.3, front panel width up to 7 HP
9	4	4	Pozidrive/slotted collar screw, St, nickel-plated, M2.5 × 11 and 12.3, front panel width from 8 HP
11	1	2	Raised countersunk screw, St, nickel-plated, M2.5 × 8
12	1	1	EMC sealing (textile)
13	2	4	Washer, A2.7, DIN 125
14	2	4	Pozidrive flathead screw, St, nickel-plated, M2.5 × 10
15	1	2	Hexagon nut, St, nickel-plated, M2.5
16	1	2	Pozidrive flathead screw, St, nickel-plated, M2.5 × 12
17	1	2	Pozidrive flathead screw, St, nickel-plated, M2.5 × 16

#### Order Information

Width HP	3 U		6 U	
	Part no.	Part no.	Part no.	Part no.
3	20848-663	20848-671		
4	20848-664	20848-672		
5	20848-665	20848-673		
6	20848-666	20848-674		
7	20848-667	20848-675		
8	20848-668	20848-676		
10	20848-669	20848-677		
12	20848-670	20848-678		

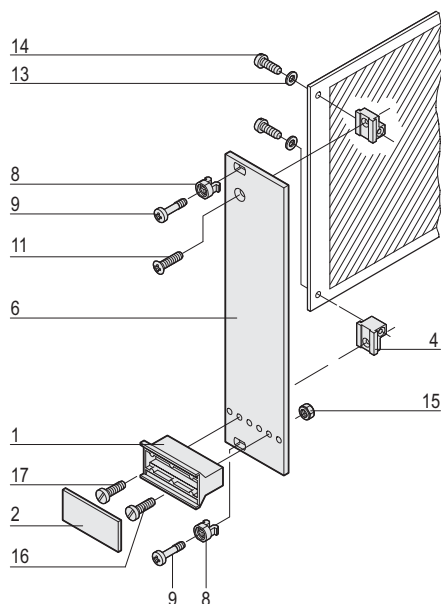


## Plug-in units – for IEC 60297, trapeziform

### Kits

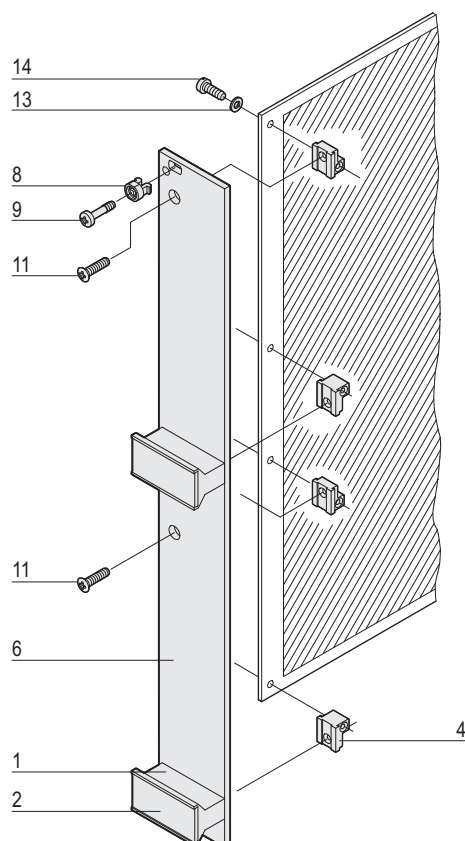
### Plug-in unit with static trapeziform handle

3 U



04602064

6 U



04602065

- Front panel unshielded
- Handle without extraction function

### Delivery comprises

Item	Qty	3 U	6 U	Description
1	1	2		Plastic handle, trapeziform, PPE, grey
2	1	2		Identification plate, Al, 1.5 mm, anodised, cut edges untreated
4	2	4		Board support, die-cast zinc
6	1	1		Front panel for trapeziform handle, front anodised, rear iridescent green chromated
8	2	2		Sleeve, PA, grey, up to 7 HP front panel width
8	4	4		Sleeve, PA, grey, from 8 HP front panel width
9	2	2		Pozidrive/slotted collar screw, St, nickel-plated, M2.5 × 11 and 12.3, front panel width up to 7 HP
9	4	4		Pozidrive/slotted collar screw, St, nickel-plated, M2.5 × 11 and 12.3, front panel width from 8 HP
11	1	2		Raised countersunk screw, St, nickel-plated, M2.5 × 8
13	2	4		Washer, A2.7
14	2	4		Pozidrive flathead screw, St, nickel-plated, M2.5 × 8
15	1	2		Hexagon nut, St, nickel-plated, M2.5
16	1	2		Pozidrive flathead screw, St, nickel-plated, M2.5 × 12
17	1	2		Pozidrive flathead screw, St, nickel-plated, M2.5 × 16

### Order Information

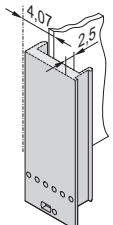
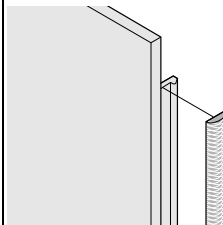
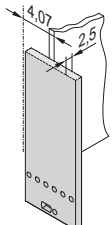
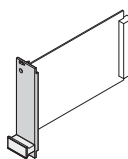
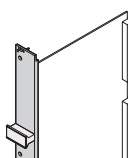
Width HP	3 U		6 U	
	Part no.	Part no.	Part no.	Part no.
3	<b>20818-017</b>		20809-507	
4	<b>20818-018</b>		<b>20818-025</b>	
5	<b>20818-019</b>		<b>20818-026</b>	
6	<b>20818-020</b>		<b>20818-027</b>	
7	<b>20818-021</b>		<b>20818-162</b>	
8	<b>20818-022</b>		<b>20818-028</b>	
10	<b>20818-023</b>		<b>20818-029</b>	
12	<b>20818-024</b>		<b>20818-120</b>	

## Plug-in units – for IEC 60297, trapeziform

Individual components

Front panels for static cantilever handles

### Order Information

	Front panel, U-profile, shieldable		Front panel unshielded		
	Front panel, U-profile	Textile EMC gasket			
	 <p>04608130</p> <p>Al extrusion, front anodised, rear conductive, alignment pin pressed-in, stainless steel</p>	 <p>bge45740</p> <p>always fixed laterally on the front panel, in the groove of the profile, textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C</p>		 <p>04608131</p> <p>front panel, Al 2.5 mm; front anodised; rear iridescent green chromated</p>	
	Width HP	1 piece (SPQ 5) <sup>1)</sup>	PU 10 pieces	PU 100 pieces	1 piece (SPQ 5) <sup>1)</sup>
	<b>3 U Height</b>				
 <p>04608126</p>	3	30849-086	21101-853	21101-854	30847-602
	4	30849-087			30847-603
	5	30849-088			30847-604
	6	30849-089			30847-605
	7	30849-090			30847-606
	8	30849-091			30847-607
	10	30849-092			30847-608
	12	30849-093			30847-609
	<b>6 U Height</b>				
 <p>04608127</p>	3	30849-097	21101-855	21101-856	30847-625
	4	30849-098			30847-626
	5	30849-099			30847-627
	6	30849-100			30847-628
	7	30849-101			-
	8	30849-102			30847-630
	10	30849-103			30847-631
	12	30849-104			-
Dimensions see page	7.60			7.60	

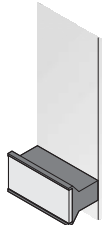
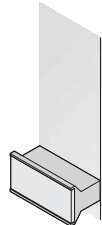
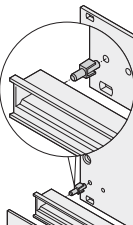
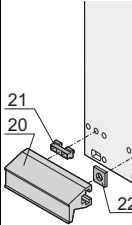
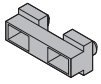

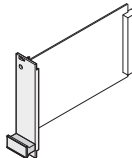
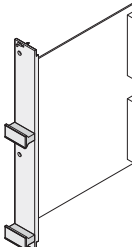
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
 Part no. includes one packing unit (PU); delivery is exclusively made in PU

## Plug-in units – for IEC 60297, trapeziform

Individual  
components

Static trapeziform handle

### Order Information

	Plastic handle in trapeziform			Al profile handle		
	Trapeziform handle black	Trapeziform handle grey	Fixing clip	Handle	Fixing part for Al profile handle	Square nut
	 04608132	 04608133	 04808064	 04608134	 04608135	 04707050
	handle: PPE, UL 94 V-1; identification plate: Al, 1.5 mm, anodized, cut edges plain; please order clip separately; 3, 4 HP each have 2 alignment pins, 5 ... 42 TE have no alignment pins; required qty: 1 handle for 3 HE 2 handles for 6 HE			clip, PPE, UL 94 V-0, black	Al extrusion, anodised; fixing part, POM, black; square nut, St, nickel-plated; at length of 1000 mm only Al extrusion	fixing part, POM, black DIN 562, M2.5, St, nickel-plated
Width HP	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>	PU 100 pieces	1 piece (SPQ 10) <sup>1)</sup>	PU 100 pieces	PU 100 pieces
	<b>3 / 6 U Height</b>					
	3	<b>20809-396</b>	<b>20809-294</b>	-	<b>20809-281</b>	
	4	<b>20809-397</b>	<b>20809-295</b>	-	<b>20809-282</b>	
	5	<b>20808-080</b>	<b>20808-003</b>	<b>21101-239</b>	<b>20809-283</b>	
	6	<b>20808-081</b>	<b>20808-060</b>	<b>21101-239</b>	<b>20809-284</b>	
	7	<b>20808-082</b>	<b>20808-061</b>	<b>21101-239</b>	<b>20809-285</b>	
	8	<b>20808-083</b>	<b>20808-062</b>	<b>21101-239</b>	<b>20809-286</b>	
	9	<b>20808-084</b>	<b>20808-063</b>	<b>21101-239</b>	<b>20809-287</b>	
	10	<b>20808-085</b>	<b>20808-004</b>	<b>21101-239</b>	<b>20809-288</b>	-
	12	<b>20808-086</b>	<b>20808-064</b>	<b>21101-239</b>	<b>20809-289</b>	
	14	<b>20808-087</b>	<b>20808-065</b>	<b>21101-239</b>	<b>20809-290</b>	
	21	<b>20808-088</b>	<b>20808-066</b>	<b>21101-239</b>	<b>20809-291</b>	
	28	<b>20808-089</b>	<b>20808-067</b>	<b>21101-239</b>	<b>20809-292</b>	
	40	<b>20808-090</b>	<b>20808-009</b>	<b>21101-239</b>	-	
	42	<b>20808-091</b>	<b>20808-068</b>	<b>21101-239</b>	<b>20809-293</b>	
	61	<b>20808-092</b>	<b>20808-012</b>	-	-	
 04608128 04608129	1000 mm	-	-	-	<b>30809-428</b>	<b>21100-476</b> <b>21100-359</b>
Fixing material see page	7.59 Item 15, 16, 17					
Dimensions see page	7.59	7.59		7.59	7.59	7.59

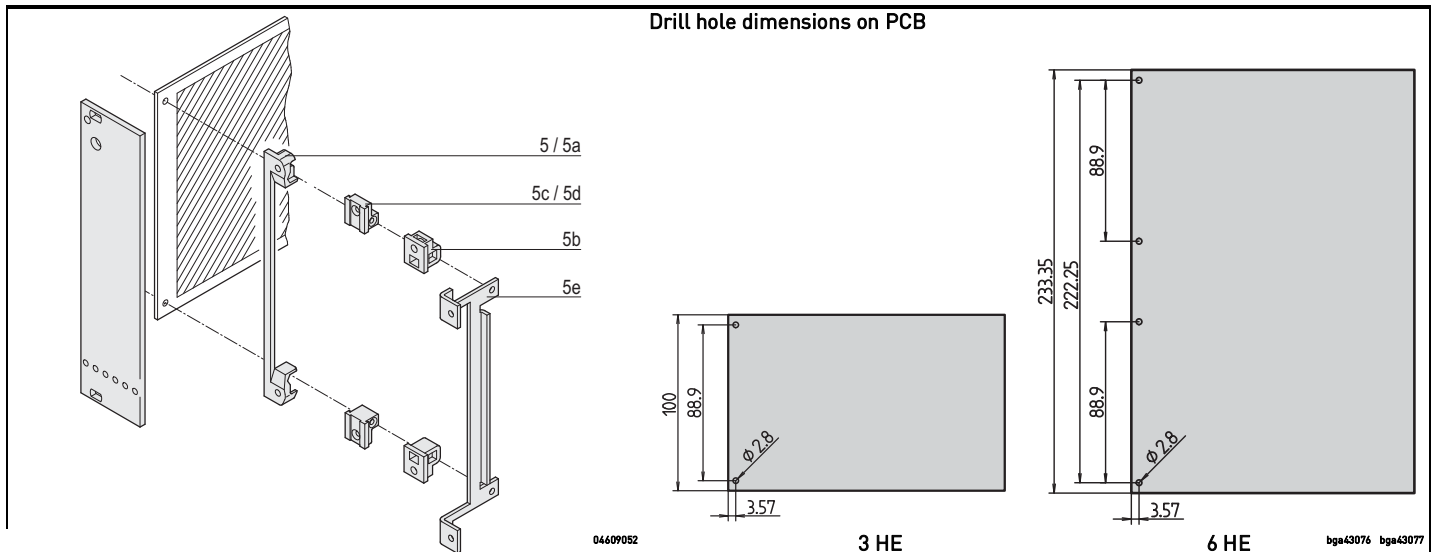
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

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

## Plug-in units – for IEC 60297, trapeziform

Individual components

PCB bracket for static trapeziform handle



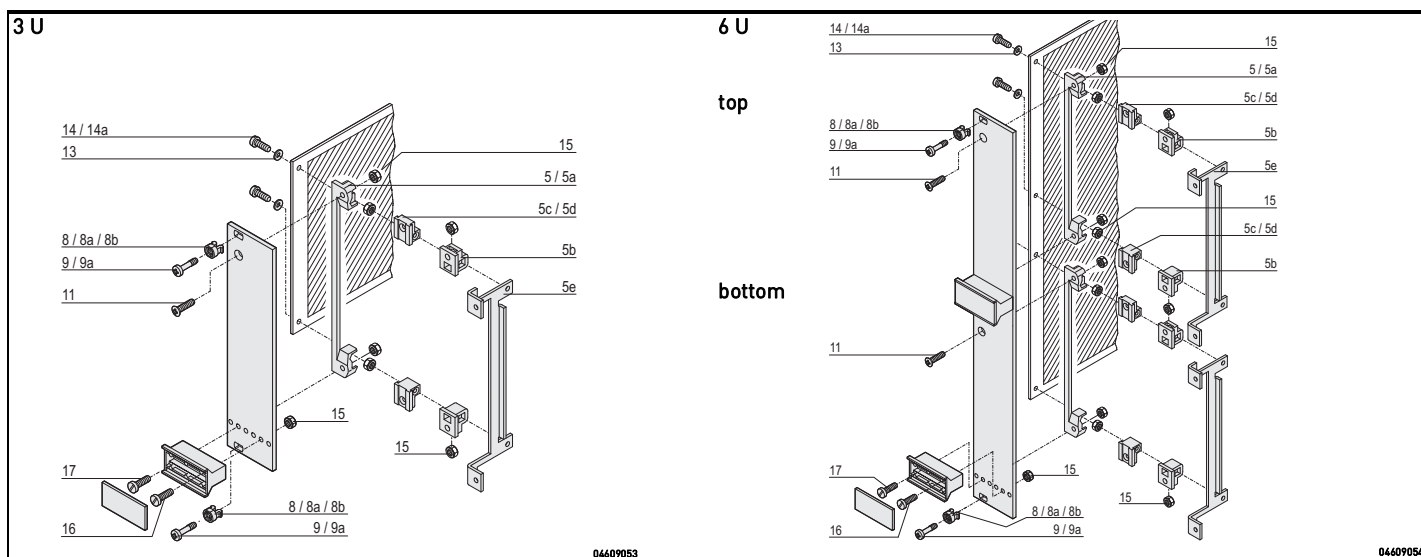
	Item	Required Qty	3 HE		6 HE		Part no.
			3 U	6 U	Qty/PU		
<b>PCB bracket</b> 4 clearance holes for front panel/PCB fixing, 4 recesses for hexagon nuts; PBT, UL 94 V-0, red	5		1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-011</b>	
<b>PCB bracket</b> 4 threads M2.5 for front panel/PCB fixing, PBT, UL 94 V-0, grey, 1 piece	5a	 AZA45177	1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-211</b>	
<b>PCB bracket</b> Clearance hole for front panel fixing, with recess for hexagon nut, drill hole for self-tapping screw for PCB fixing, PBT, UL 94 V-0, grey, 1 piece	5b	 AZA45177	2	4	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-183</b>	
<b>PCB bracket</b> 2 threads M2.5 for front panel/PCB fixing, die-cast zinc, 1 piece	5c	 06707050	2	4	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-181</b>	
<b>PCB bracket</b> Thread M2.5 for front panel fixing, clearance hole for PCB fixing, die-cast zinc, 1 piece	5d	 06707050	2	4	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-203</b>	
<b>PCB bracket</b> 4 M2.5 threads for fixing front panel/PCB for recessed PCB mounting (20 mm), mounting depth 192.24 mm, St, zinc-plated; not for europacPRO, multipacPRO, ratiopacPRO, propacPRO or compacPRO, 1 piece	5e	 AZA46586	1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>30808-871</b>	

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

## Plug-in units – for IEC 60297, trapeziform




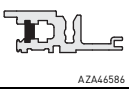
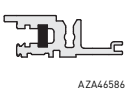







Individual components

Fixing material for static trapeziform handle



04609053

04609054

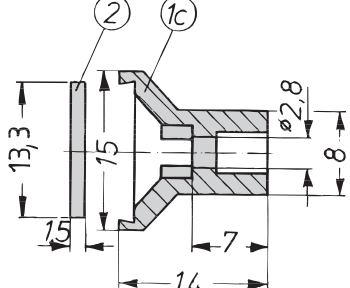
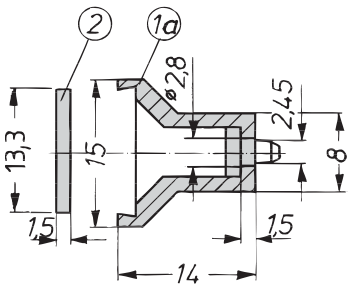
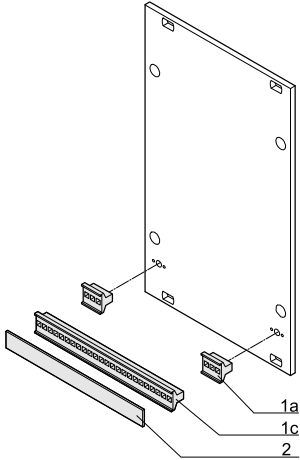
	Item	Image	Required Qty				Qty/PU	Part no.
			3 U < 8 HP ≥ 8 HP		6 U < 8 HP ≥ 8 HP			
Plastic sleeve, for form hole 5.9 x 3.3 PA, UL 90 V-2, grey	8		2	4	2	4	100	<b>21100-464</b>
Metal sleeve, for form hole 5.9 x 3.3, press-in Stainless steel	8		2	4	2	4	100	<b>21100-662</b>
Metal sleeve, for form hole 5.9 x 3.3, to press-in Nickel-plated brass	8a		2	4	2	4	100	<b>21100-660</b>
Pozidrive/slotted collar screw M2.5 x 11, St, nickel-plated not for europacPRO and cases	9		2	4	2	4	100	<b>21100-748</b>
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated	9a		2	4	2	4	100	<b>21101-101</b>
Raised Pozidrive countersunk screw M2.5 x 8, St, nickel-plated	11		1	1	2	2	100	<b>21100-429</b>
Washer 2.7 DIN 125, St, nickel-plated, 100 pieces	13		2	2	4	4	100	<b>21100-721</b>
Pozidrive panhead screw M2.5 x 8, nickel-plated steel if using item 13	14		2	2	4	4	100	<b>21101-069</b>
Panhead screw, self-tapping 2.5 x 8, St, zinc-plated for items 5 and 5b	14a		1	1	-	-	100	<b>21100-710</b>
Hexagon nut M2.5, nickel-plated steel for items 5 and 5b	5 5b		4 2	4 2	8 4	8 4	100	<b>21100-144</b>
Pozidrive panhead screw M2.5 x 12, nickel-plated steel	16		1	1	2	2	100	<b>21101-221</b>
Pozidrive panhead screw M2.5 x 16, nickel-plated steel	17		1	1	2	2	100	<b>21101-222</b>

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



Plug-in units – for IEC 60297, trapeziform

Dimensions Static plastic handles, trapeziform



Dimensions table

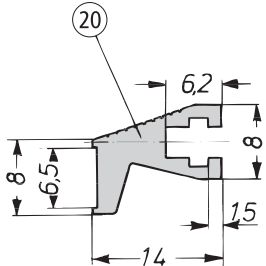
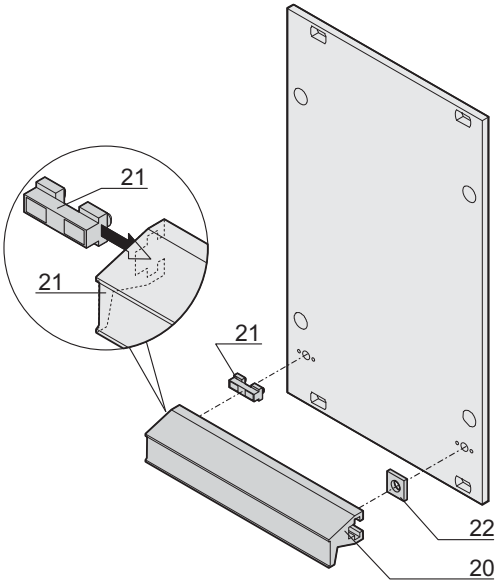
Item	Width HP	Width mm
1a	3	13.8
1a	4	18.9
1c	5	24.0
1c	6	29.0
1c	7	34.1
1c	8	39.2
1c	9	44.3
1c	10	49.4
1c	12	59.6
1c	14	69.7
1c	21	105.2
1c	28	140.8
1c	40	201.8
1c	42	212.0
1c	61	308.5

BGA46447

A4--328a

A4--328c

Dimensions Aluminium extrusion handles



Dimensions table

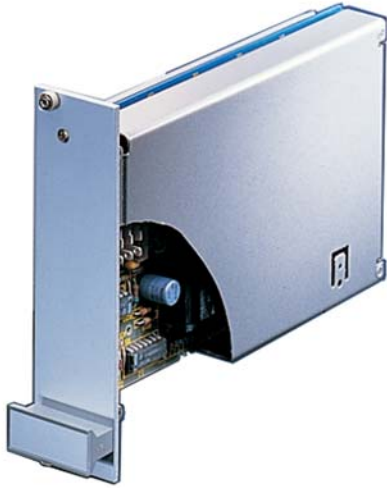
Item	Width HP	Width mm
20	3	13.8
20	4	18.9
20	5	24.0
20	6	29.0
20	7	34.1
20	8	39.2
20	9	44.3
20	10	49.4
20	12	59.6
20	14	69.7
20	21	105.2
20	28	140.8
20	40	201.8
20	42	212.0
20	-	1000

04602069

A4-328d

## Plug-in units – with mechanical shielding

### Plug-in unit with mechanical shielding, 3 U kits



04694001

- Mechanical protection of sub-assembly
- Earthing of shielding panels possible by Faston connectors 6.3 × 0.6 mm
- For euroboards 100 × 160 mm

Handles without extraction function



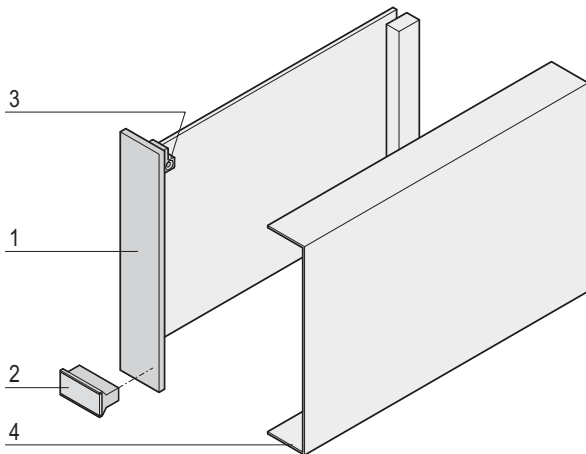
04692003

Handles with extraction function



04692005

### 3 U kit, shielding component side, handles with/without extraction function



04602077

- Usable connectors in accordance with EN 60603 (DIN 41612): Construction type B, C, D, F, H, R;

#### Delivery comprises (kit)

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, front: anodised, rear: iridescent green chromated
2	1	Trapeziform handle, PPE, UL 94 V-1, grey
3	1	Board support, PBT, UL 94 V-0, red
5	1	Assembly kit (also for shielding panels)

#### Order Information

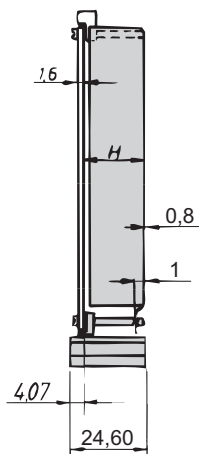
Width	H	Plug-in unit without extractionfunction	Plug-in unit with extractionfunction
HP	mm	Part no.	Part no.
6	24.60	<b>20809-502</b>	20809-516

**Item 4** Shielding panel component side for 7 HP front panel width, stainless steel, 0.8 mm, 1 piece

**20809-371**      **20809-371**

#### Note

- Keying/coding with separate keying/coding strip is not possible
- Please order shielding plates separately

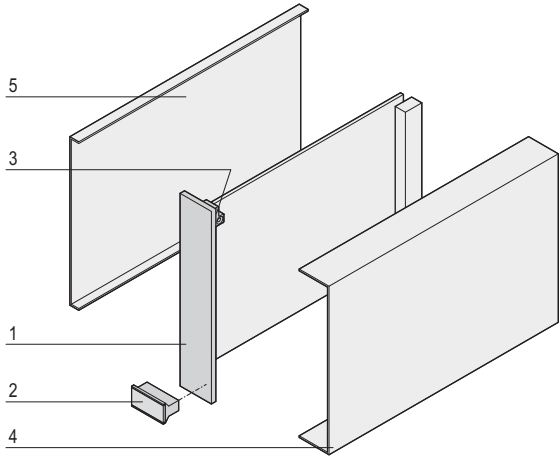


a4-237



**Plug-in units – with mechanical shielding**

**3 U kits, both sides shielded (solder/component side), handles with/without extraction function**



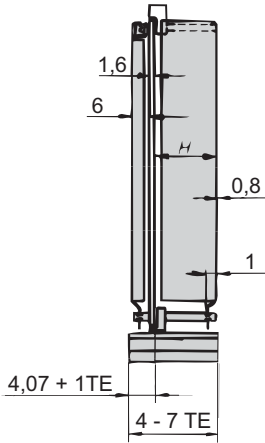
- Usable connectors in accordance with EN 60603 [DIN 41612]: Construction type B, C, D, F, H, R;

**Delivery comprises**

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, front: anodised, rear: iridescent green chromated
2	1	Trapeziform handle, without extraction function, PPE, UL 94 V-1, grey
3	2	Board support, PBT, UL 94 V-0, red
6	1	Assembly kit (also for shielding panels)

**Order Information**

Width	H	Plug-in unit without extraction function	Plug-in unit with extraction function
HP	mm	Part no.	Part no.
4	9.60	<b>20809-495</b>	–
5	14.70	20809-496	20809-511
6	19.80	20809-497	20809-512
7	24.90	<b>20809-498</b>	20809-513
<b>Item 4</b> Shielding panel component side for 4 HP front panel width, stainless steel, 0.8 mm, 1 piece		<b>20809-329</b>	<b>20809-329</b>
<b>Item 4</b> Shielding panel component side or 5 HP front panel width, stainless steel, 0.8 mm, 1 piece		<b>20809-357</b>	<b>20809-357</b>
<b>Item 4</b> Shielding panel component side for 6 HP front panel width, stainless steel, 0.8 mm, 1 piece		<b>20809-359</b>	<b>20809-359</b>
<b>Item 4</b> Shielding panel component side for 7 HP front panel width, stainless steel, 0.8 mm, 1 piece		<b>20809-371</b>	<b>20809-371</b>
<b>Item 5</b> Shielding panel on solder side, stainless steel, 0.8 mm, 1 piece		<b>30809-571</b>	<b>30809-571</b>

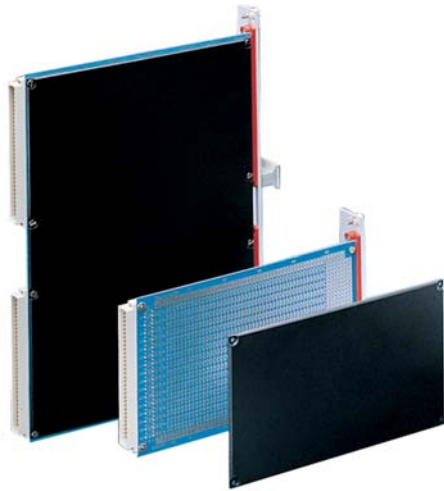


**Note**

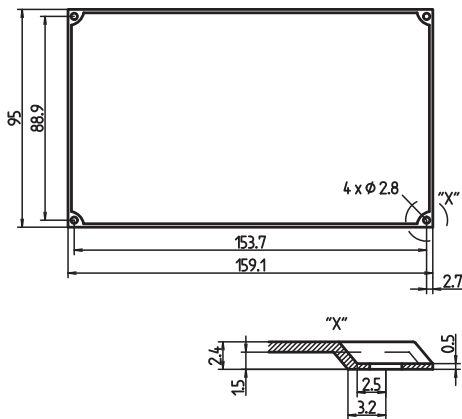
- Keying/coding with separate keying/coding strip is not possible
- Where the shielding plate is used for the solder side, the PCB is offset to the right by 1 HP

## Plug-in units – with mechanical shielding

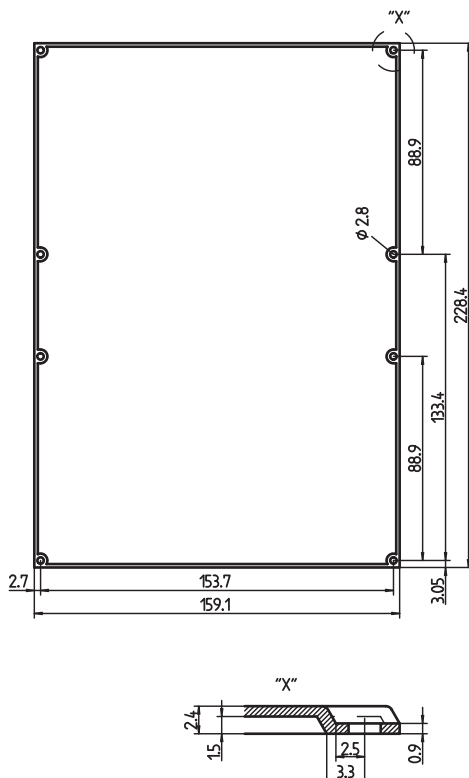
### PCB cover for euroboards



For PCBs 100 × 160 mm



For PCBs 233.35 × 160 mm



- Mechanical protection of the solder side

### Order Information

Description	Qty	Part no.
PCB cover (thickness 0.9 mm) for euroboards (100 x 160 mm), PBT, black, max. operating temperature without permanent deformation 55 °C	1 piece (SPQ 10)	<b>61000-007</b>
PCB cover (thickness 0.9 mm) with similar temperature expansion coefficients to FR4 PCB; for euroboards (100 x 160 mm), LCP, UL 94 V-0, white, max. operating temperature without permanent deformation 85 °C	1 piece (SPQ 10)	<b>61000-177</b>
PCB cover for double euroboards (233.35 x 160 mm), PP, UL 94 V-0, black	1 piece (SPQ 10)	<b>61000-012</b>
<b>Slotted flathead screw</b> M2.5 × 6, height of head 1.2 mm, PU 100 pieces		<b>21102-007</b>
<b>Slotted flathead screw</b> M2.5 × 12, height of head 1.2 mm, PU 100 pieces		<b>21102-008</b>

11092008

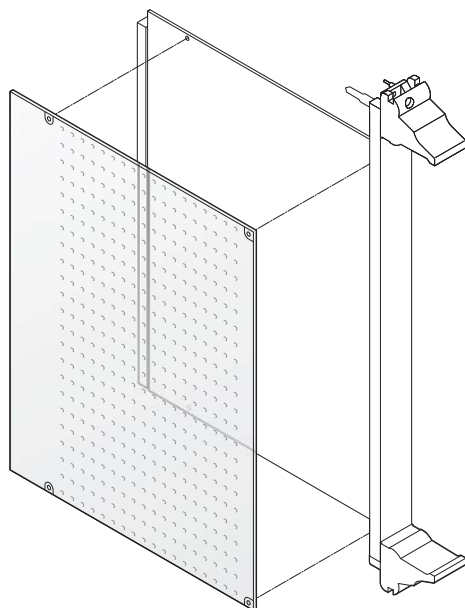
LKA40520

LKA30451

SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity: please order at least 10 pieces of PCB covers or a multiple

## Plug-in units – with mechanical shielding

### PCB cover for CompactPCI



- Mechanical protection of solder side
- Cover is perforated for better cooling of components

#### Delivery comprises

Item	Qty	Description
1	1	Cover, plastic, 0.5 mm, antistatic, perforated, UL 94 V-0; max. operating temperature 65 °C, max. continuous operating temperature 55 °C

#### Order Information

Height U	Depth mm	Part no.
6	80	24579-039
3	160	<b>24579-037</b>
6	160	<b>24579-038</b>
Fixing clips PU 100 pieces		21101-914

#### Note

- Fixing clips are required for mounting the perforated covers; please order separately

12303051

Cabinets ..... 1

Wall mounted cases ..... 2

Accessories for cabinets and wall mounted cases . 3

Climate control . 4

Electronics cases ..... 5

Subracks/ 19" chassis .... 6

Front panels, plug-in units ... 7

Systems ..... 8

Power supply units ..... 9

Backplanes ... 10

Connectors, front panel component system ..... 11

Appendix ..... 12



04807002

19" modules are mechanical components that serve to carry one or more circuit boards. The boards housed in a module are thus combined into a larger electronic function unit that is self-contained and testable. Mechanical dimensions conform to IEC 60297-3-101 / IEEE 1101.1/11 standards, i.e. the so-called 19" standard. These function units are integrated into the subrack or case; their dimensions likewise form a component of IEC 60297-3-101 / IEEE 1101.1/11.

The dimension obligations of the standard give only little freedom for individual design of frame type plug-in units. The aim is therefore to make optimum use of what freedoms regarding dimensions it does allow, e.g.

- to maximise the internal space of a plug-in unit and thus create maximum space for electronic components, or
- to ensure optimal EMC shielding with minimum loss of mounting space to the shielding components

**Standards**

- IEC 60297-3-101 / IEEE 1101.1/11

**Product selection kits**

Width	5 HP		6 HP		7 HP		8 HP		10 HP		12 HP		14 HP		21 HP		28 HP		42 HP	
Height in U	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3	6
Frame-type plug-in units PRO	-	-	-	-	-	-	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Frame type plug-in units PRO with cooling fins	-	-	-	-	-	-	-	-	-	-	x	x	x	x	x	x	-	-	-	-
Frame-type plug-in units PRO with hood	x	x	x	x	x	x	-	-	x	x	x	x	x	x	-	-	-	-	-	-
HF frame-type plug-in units	-	-	-	-	x	-	-	-	x	-	x	-	x	-	x	-	x	-	-	-

# Frame type plug-in units

## Frame-type plug-in units to house printed boards

- For PCBs in euroboard format
- Kits or configuration from single components
- Front panels: unshielded or EMC shielded

Introduction:  
Product features,  
product comparison .... 7.66

Frame type plug-in units PRO  
Frame type plug-in units PRO, shielded/unshielded ..... 7.68

ServicePLUS ..... 7.74  
ServicePLUS configuration .... 7.75

Frame-type plug-in units PRO with hood, unshielded ..... 7.86

HF plug-in units  
Kits 3 U ..... 7.90

ServicePLUS configuration .... 7.91

Accessories for plug-in units  
see page ..... 7.52



04808008

### Frame-type plug-in units PRO

- Kit or configuration from single components in 3 U and 6 U, 8 ... 42 HP
- Shielded and unshielded versions
- Side panel with/without cooling fins
- For one or several PCBs or one or several connectors
- Various possibilities for combining the individual components



04808009

### Plug-in units PRO with hood

- Kit in 3 U and 6 U, 5 ... 14 HP
- Shielded and unshielded versions
- For one PCB with one connector



04892005

### HF frame-type plug-in units

- Kit or configuration from single components in 3 U, 7 ... 28 HP
- For shielding against high-frequency radiation
- Tube with cooling fins, in extruded aluminium
- For one or more PCBs, one or more connectors



30407004

### ServicePLUS from page 7.74

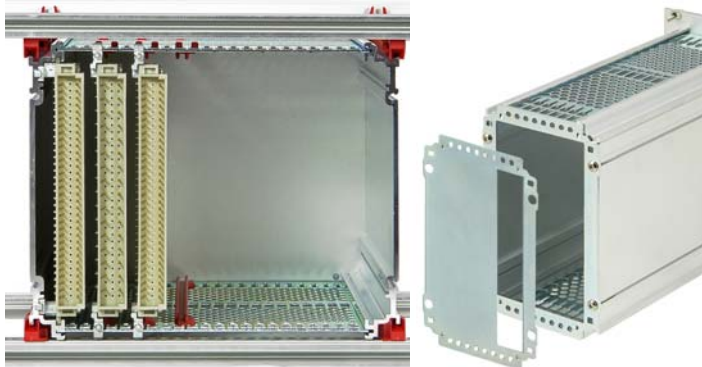
- e.g. individual configuration and assembly
- e.g. modification (special colours)
- e.g. customised solutions with modified frame-type plug-in units (special sizes)

[www.schroff.biz/ServicePLUS](http://www.schroff.biz/ServicePLUS)

**FRONT PANEL EXPRESS**

## Frame type plug-in units PRO – Introduction

### The new generation



Rear view: frame type plug-in unit mounted in subrack

04808013 04808014

The frame type plug-in units conform to IEC 60297-3-101. They serve to house standardized PCBs and bulky components. Because of the standardized assembly dimensions the frame type plug-in units can be mounted on guide rails, to be pushed into the subrack, in any order and using any plug-in unit. The robust Al extrusion construction is especially suited for heavy components and the rough handling as "Field Replaceable Unit".

### Details

The EMC version of the front panel was improved for frequencies over 1 GHz by using a conductive textile gasket and a robust U-shaped front panel

Push-in cover plates for quick fitting

Handles to be bolted-on from the front, easy mounting

Optimised air flow rate thanks to slender extruded side panels and large perforation areas in the cover plates, a perforation degree of up to 65 % is possible

3 cover plate versions (solid, perforated, perforated for guide rail mounting)

Width of frame-type plug-in units from 8 HP

To achieve a higher airflow rate, exceptionally slender guide rails are used to fix the boards

From slot 2 guide rails can be positioned in HP grid

Easy fixing of the boards in the frame-type plug-in units; only 2 x 1 screws per board are needed to fix the boards

3 rear panel variants (solid, for one DIN connector, for multiple DIN connectors)

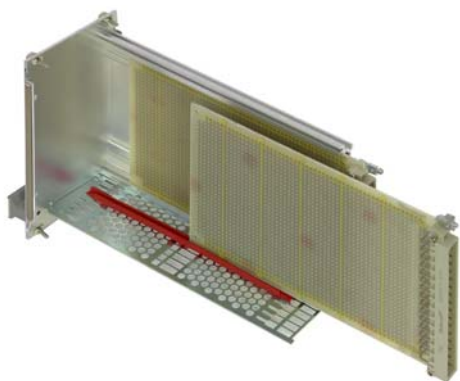
The flat rear panel enables simple reworking (e.g. punching); the rear panel can be removed without removing the PCBs

For better EMC contacting between rear panel and cover plate and to increase the stability of broad frame-type plug-in units, a rear panel retainer is available

Use of Torx screws for secure machine mounting

#### Note:

Frame type plug-in units cannot be combined with guide rails for CompactPCI or VME64x applications (width 4 HP)



Board for slot 1 fixes to the side panel; further boards are fixed with guide rails

04808012



Sliding cover plates

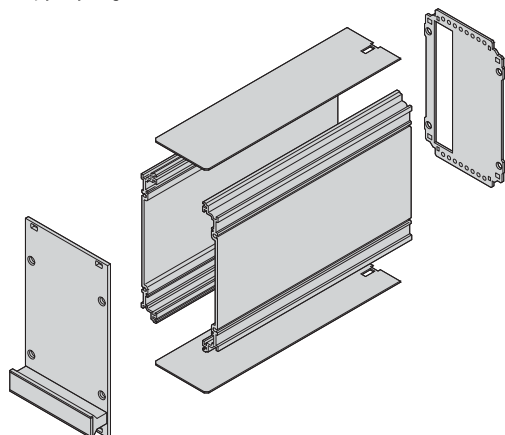
04808011 04808016

## Frame type plug-in units PRO – Introduction

### Comparison:

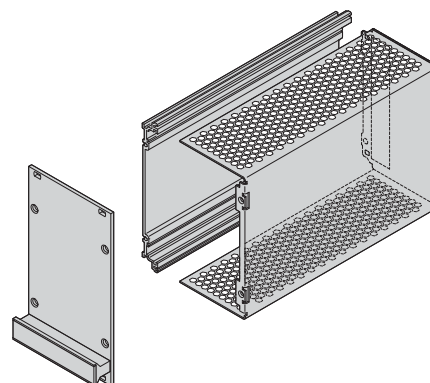
#### Frame-type plug-in units PRO/Frame-type plug-in units PRO with hood

##### Frame-type plug-in units PRO



04808125

##### Frame-type plug-in units PRO with hood (shielded)



04808115

For one or multiple PCBs

Only for one PCB

Modular, at least 6 components  
(front panel, 2 side panels, 2 cover plates, rear panel)Only 3 components  
(front panel, left hand side panel, hood with integrated rear panel)

Identical front panel and front handle

Identical front panel and front handle

Identical left hand side panel (Al extrusion)

Identical left hand side panel (Al extrusion)

Side panel on right hand side (Al extrusion)

Hood on right hand side (Al sheet)

Separate rear panel

Hood includes rear panel

Widths from 8 HP to 42 HP

Widths from 5 HP to 14 HP

Guiding in subrack/case with 4 guide rails;  
left and right side panelsGuiding in subrack/case with 2 guide rails;  
left side panel3 rear panel variants (for one DIN connector, for multiple DIN  
connectors, rear panel without cut-out)

1 rear panel variant (for one DIN connector)

## Frame type plug-in units PRO

### Frame type plug-in units PRO, 3 U kits, front panel shielded (textile gasket)



Illustration shows 12 HP width, side panel depth 167 mm

04811007



ServicePLUS see page 7.74

- Extruded side panels with groove to right and left, to insert a PCB (board position in accordance with standard in left side panel only)
- 2 board depths: 160 mm and 220 mm
- 2 cover plate versions
  - with perforation, for guide rails (5a, airflow rate approx. 60 %); please order guide rails separately
  - Without perforation (5b)
- 2 rear panel versions
  - With cut-out for one connector (3a, in accordance with EN 60603-2, DIN 41612)
  - With cut-out for multiple connectors (3b, in accordance with EN 60603-2, DIN 41612)

#### Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, U profile anodised, rear conductive, alignment pin pressed-in
2	1	Handle, grey, PPE, UL 94 V-1
3a	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for one connector, incl. PCB fixing (slot 1)
3b	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for multiple connectors, incl. PCB fixing (slot 1 and slot 2), incl. 2 guide rails
3c	2	rear panel fastener
4	2	Side panel, Al extrusion, colourless passivated, with groove for one PCB
5a	2	Cover plate, St, zinc-plated, 1.0 mm, with perforation
5b	2	Cover plate, St, zinc-plated, 1.0 mm, without perforation
6	1	EMC sealing (textile)
7	1	Assembly kit

#### Order Information

	Rear panel	Height U	Width HP	Cover plate without perforation		Cover plate with perforation, for guide rails	
				167 mm deep Part no.	227 mm deep Part no.	167 mm deep Part no.	227 mm deep Part no.
				5b	5a		
		3	8	24813-408	24813-458	24813-208	24813-258
		3	10	24813-410	24813-460	24813-210	24813-260
		3	12	24813-412	24813-462	24813-212	24813-262
		3	14	24813-414	24813-464	24813-214	24813-264
		3	21	24813-421	24813-471	24813-221	24813-271
		3	28	24813-428	24813-478	24813-228	24813-278
		3	42	24813-442	24813-492	24813-242	24813-292
		3	8	-	-	24813-308	24813-358
		3	10	-	-	24813-310	24813-360
		3	12	-	-	24813-312	24813-362
		3	14	-	-	24813-314	24813-364
		3	21	-	-	24813-321	24813-371
	3	28	-	-	24813-328	24813-378	
	3	42	-	-	24813-342	24813-392	

■ Description of individual components, guide rails, dimension drawings, other combinations cover plates/rear panels etc. see from page 7.75



## Frame type plug-in units PRO

### Frame type plug-in units PRO, 6 U kits, front panel shielded (textile gasket)



Illustration shows 12 HP width, side panel depth 167 mm

04811008



ServicePLUS see page 7.74

- Extruded side panels with groove to right and left, to insert a PCB (board position in accordance with standard in left side panel only)
- 2 board depths: 160 mm and 220 mm
- 2 cover plate versions
  - With perforation, for guide rails (5a, airflow rate approx. 60 %), please order guide rails separately
  - Without perforation (5b)
- 2 rear panel versions
  - With cut-out for one connector (3a; in accordance with EN 60603-2, DIN 41612)
  - With cut-out for multiple connectors (3b; in accordance with EN 60603-2, DIN 41612)
  - 6 U has cut-outs for connectors at top and bottom

#### Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, U profile anodised, rear conductive, alignment pin pressed-in
2	1	Handle, grey, PPE, UL 94 V-1
3a	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for one connector, incl. PCB fixing (slot 1)
3b	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for multiple connectors, incl. PCB fixing (slot 1 and slot 2), incl. 2 guide rails
3c	2	rear panel fastener
4	2	Side panel, Al extrusion, colourless passivated, with groove for one PCB
5a	2	Cover plate, St, zinc-plated, 1.0 mm, with perforation
5b	2	Cover plate, St, zinc-plated, 1.0 mm, without perforation
6	1	EMC sealing (textile)
7	1	Assembly kit

#### Order Information

5a / 5b 6 1 2 3a/3b 4	Rear panel	Height	Width	Cover plate without perforation		Cover plate with perforation, for guide rails	
				167 mm deep	227 mm deep	167 mm deep	227 mm deep
				Part no.	Part no.	Part no.	Part no.
		U	HP				
		6	8	<b>24813-908</b>	<b>24813-958</b>	24813-708	24813-758
		6	10	<b>24813-910</b>	<b>24813-960</b>	24813-710	24813-760
		6	12	<b>24813-912</b>	<b>24813-962</b>	24813-712	24813-762
		6	14	<b>24813-914</b>	<b>24813-964</b>	24813-714	24813-764
		6	21	<b>24813-921</b>	<b>24813-971</b>	24813-721	24813-771
		6	28	<b>24813-928</b>	<b>24813-978</b>	24813-728	24813-778
		6	42	<b>24813-942</b>	<b>24813-992</b>	24813-742	24813-792
		6	8	-	-	<b>24813-808</b>	<b>24813-858</b>
		6	10	-	-	<b>24813-810</b>	<b>24813-860</b>
		6	12	-	-	<b>24813-812</b>	<b>24813-862</b>
		6	14	-	-	<b>24813-814</b>	<b>24813-864</b>
		6	21	-	-	<b>24813-821</b>	<b>24813-871</b>
		6	28	-	-	<b>24813-828</b>	<b>24813-878</b>
		6	42	-	-	<b>24813-842</b>	<b>24813-892</b>

- Description of individual components, guide rails, dimension drawings, other combinations cover plates/rear panels etc. see from page 7.75

## Frame type plug-in units PRO

### Frame-type plug-in units PRO, 3 U kits, front panel unshielded



Illustration shows 12 HP width, side panel depth 167 mm

04811009



ServicePLUS see page 7.74

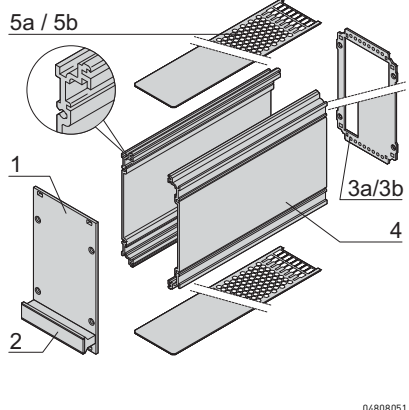
- Extruded side panels with groove to right and left, to insert a PCB (board position in accordance with standard in left side panel only)
- 2 board depths: 160 mm and 220 mm
- 2 cover plate versions
  - with perforation, for guide rails (5a, airflow approx. 60 %); please order guide rails separately
  - Without perforation (5b)
- 2 rear panel versions
  - With cut-out for one connector (3a, in accordance with EN 60603-2, DIN 41612)
  - With cut-out for multiple connectors (3b, in accordance with EN 60603-2, DIN 41612)

#### Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, anodised, cut edges plain
2	1	Handle, grey, PPE, UL 94 V-1
3a	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for one connector, incl. PCB fixing (slot 1)
3b	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for multiple connectors, incl. PCB fixing (slot 1 and slot 2), incl. 2 guide rails
3c	2	rear panel fastener
4	2	Side panel, Al extrusion, colourless passivated, with groove for one PCB
5a	2	Cover plate, St, zinc-plated, 1.0 mm, with perforation
5b	2	Cover plate, St, zinc-plated, 1.0 mm, without perforation
6	1	Assembly kit

#### Order Information

	Rear panel	Height	Width	Cover plate without perforation		Cover plate with perforation, for guide rails	
				167 mm deep		227 mm deep	
				Part no.	Part no.	Part no.	Part no.
		U	HP				
		3	8	24812-408	24812-458	24812-208	24812-258
		3	10	24812-410	24812-460	24812-210	24812-260
		3	12	24812-412	24812-462	24812-212	24812-262
		3	14	24812-414	24812-464	24812-214	24812-264
		3	21	24812-421	24812-471	24812-221	24812-271
		3	28	24812-428	24812-478	24812-228	24812-278
		3	42	24812-442	24812-492	24812-242	24812-292
		3	8	-	-	24812-308	24812-358
		3	10	-	-	24812-310	24812-360
		3	12	-	-	24812-312	24812-362
		3	14	-	-	24812-314	24812-364
		3	21	-	-	24812-321	24812-371
		3	28	-	-	24812-328	24812-378
		3	42	-	-	24812-342	24812-392



04808051

04808053

- Description of individual components, guide rails, dimension drawings, other combinations cover plates/rear panels etc. see from page 7.75

# Frame type plug-in units PRO

## Frame type plug-in units PRO, 6 U kits, front panel unshielded



Illustration shows 12 HP width, side panel depth 167 mm

04811010



ServicePLUS see page 7.74

- Extruded side panels with groove to right and left, to insert a PCB (board position in accordance with standard in left side panel only)
- 2 board depths: 160 mm and 220 mm
- 2 cover plate versions
  - with perforation, for guide rails (5a, airflow approx. 60 %); please order guide rails separately
  - Without perforation (5b)
- 2 rear panel versions
  - With cut-out for one connector (3a; in accordance with EN 60603-2, DIN 41612)
  - With cut-out for multiple connectors (3b; in accordance with EN 60603-2, DIN 41612)
  - 6 U has cut-outs for connectors at top and bottom

### Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, anodised, cut edges plain
2	1	Handle, grey, PPE, UL 94 V-1
3a	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for one connector, incl. PCB fixing (slot 1)
3b	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for multiple connectors, incl. PCB fixing (slot 1 and slot 2), incl. 2 guide rails
3c	2	rear panel fastener
4	2	Side panel, Al extrusion, colourless passivated, with groove for one PCB
5a	2	Cover plate, St, zinc-plated, 1.0 mm, with perforation
5b	2	Cover plate, St, zinc-plated, 1.0 mm, without perforation
6	1	Assembly kit

### Order Information

5a / 5b	Rear panel	Height	Width	Cover plate without perforation		Cover plate with perforation, for guide rails	
				167 mm deep	227 mm deep	167 mm deep	227 mm deep
				Part no.	Part no.	Part no.	Part no.
		U	HP				
		6	8	<b>24812-908</b>	<b>24812-958</b>	<b>24812-708</b>	<b>24812-758</b>
		6	10	<b>24812-910</b>	<b>24812-960</b>	<b>24812-710</b>	<b>24812-760</b>
		6	12	<b>24812-912</b>	<b>24812-962</b>	<b>24812-712</b>	<b>24812-762</b>
		6	14	<b>24812-914</b>	<b>24812-964</b>	<b>24812-714</b>	<b>24812-764</b>
		6	21	<b>24812-921</b>	<b>24812-971</b>	<b>24812-721</b>	<b>24812-771</b>
		6	28	<b>24812-928</b>	<b>24812-978</b>	<b>24812-728</b>	<b>24812-778</b>
		6	42	<b>24812-942</b>	<b>24812-992</b>	<b>24812-742</b>	<b>24812-792</b>
		6	8	-	-	<b>24812-808</b>	<b>24812-858</b>
		6	10	-	-	<b>24812-810</b>	<b>24812-860</b>
		6	12	-	-	<b>24812-812</b>	<b>24812-862</b>
		6	14	-	-	<b>24812-814</b>	<b>24812-864</b>
	6	21	-	-	<b>24812-821</b>	<b>24812-871</b>	
	6	28	-	-	<b>24812-828</b>	<b>24812-878</b>	
	6	42	-	-	<b>24812-842</b>	<b>24812-892</b>	
	6	42	-	-	-	-	

- Description of individual components, guide rails, dimension drawings, other combinations cover plates/rear panels etc. see from page 7.75

## Frame type plug-in units PRO

### Frame type plug-in unit PRO kits, side panel with cooling fins, front panel shielded



Illustration shows 12 HP width, side panel depth 167 mm

04812018

- Right side panel with cooling fins to improve heat dissipation; left side panel extrusion with groove to insert a PCB (board position in accordance with standard in left side panel only)
- 2 board depths: 160 mm and 220 mm
- Cover plate without perforation
- With cut-out for one connector in accordance with EN 60603-2, DIN 41612
- With 10 W installed heat dissipation loss the internal temperature falls by approx. 5°C

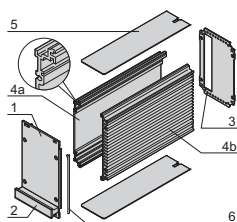
#### Delivery comprises (Kit)

Item	Qty	Description
1	1	Front panel, U profile anodised, rear conductive, alignment pin pressed-in
2	1	Handle, grey, PPE, UL 94 V-1
3	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for one connector, incl. PCB fixing [slot]
4a	2	Side panel, left, Al extrusion, clear passivated, with groove for one PCB
4b	2	Side panel, right, Al extrusion, clear passivated, with cooling fins
5	2	Cover plate, St, zinc-plated, 1.0 mm
6	1	EMC sealing (textile)
7	1	Assembly kit



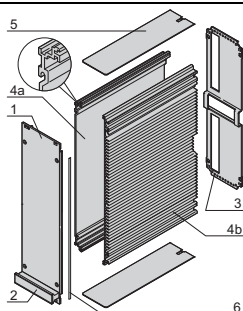
ServicePLUS see page 7.74

### Order Information



04812058

Height U	Width HP	Depth = 167 mm Part no.	Depth = 227 mm Part no.
3	14	24813-164	-



04812060

3	21	24813-171	-
6	14	24813-664	24813-614
6	21	24813-671	24813-621

#### Note

- Description of individual components, guide rails, dimension drawings, other combinations cover plates/rear panels etc. see from page 7.75

# Frame type plug-in units PRO

## Frame type plug-in units PRO kits, side panel with cooling fins, front panel unshielded



Illustration shows 12 HP width, side panel depth 167 mm

04812008

- Right side panel with cooling fins to improve heat dissipation; left side panel extrusion with groove for insertion of a PCB (board position in accordance with standard in left side panel only)
- 2 board depths: 160 mm and 220 mm
- Cover plate without perforation
- With cut-out for one connector in accordance with EN 60603-2, DIN 41612
- With 10 W installed heat dissipation loss the internal temperature falls by approx. 5°C

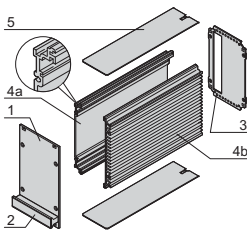
**Delivery comprises (Kit)**

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, anodised, cut edges plain
2	1	Handle, grey, PPE, UL 94 V--1
3	1	Rear panel, St, zinc-plated, 1.5 mm, with cut-out for one connector, incl. PCB fixing (slot 1)
4a	2	Side panel, left, Al extrusion, clear passivated, with groove for one PCB
4b	2	Side panel, right, Al extrusion, clear passivated, with cooling fins
5	2	Cover plate, St, zinc-plated, 1.0 mm
6	1	Assembly kit

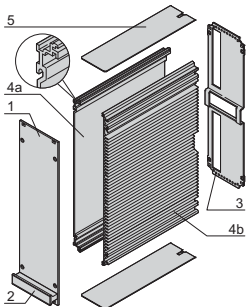


ServicePLUS see page 7.74

**Order Information**



04812059



04812061

Height U	Width HP	Depth = 167 mm Part no.	Depth = 227 mm Part no.
3	12	24812-162	-
3	14	24812-164	-
3	21	24812-171	-
6	12	24812-662	24812-612
6	14	24812-664	24812-614
6	21	24812-671	24812-621

**Note**

- Description of individual components, guide rails, dimension drawings, other combinations cover plates/rear panels etc. see from page 7.75

## Frame type plug-in units PRO ServicePLUS



### configuration

### Simple. Fast. For the product you want.

Components can be varied and combined freely

- Configuration tables for frame type plug-in units PRO [from page 7.75](#)

7.90

- Configuration tables for HF plug-in units from page

- Online configuration: [www.schroff.co.uk/configuration](http://www.schroff.co.uk/configuration)



### assembly

### Assembled by professionals. Double benefit!

Fitting of all mechanical, electrical and electronic components by our specialists

- Professional and reliable
- Packaged ready for despatch



### modification

### Small changes. Large impact.

Custom drillings, cut-outs and special colours for off-the-shelf products

- Holes, cut-outs, drill holes, individual colour and printing



### solution

### Simple. Fast. From one source.

Integration and custom developments

- Special sizes, custom solutions
- Heat dissipation concepts
- EMC solutions



### express

### When fast has to be faster.

Delivery time to customer's request

- Delivery time for front panels from 2 working days; for frame-type plug-in units from 5 working days

**FRONT PANEL**  
**EXPRESS**



### academy

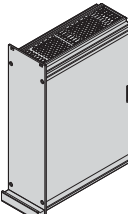
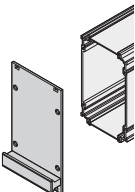
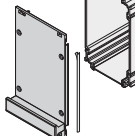

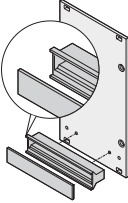
### Knowledge. Sharing. Partnerships.

Knowledge transfer and partnership

- Downloadable CAD drawings, test reports, user manual

## Frame type plug-in units PRO ServicePLUS

### Individual components Front panels, front handles

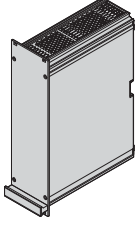
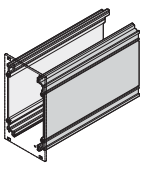
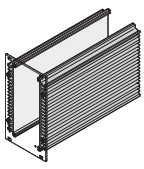
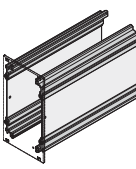
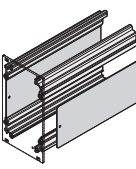
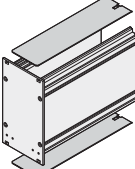
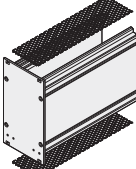
	Front panel		Shieldable front panel, U profile		Trapeziform handle, grey (without extraction function)	
	unshielded		Front panel	Textile EMC gasket	Grey	Black
 <p>04808124</p>  <p>04808060</p> <p>Al, 2.5 mm, front anodised, rear anodised, cut edges blank</p>	1 piece (SPQ 5) <sup>1)</sup>	 <p>04808061</p> <p>Al extrusion, alignment pin pressed-in, front anodised, rear conductive</p>	 <p>04808062</p> <p>always fixed laterally on the front panel, in the groove of the profile, textile gasket, core: foam, sleeve: textile cladding with CuNi coating, UL 94 V-0, temperature range -40 ... 70 °C</p>	 <p>04808063</p> <p>handle: PPE, UL 94 V-1; identification plate: Al, 1.5 mm, anodised, cut edges plain; please order clip separately (included in mounting kit for five plug-in units or individual parts) 7.78</p>		
				1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>	PU 10 pieces
Width	<b>3 U Height</b>					
HP	PCB depth 160 mm					
8	<b>34812-108</b>	<b>34813-108</b>	21101-853	21101-854	20808-062	20808-083
10	<b>34812-110</b>	<b>34813-110</b>			20808-004	20808-085
12	<b>34812-112</b>	<b>34813-112</b>			20808-064	20808-086
14	<b>34812-114</b>	<b>34813-114</b>			20808-065	20808-087
21	<b>34812-121</b>	<b>34813-121</b>			20808-066	20808-088
28	<b>34812-128</b>	<b>34813-128</b>			20808-067	20808-089
42	<b>34812-142</b>	<b>34813-142</b>	20808-068	20808-091		
	PCB depth 220 mm					
8	<b>34812-108</b>	<b>34813-108</b>	21101-853	21101-854	20808-062	20808-083
10	<b>34812-110</b>	<b>34813-110</b>			20808-004	20808-085
12	<b>34812-112</b>	<b>34813-112</b>			20808-064	20808-086
14	<b>34812-114</b>	<b>34813-114</b>			20808-065	20808-087
21	<b>34812-121</b>	<b>34813-121</b>			20808-066	20808-088
28	<b>34812-128</b>	<b>34813-128</b>			20808-067	20808-089
42	<b>34812-142</b>	<b>34813-142</b>	20808-068	20808-091		
Width	<b>6 U Height</b>					
HP	PCB depth 160 mm					
8	<b>34812-608</b>	<b>34813-608</b>	21101-855	21101-856	20808-062	20808-083
10	<b>34812-610</b>	<b>34813-610</b>			20808-004	20808-085
12	<b>34812-612</b>	<b>34813-612</b>			20808-064	20808-086
14	<b>34812-614</b>	<b>34813-614</b>			20808-065	20808-087
21	<b>34812-621</b>	<b>34813-621</b>			20808-066	20808-088
28	<b>34812-628</b>	<b>34813-628</b>			20808-067	20808-089
42	<b>34812-642</b>	<b>34813-642</b>	20808-068	20808-091		
	PCB depth 220 mm					
8	<b>34812-608</b>	<b>34813-608</b>	21101-855	21101-856	20808-062	20808-083
10	<b>34812-610</b>	<b>34813-610</b>			20808-004	20808-085
12	<b>34812-612</b>	<b>34813-612</b>			20808-064	20808-086
14	<b>34812-614</b>	<b>34813-614</b>			20808-065	20808-087
21	<b>34812-621</b>	<b>34813-621</b>			20808-066	20808-088
28	<b>34812-628</b>	<b>34813-628</b>			20808-067	20808-089
42	<b>34812-642</b>	<b>34813-642</b>	20808-068	20808-091		
Dimensions see page	7.82	7.82			7.82	7.82

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

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

## Frame type plug-in units PRO ServicePLUS

### Individual components Side panels, cover plates, guide rails


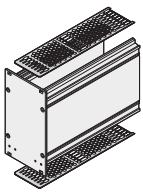

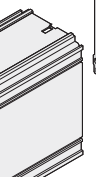
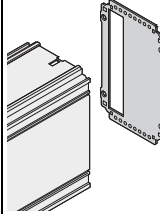
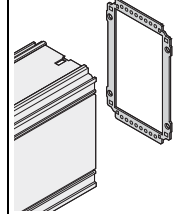
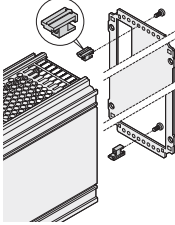
	Extruded side panel		Extruded side panel with cooling fins		Side panel, corner profile and side plate		Cover plate	
	Left	Right	Left	Right	Corner profile	Side plate	Without perforation	With perforation
 04808124	 04808065		 04811050		 04808066	 04808067	 04808068	 04808070
	Al extrusion, colourless passivated, with groove for one PCB; 3 U symmetrical; 6 U asymmetrical, right and left side panel different) Side panels with and without cooling fins can be combined		Al extrusion, colourless passivated, with groove for one PCB; 3 U symmetrical; 6 U asymmetrical Side panels with and without cooling fins can be combined		Al extrusion, colourless passivated, with groove for one PCB, please order side plate separately	St, 1 mm, zinc-plated, is inserted into side panel rear angle	St, 1.0 mm, zinc-plated; PCB only possible in slot 1	St, 1.2 mm, Al, airflow rate in perforated area approx. 65%; PCB only possible in slot 1
Supplied quantity for assembly of 5 frame type plug-in units	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>
Width	<b>3 U Height</b>							
HP	PCB depth 160 mm							
8							34812-408	34812-958
10							34812-410	34812-960
12							34812-412	34812-962
14	34812-100	34812-100	34812-200	34812-200	34812-102	34812-103	34812-414	34812-964
21	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>					34812-421	34812-971
28							34812-428	34812-978
42							34812-442	34812-992
	PCB depth 220 mm							
8							34813-408	34813-958
10							34813-410	34813-960
12							34813-412	34813-962
14	34813-100	34813-100	34813-200	34813-200	34813-102	34813-103	34813-414	34813-964
21	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>					34813-421	34813-971
28							34813-428	34813-978
42							34813-442	34813-992
Width	<b>6 U Height</b>							
HP	PCB depth 160 mm							
8							34812-408	34812-958
10							34812-410	34812-960
12							34812-412	34812-962
14	34812-600	34812-601	-	34812-701	34812-102	34812-603	34812-414	34812-964
21	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>					34812-421	34812-971
28							34812-428	34812-978
42							34812-442	34812-992
	PCB depth 220 mm							
8							34813-408	34813-958
10							34813-410	34813-960
12							34813-412	34813-962
14	34813-600	34813-601	-	34813-701	34813-102	34813-603	34813-414	34813-964
21	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>					34813-421	34813-971
28							34813-428	34813-978
42							34813-442	34813-992
Dimensions see page	7.80	7.80	7.80	7.80	7.81	7.81	7.84	7.84

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



# Frame type plug-in units PRO ServicePLUS

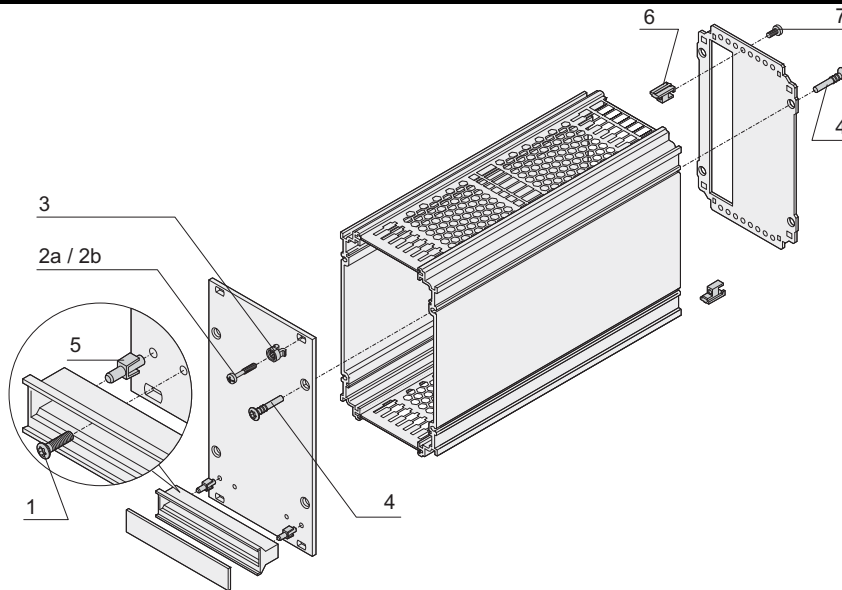
## Individual components Rear panels, assembly material

	With perforation for guide rails		Rear panel			Rear panel fastener	Assembly kit
	Cover plate	Guide rail	Without cut-out	Cut-out for one connector	Cut-out for multiple connectors	for connection of rear panel with cover plate	
 <p style="font-size: 8px;">04808124</p>	 <p style="font-size: 8px;">04808069</p>	 <p style="font-size: 8px;">04808074</p>	 <p style="font-size: 8px;">04808073</p>	 <p style="font-size: 8px;">04808071</p>	 <p style="font-size: 8px;">04808072</p>	 <p style="font-size: 8px;">04808123</p>	<p style="font-size: 8px;">for mounting five 3 U or 6 U frame type plug-in units from ServicePLUS components: front panel, rear panel, side panel, cover plate and handle, description see page 7.78</p>
<p style="font-size: 8px;"><b>Supplied quantity for assembly of 5 frame type plug-in units</b></p>	<p style="font-size: 8px;">1 piece (SPQ 10)<sup>1)</sup></p> <p style="font-size: 8px;">St, 1.0 mm, zinc-plated; air flow rate in perforated area approx. 60 %; please order snap-in guide rails separately</p>	<p style="font-size: 8px;">PU 10 pieces</p> <p style="font-size: 8px;">PBT, UL 94 V-0, red, groove width 2 mm, PCB fixing required from slot 2, see page 7.79</p>	<p style="font-size: 8px;">1 piece (SPQ 5)<sup>1)</sup></p> <p style="font-size: 8px;">St, 1.5 mm, zinc-plated</p>	<p style="font-size: 8px;">1 piece (SPQ 5)<sup>1)</sup></p> <p style="font-size: 8px;">St, 1.5 mm, zinc-plated</p>	<p style="font-size: 8px;">1 piece (SPQ 5)<sup>1)</sup></p> <p style="font-size: 8px;">St, 1.5 mm, zinc-plated, for EN 60603 (DIN 41612) connectors, types: B, C, D, F, H, Q, R, S</p>	<p style="font-size: 8px;">PU 1 kit</p> <p style="font-size: 8px;">10 rear panel fasteners, Zn die-cast; 10 fixing screws; not suitable for cover plate with perforation</p>	<p style="font-size: 8px;">PU 1 kit</p>
Width	<b>3 U Height</b>						
HP	PCB depth 160 mm						
8	<b>34812-908</b>	24812-101	34813-208	34812-208	34812-308	24812-401	24812-100
10	<b>34812-910</b>		34813-210	34812-210	34812-310		
12	<b>34812-912</b>		34813-212	34812-212	34812-312		
14	<b>34812-914</b>		34813-214	34812-214	34812-314		
21	<b>34812-921</b>		34813-221	34812-221	34812-321		
28	<b>34812-928</b>		34813-228	34812-228	34812-328		
42	<b>34812-942</b>	34813-242	34812-242	34812-342			
	PCB depth 220 mm						
8	<b>34813-908</b>	24812-101	34813-208	34812-208	34812-308	24812-401	24812-100
10	<b>34813-910</b>		34813-210	34812-210	34812-310		
12	<b>34813-912</b>		34813-212	34812-212	34812-312		
14	<b>34813-914</b>		34813-214	34812-214	34812-314		
21	<b>34813-921</b>		34813-221	34812-221	34812-321		
28	<b>34813-928</b>		34813-228	34812-228	34812-328		
42	<b>34813-942</b>	34813-242	34812-242	34812-342			
	PCB depth 220 mm						
Width	<b>6 U Height</b>						
HP	PCB depth 160 mm						
8	<b>34812-908</b>	24812-101	34813-708	34812-708	34812-808	24812-401	24812-100
10	<b>34812-910</b>		34813-710	34812-710	34812-810		
12	<b>34812-912</b>		34813-712	34812-712	34812-812		
14	<b>34812-914</b>		34813-714	34812-714	34812-814		
21	<b>34812-921</b>		34813-721	34812-721	34812-821		
28	<b>34812-928</b>		34813-728	34812-728	34812-828		
42	<b>34812-942</b>	34813-742	34812-742	34812-842			
	PCB depth 220 mm						
8	<b>34813-908</b>	24812-101	34813-708	34812-708	34812-808	24812-401	24812-100
10	<b>34813-910</b>		34813-710	34812-710	34812-810		
12	<b>34813-912</b>		34813-712	34812-712	34812-812		
14	<b>34813-914</b>		34813-714	34812-714	34812-814		
21	<b>34813-921</b>		34813-721	34812-721	34812-821		
28	<b>34813-928</b>		34813-728	34812-728	34812-828		
42	<b>34813-942</b>	34813-742	34812-742	34812-842			
Dimensions see page	7.84	7.84	7.83	7.83	7.83		



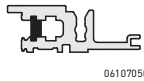

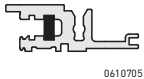








1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
 Part no. includes one packing unit (PU); delivery is exclusively made in PU

## Frame type plug-in units PRO ServicePLUS

### Individual components Fixing material (100 pieces)



04808085

Fixing parts	Item		Required quantity per plug-in unit	Description	Qty/PU	Part no.	
<b>Fixing parts for mounting the module in subrack or case</b>							
Torx panhead screw, M2.5 x 10, St, zinc-plated, self-forming thread	1		2	Assembly of handle on front panel	100	<b>24560-179</b>	
Pozidrive/slotted collar screw M2.5 x 11, St, nickel-plated	2a		4 / 6*	 06107050	Mounting of front panel on horizontal rail with threaded insert pushed in to front	100	<b>21100-748</b>
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated	2b		4 / 6*	 06107051	Front panel is fitted to horizontal rail with threaded insert pushed in to rear in the standard position	100	<b>21101-101</b>
Plastic sleeves for form hole 5.9 x 3.3, PA, UL 94 V-2, grey	3		4 / 6*	Is needed to fix collar screws	100	<b>21100-464</b>	
<b>Fixing parts for mounting the module</b>							
Torx raised countersunk panhead screw 3 x 20, St, nickel-plated	4		8	Assembly of front panel and rear panel on extruded side panel/rear extrusion of side panel	100	<b>24812-501</b>	
Fixing clip for trapeziform plastic handle PPE UL 94 V 0, black	5		2	Alignment aid for handle on front panel	100	<b>21101-239</b>	
Rear panel fastener Zn die-cast	6		2	To stabilise rear panel with wide frame-type plug-in units	100	<b>24812-402</b>	
Torx panhead screw M2.5 x 10, St, nickel-plated	7		2	To fix rear panel fastener or board fixing	100	<b>24560-148</b>	
Board support (slot 1) Zn die-cast			2	Board support (slot 1) see page 7.79	50 pairs	<b>24812-202</b>	
Board support (from slot 2) Zn die-cast			2	Board support (from slot 2) see page 7.79	50 pairs	<b>24812-302</b>	
Torx panhead screw M2.5 x 6, St, nickel-plated			2	Is needed for board fixing without connector see page 7.79	100	<b>24560-178</b>	

\* on 42 HP EMC shielded frame type plug-in units

■ Further collar screws and sleeves see page 7.107

**Frame type plug-in units PRO ServicePLUS**

**Individual components Board fixing**

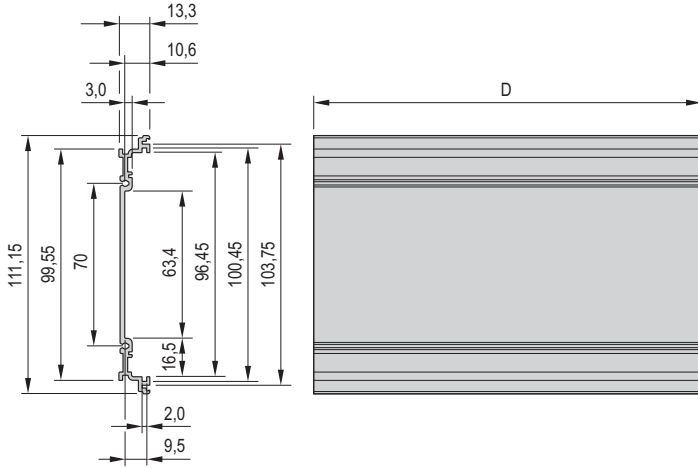
	Board fixing slot 1	Board fixing from slot 2		
	<p style="text-align: center;">Slot 1</p> <p style="text-align: right;"><small>04808118 04808109 04808129</small></p> <p>Zn die-cast, Torx panhead screw M2.5 x 10; PCB is pushed into the guiding groove of the left side panel/ side panel rear angle, is fixed with rear panel</p>	<p style="text-align: center;">Slot 1      Slot 2      Slot 3</p> <p style="text-align: right;"><small>04808119 04808110 bga42785 kaa46417</small></p> <p>Zn die-cast, Torx panhead screw M2.5 x 10; PCB is pushed into guide rail, is fixed with rear panel</p>		
<b>Height</b>	<b>PU 5 pair</b>	<b>PU 5 pair</b>		
3 U	<b>24812-201</b>	<b>24812-301</b>		
6 U	<b>24812-201</b>	<b>24812-301</b>		
<b>Assembly kits</b>		With connector from slot 2	Without connector from slot 2	
Torx panhead screw, M2.5 x 6, St, nickel-plated, PU 100 pieces; is needed for board fixing without connector	<p style="text-align: center;"><b>24560-178</b></p> <p style="text-align: right;"><small>aza45940</small></p>	-	<b>24560-178</b>	
Connector mounting on PCB, for 6 U frame type plug-in units (centre) Torx panhead screw M2.5 x 10, nut M2.5; PU 10 pieces (screw + nut)	<p style="text-align: center;"><b>24812-600</b></p> <p style="text-align: right;"><small>04808120</small></p>	<b>24812-600</b>		

## Frame type plug-in units PRO

### Dimensions

### Side panel without cooling fins

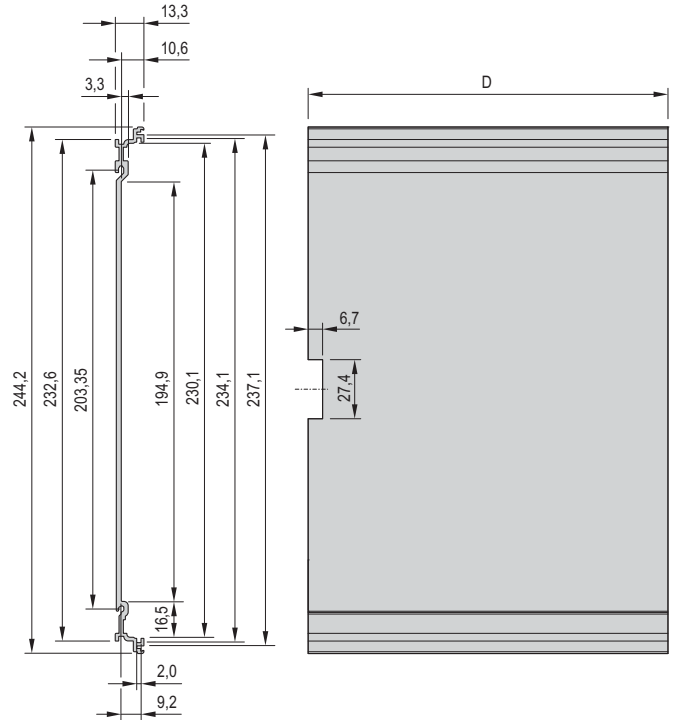
3 U



Depth = 167/227 mm

04808101

6 U

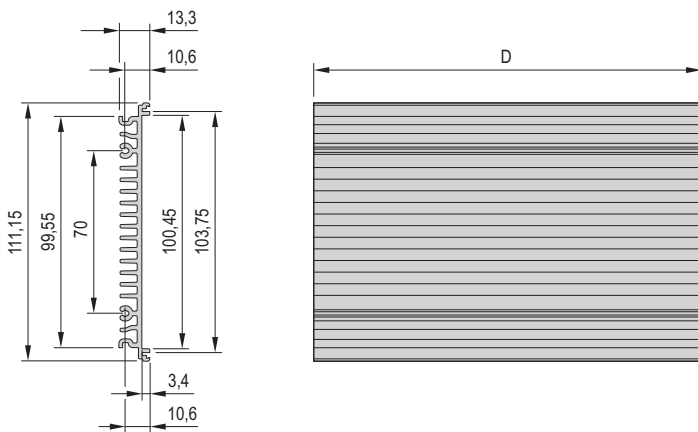


04808102

### Dimensions

### Side panel with cooling fins

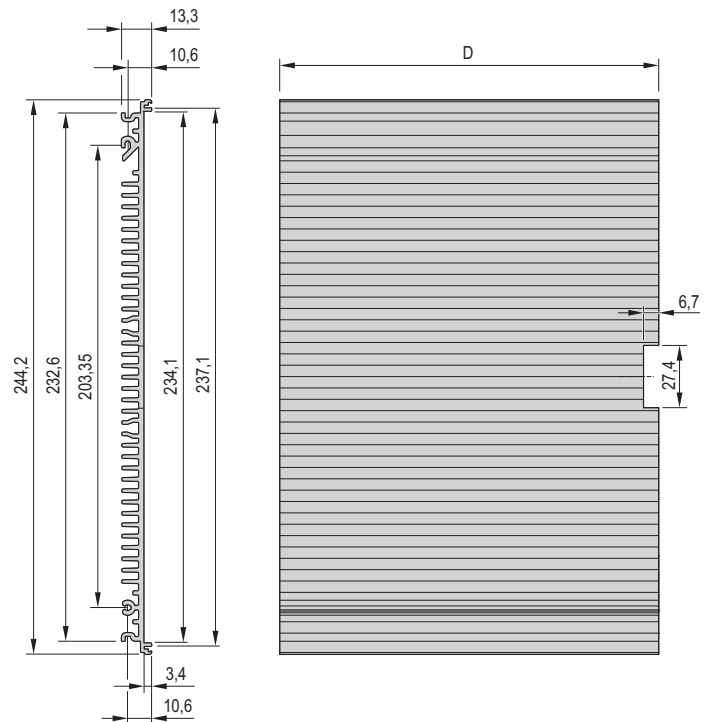
3 U



Depth = 167/227 mm

04811051

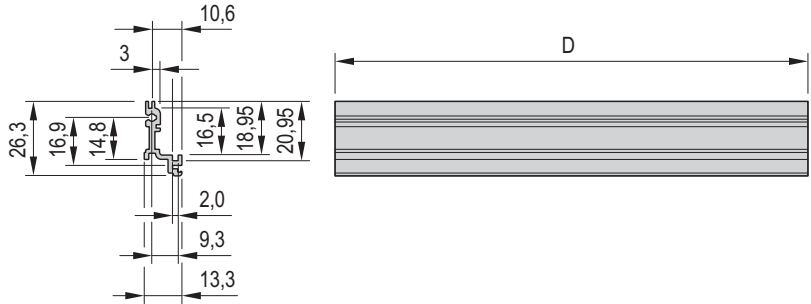
6 U



04811052

# Frame type plug-in units PRO

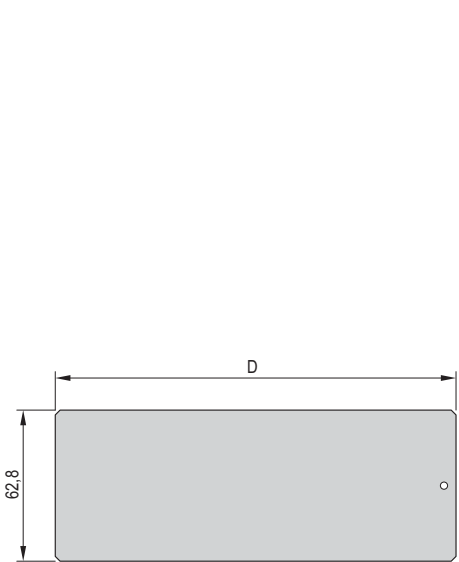
## Dimensions Side panel rear angle



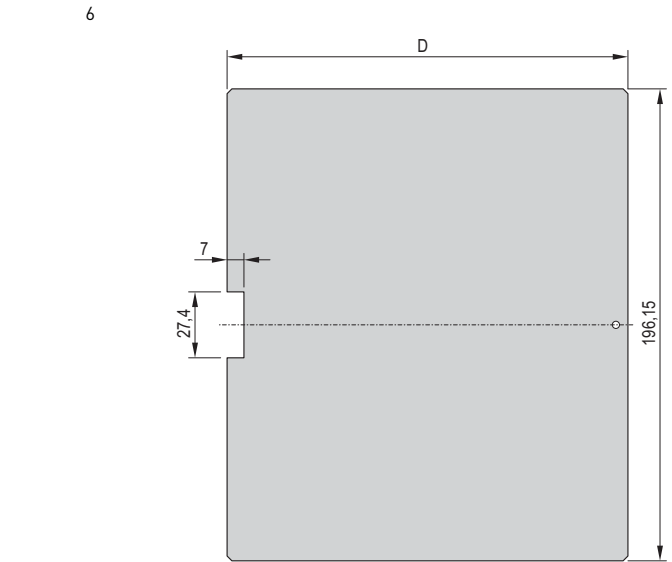
Depth = 167/227 mm

04808103

## Dimensions Side plate



3 U for side panel rear angle



04808100

6 U for side panel rear angle

04808099

## Frame type plug-in units PRO

### Dimensions

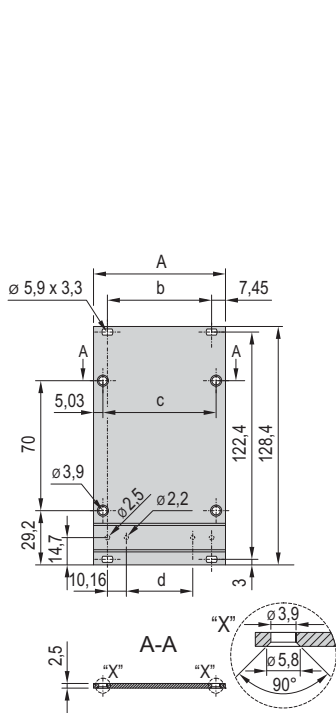
### Front panels

Unshielded  
3 U

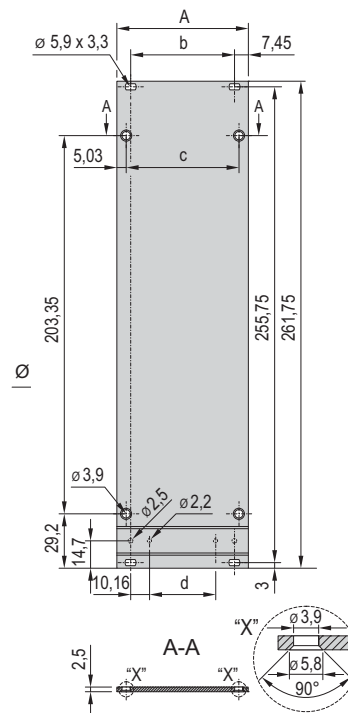
6 U

Shieldable, for EMC textile gasket  
3 U

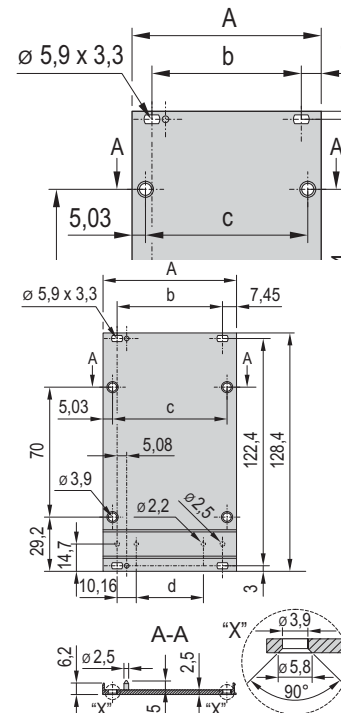
6 U



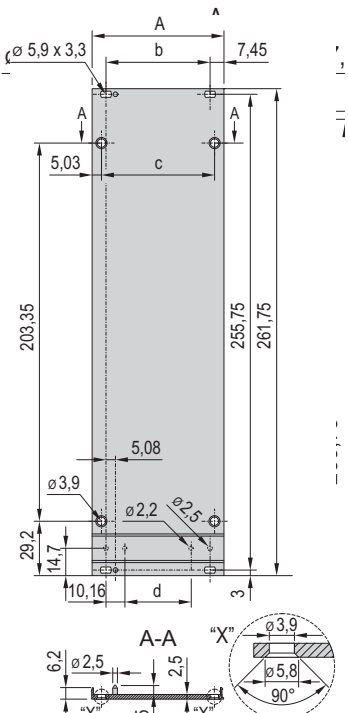
04808086



04808087



04808088



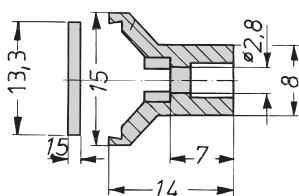
04808089

#### Dimensions table

	A	b	c	d
Width	mm	mm	mm	mm
8 HP	40.30	25.40	30.24	5.08
10 HP	50.46	35.56	40.40	15.24
12 HP	60.62	45.72	50.56	25.40
14 HP	70.78	55.88	60.72	35.56
21 HP	106.34	91.44	96.28	71.12
28 HP	141.90	127.00	131.84	106.68
42 HP	213.02	198.12	202.96	177.80

### Dimensions

### Front handle



A4-328e

#### Dimensions table

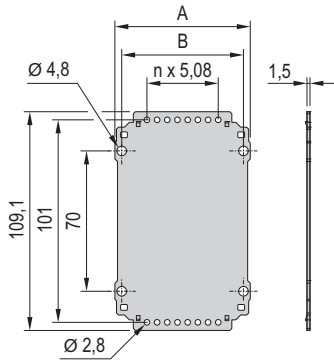
Width	Width
HP	mm
8 HP	39.2
10 HP	49.4
12 HP	59.6
14 HP	69.7
21 HP	105.2
28 HP	140.8
42 HP	212.0

## Frame type plug-in units PRO

### Dimensions

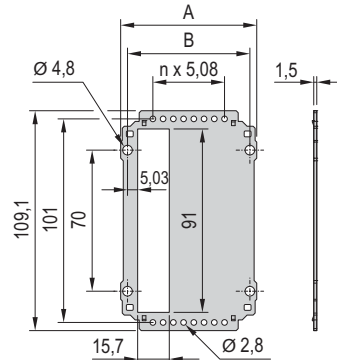
### Rear panel 3 U

Without cut-out



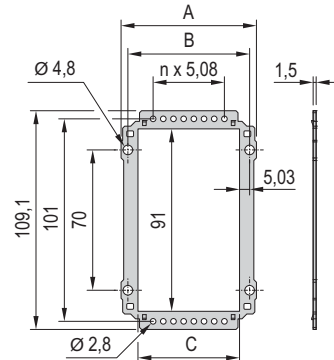
04808092

For one connector



04808091

For multiple connectors



04808090

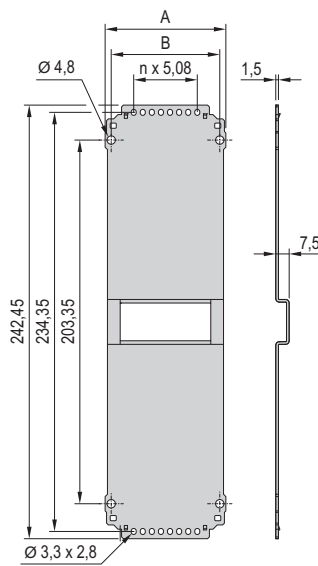
Dimensions table

HP	A mm	B mm	C mm	n
8 HP	37.04	30.24	20.18	1
10 HP	47.20	40.40	30.34	3
12 HP	57.36	50.56	40.50	5
14 HP	67.52	60.72	50.66	7
21 HP	103.08	96.28	86.22	14
28 HP	138.64	131.84	121.78	21
42 HP	209.76	202.96	192.90	35

### Dimensions

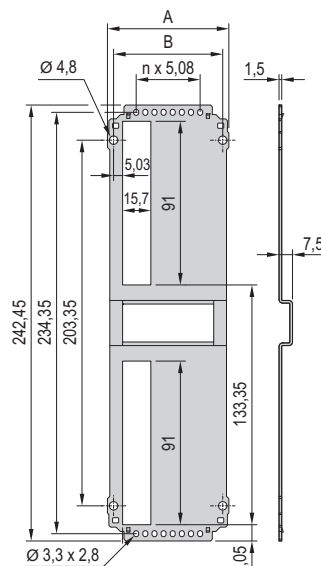
### Rear panel 6 U

Without cut-out



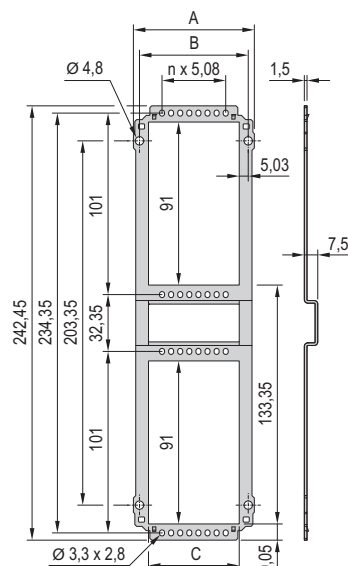
04808095

For one connector



04808094

For multiple connectors



04808093

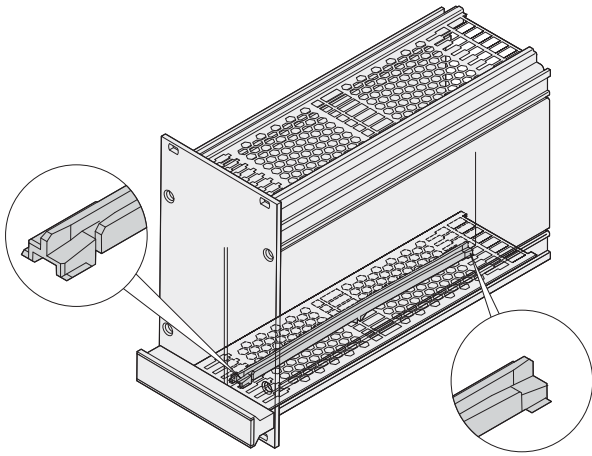
Dimensions table

HP	A mm	B mm	C mm	n
8 HP	37.04	30.24	20.18	1
10 HP	47.20	40.40	30.34	3
12 HP	57.36	50.56	40.50	5
14 HP	67.52	60.72	50.66	7
21 HP	103.08	96.28	86.22	14
28 HP	138.64	131.84	121.78	21
42 HP	209.76	202.96	192.90	35

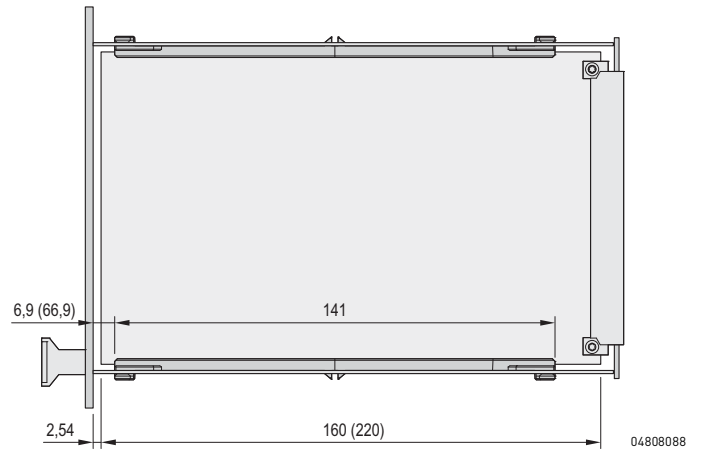
## Frame type plug-in units PRO

**Dimensions**

**Guide rail**



04808096

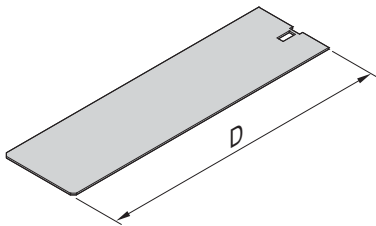


04808088

**Dimensions**

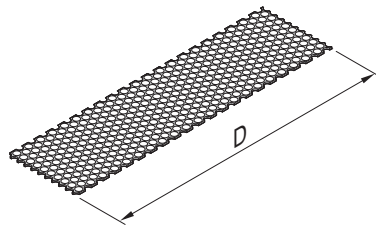
**Cover plates**

without perforation



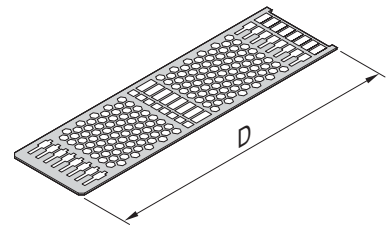
04808104

with perforation



04808106

for guide rail mounting



04808105

D = 167/227 mm

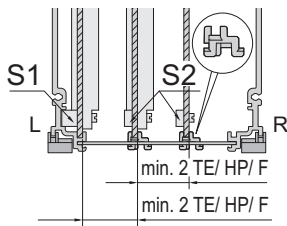


## Frame type plug-in units PRO

### Dimensions

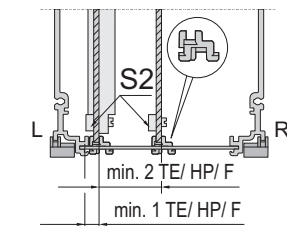
### Mounting instructions for guide rails in frame type plug-in units

Slot 1 + slot 2



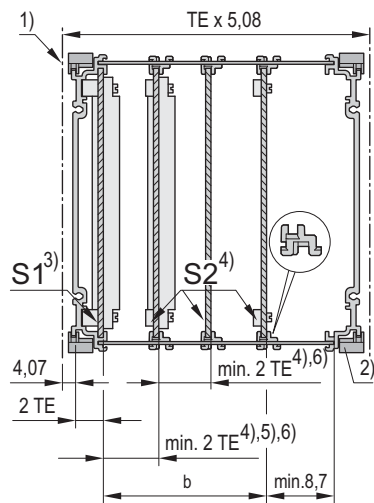
04809050

Slot 2



04809051

Front view



04808107

- Mounting pitch for guide rails: 1 HP
- Min. distance between 2 guide rails: 2 HP

Width of frame type plug-in unit HP	b mm	Max. number of PCBs mountable	
		slot 1	from slot 2
8	-	1	1
	5.08	-	1 <sup>5)</sup>
10	10.16	1	1 <sup>6)</sup>
	15.24	-	2 <sup>5)6)</sup>
12	20.32	1	2 <sup>6)</sup>
	25.40	-	3 <sup>5)6)</sup>
14	30.48	1	3 <sup>6)</sup>
	35.56	-	4 <sup>5)6)</sup>
21	71.12	1	7 <sup>6)</sup>
	66.04	-	7 <sup>5)6)</sup>
28	101.60	1	10 <sup>6)</sup>
	106.68	-	11 <sup>5)6)</sup>
42	172.72	1	17 <sup>6)</sup>
	177.80	-	18 <sup>5)6)</sup>

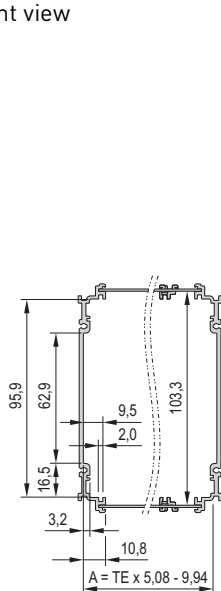
TE = HP = F

- 1) Division line
- 2) Guide rail rotated by 180° from standard position
- 3) The first PCB is held in the extruded side panel, corresponds to standard position (slot 1)
- 4) All additional PCBs are fitted into guide rails (from slot 2)
- 5) Min. 1 HP where slot 1 is not used (slot 2)
- 6) Dependent on construction of connector used (not every connector allows a 2 HP fitting)

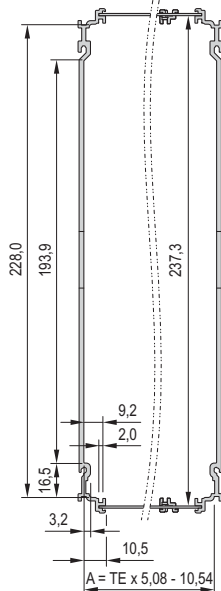
### Dimensions

### Mounting space frame-type plug-in unit 3 U/6 U

Front view



04808097



04808098

### Dimensions table

Height U	Width HP	A mm
3	8	30.70
3	10	40.86
3	12	51.02
3	14	61.18
3	21	96.74
3	28	132.30
3	42	203.42
6	8	30.10
6	10	40.26
6	12	50.42
6	14	60.58
6	21	96.14
6	28	131.70
6	42	202.82

## Frame type plug-in units PRO with hood

### Frame type plug-in units PRO with hood, 3/6 U, front panel shielded (textile gasket)



- Protects a PCB against mechanical damage and deflects electrostatic discharge; for euroboard formats
- Suitable in all subracks and these cases: ratiopacPRO/-air, propacPRO and compacPRO
- Useable connectors in accordance with EN 60603-2 (DIN 41612)
- 2 depths, for 160 mm and 220 mm boards

#### Delivery comprises (kit)

Item	Qty	Description
1	1	Front panel, U profile, 2.5 mm, front anodised, rear conductive, alignment pin pressed-in
2	1	Handle, grey, PPE, UL 94 V-1
3	1	Side panel, Al extrusion, colourless passivated, with groove for one PCB
4	1	Hood, Al, 1 mm, with perforation, rear panel integrated
5	1	EMC textile gasket
6	1	Assembly kit (incl. PCB fixing for slot 1)

Illustration shows 12 HP width, side panel depth 167 mm

04808007



ServicePLUS see page 7.74

#### Order Information

Height U	Width HP	Depth = 167 mm	Depth = 227 mm
		Part no.	Part no.
3	5	24813-005	24813-055
3	6	24813-006	24813-056
3	7	24813-007	24813-057
3	10	24813-010	24813-060
3	12	24813-012	24813-062
3	14	24813-014	24813-064
6	5	24813-505	24813-555
6	6	24813-506	24813-556
6	7	24813-507	24813-557
6	10	24813-510	24813-560
6	12	24813-512	24813-562
6	14	24813-514	24813-564

■ Dimension drawings see from page 7.88

# Frame type plug-in units PRO with hood

## Plug-in units PRO with hood, 3/6 U, front panel unshielded



- Protects a PCB against mechanical damage and deflects electrostatic discharge; for euroboard formats
- Suitable in all subracks and these cases: ratiopacPRO/-air, propacPRO and compacPRO
- Useable connectors in accordance with EN 60603-2 (DIN 41612)
- 2 depths, for 160 mm or 220 mm board

**Delivery comprises (kit)**

Item	Qty	Description
1	1	Front panel, Al, 2.5 mm, anodised, cut edges plain
2	1	Handle, grey, PPE, UL 94 V-1
3	1	Side panel, Al extrusion, colourless passivated, with groove for one PCB
4	1	Hood, Al, 1 mm, with perforation, rear panel integrated
5	1	Assembly kit (incl. PCB fixing for slot 1)

Illustration shows 12 HP width, side panel depth 167 mm

04808002



ServicePLUS see page 7.74

**Order Information**

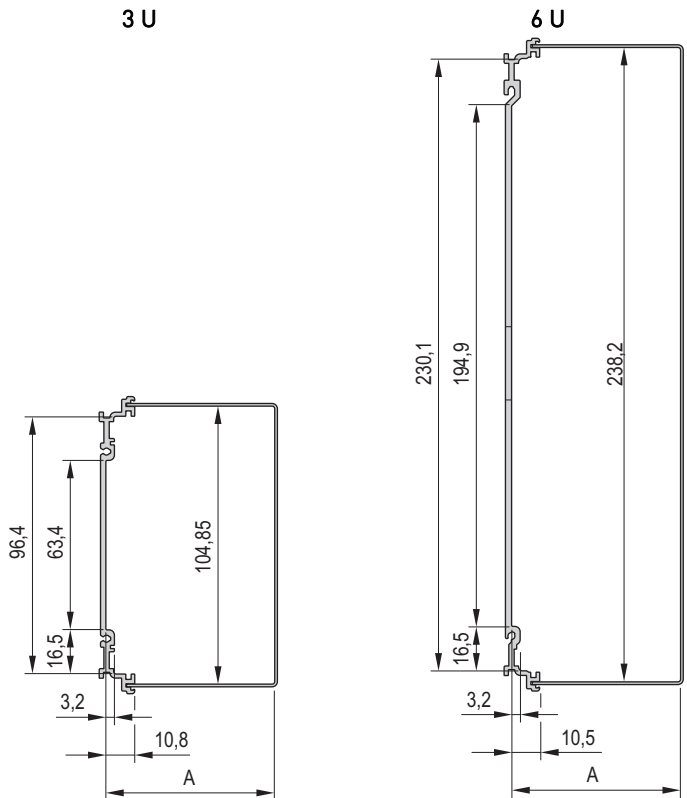
	Height U	Width HP	Depth = 167 mm Part no.	Depth = 227 mm Part no.
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>5 HP</p> <p>04808077</p> </div> <div style="text-align: center;"> <p>6 ... 14 HP</p> <p>04808115</p> </div> </div>	3	5	<b>24812-005</b>	24812-055
	3	6	<b>24812-006</b>	24812-056
	3	7	<b>24812-007</b>	24812-057
	3	10	<b>24812-010</b>	24812-060
	3	12	<b>24812-012</b>	24812-062
	3	14	<b>24812-014</b>	24812-064
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>04808078</p> </div> <div style="text-align: center;"> <p>04808116</p> </div> </div>	6	5	<b>24812-505</b>	24812-555
	6	6	<b>24812-506</b>	24812-556
	6	7	<b>24812-507</b>	24812-557
	6	10	<b>24812-510</b>	24812-560
	6	12	<b>24812-512</b>	24812-562
	6	14	<b>24812-514</b>	24812-564

■ Dimension drawings see from page 7.88

## Frame type plug-in units PRO with hood

### Dimensions

### Cross-section frame-type plug-in units PRO with hood 3 U/6 U



04808080

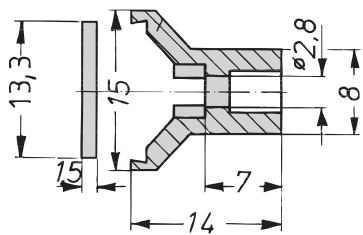
04808082

### Dimensions table

Height	Width	A
U	HP	mm
3	5	17.52
3	6	22.60
3	7	27.68
3	10	42.92
3	12	53.08
3	14	63.24
6	5	17.22
6	6	22.30
6	7	27.38
6	10	42.62
6	12	57.78
6	14	62.94

### Dimensions

### Front handle



a4-328e

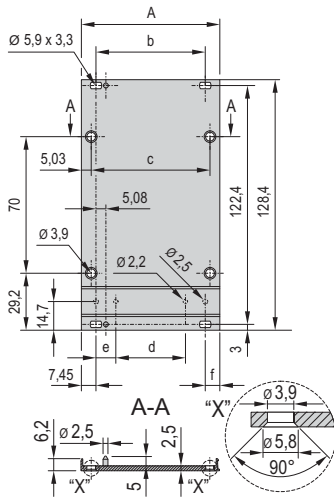
### Dimensions table

Width	Width
HP	mm
5	24.0
6	29.0
7	34.1
10	49.4
12	59.6
14	69.7

# Frame type plug-in units PRO with hood

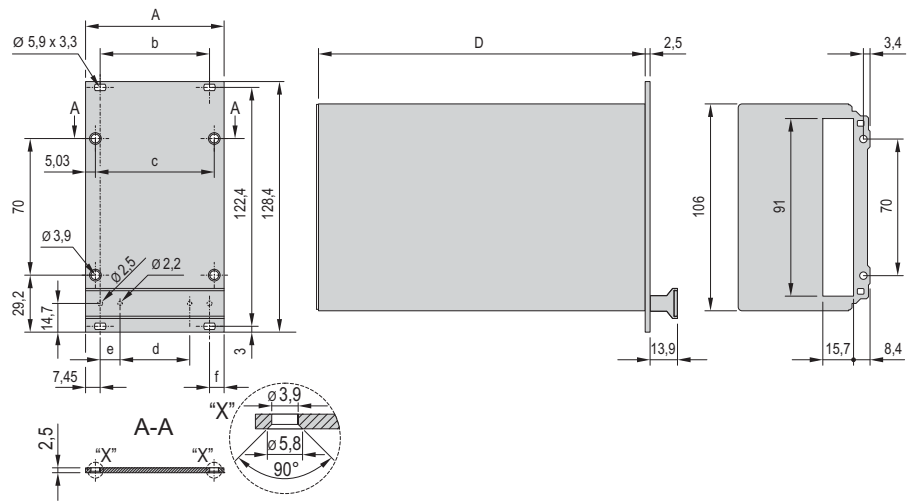
## Dimensions 3/6 U frame-type plug-in units PRO with hood

3 U Front panel shieldable



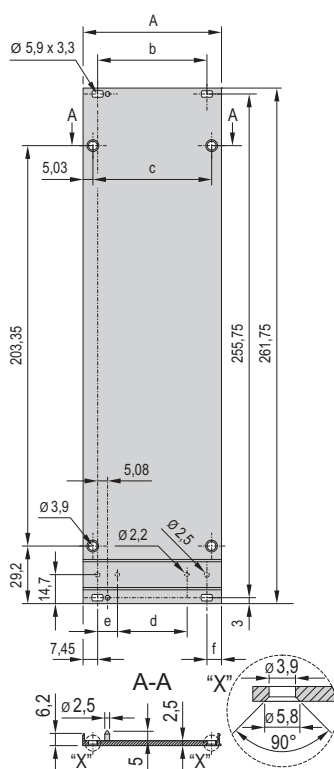
04808052

Front panel unshielded



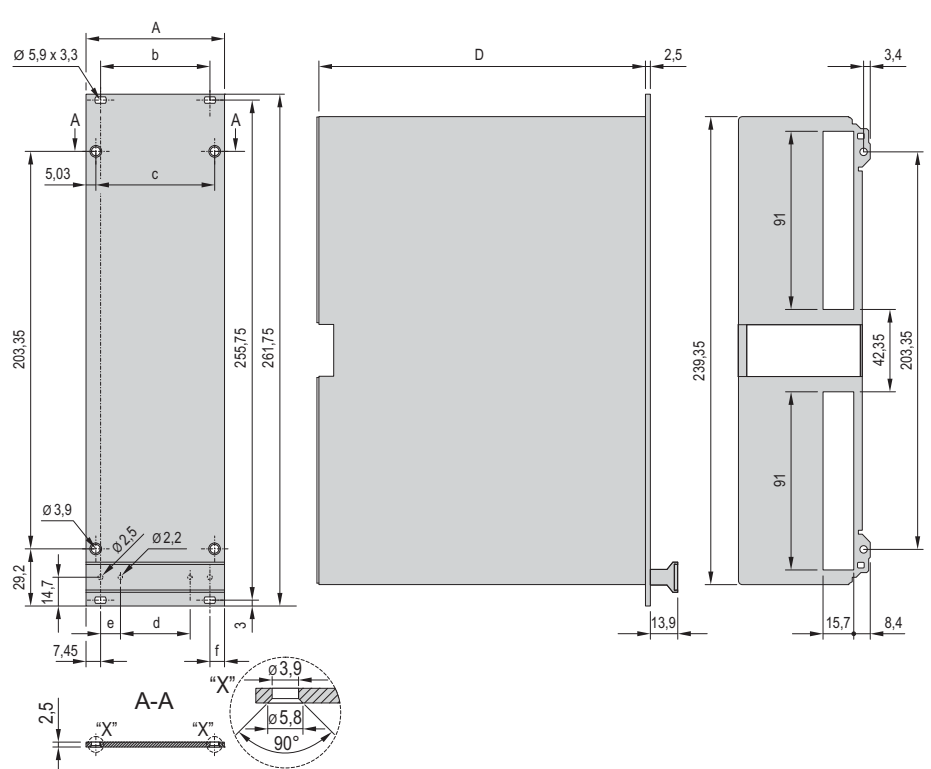
04808111

6 U Front panel shieldable



04809053

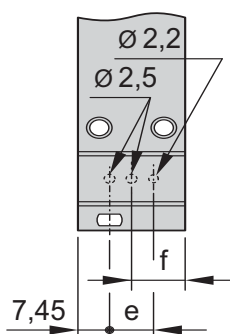
Front panel unshielded



04808112

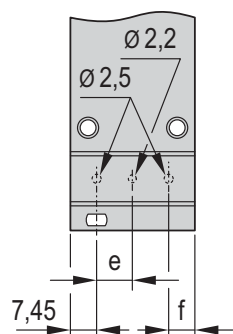
Front panel

5 HP



04809067

6 + 7 HP



04809066

Dimensions table

	Width	A	b	c	d	e	f	Depth D
HP	mm	mm	mm	mm	mm	mm	mm	mm
5	25.06	-	15.00	-	10.16	12.53		167 mm/ 227 mm
6	30.14	-	20.08	-	10.16	7.45		
7	35.22	-	25.16	-	10.16	7.45		
10	50.46	35.56	40.40	15.24	10.16	7.45		
12	60.62	45.72	50.56	25.40	10.16	7.45		
14	70.78	55.88	60.72	35.56	10.16	7.45		

## HF frame type plug-in units

### HF frame type plug-in units, 3 U kits, front panel shielded



04892005



ServicePLUS see page 7.74

- With high shielding from high-frequency radiation
- To accept boards in HP grid increments
- Solid body on all sides, with cooling fins

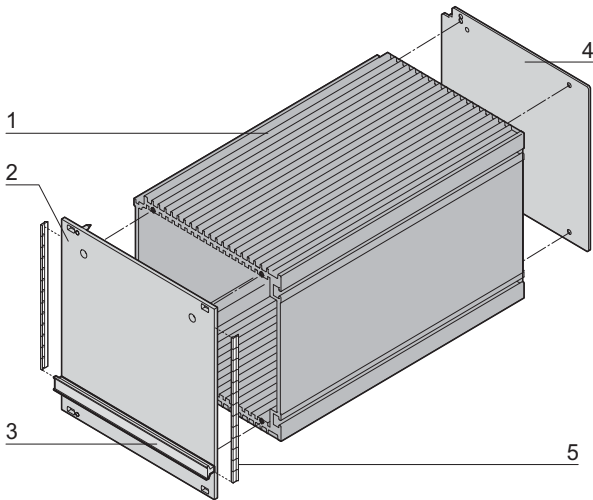
#### Delivery comprises (kit)

Item	Qty	Description
1	1	Body tube, Al extrusion, black anodised, cut edges plain
2	1	Front panel, Al, 2.5 mm, with lateral grooves for EMC gasket (stainless steel), alignment pin pressed-in, front anodised, rear iridescent green chromated
3	1	Plastic handle, trapeziform, PPE, grey, identification plate, Al, anodised, cut edges plain
4	1	Rear panel, Al, 1.5 mm, etched without cut-outs
5	2	EMC gasket (steel, stainless)
6	1	Assembly kit

#### Technical data

HF plug-in unit HP	Thermal resistance K/W	
	Depth = 167 mm	Depth = 227 mm
7	1.68	1.51
10	1.62	1.46
12	1.56	1.40
14	1.50	1.35
21	1.06	0.95
28	0.94	0.85

#### Order Information



04802050

Height U	Width HP	Depth = 167 mm	Depth = 227 mm
		Part no.	Part no.
3	7	20809-529	20809-536
3	10	20809-530	20809-537
3	12	20809-531	20809-538
3	14	20809-532	20809-539
3	21	20809-533	20809-540
3	28	20809-534	20809-541

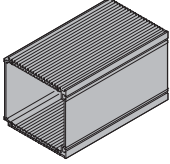
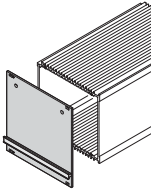
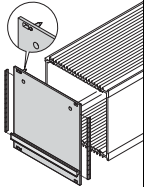
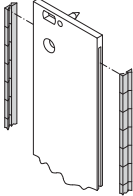
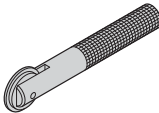
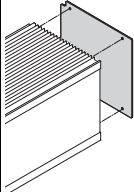
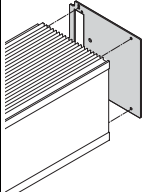
#### Note

- Dimension drawings see from page 7.94

**HF frame type plug-in units ServicePLUS**

Individual components HF body tube, front panels with handle, rear panels

Order Information

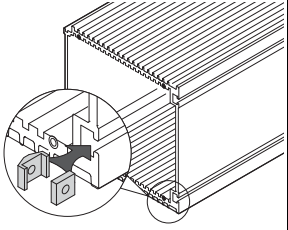
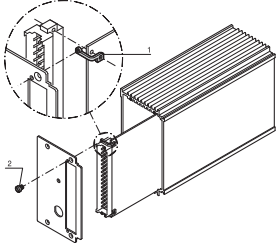
		HF body tube	Shieldable front panel, with handle	Shieldable front panel, with handle			Rear panel	
				for EMC gasket (stainless steel) 	EMC gasket (stainless steel) 	Assembly tool 	without cut-out 	with cut-out 
		KAA45832	KAA45831	04807074	bga45760	aza45937	04807075	KAA45834
		Al extrusion, black anodised, cut edges plain	Al, 2.5 mm, front anodised, rear iridescent green chromated; static handle, grey, PPE, UL 94 V-1	Al, 2.5 mm, front anodised, rear iridescent green chromated, with lateral grooves for stainless steel EMC gasket (please order separately), alignment pin pressed-in, trapeziform handle, grey, PPE, UL 94 V-1	inserted laterally into the grooves of the front panel	to mount the EMC gasket (stainless steel)	Al, 1.5 mm, etched	Al, 2.5 mm, etched, cut-out for connector types EN 60603 (DIN 41612); 7 HP: B, C, D, R; 10 - 28 HP: B, C, D, R, F, H, MF, MH
Height U	Width HP	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>	PU 100 pieces	1 piece	1 piece (SPQ 5) <sup>1)</sup>	1 piece (SPQ 5) <sup>1)</sup>
		PCB depth 160 mm						
3	7	<b>30809-667</b>	<b>20838-001</b>	<b>20838-093</b>	21101-705	24560-270	<b>30809-635</b>	<b>30809-641</b>
	10	<b>30809-677</b>	<b>20838-002</b>	<b>20838-094</b>			<b>30809-636</b>	<b>30809-642</b>
	12	<b>30809-675</b>	<b>20838-003</b>	<b>20838-095</b>			<b>30809-637</b>	<b>30809-643</b>
	14	<b>30809-673</b>	<b>20838-004</b>	<b>20838-096</b>			<b>30809-638</b>	<b>30809-644</b>
	21	<b>30809-671</b>	<b>20838-005</b>	<b>20838-097</b>			<b>30809-639</b>	<b>30809-645</b>
	28	<b>30809-669</b>	<b>20838-006</b>	<b>20838-098</b>			<b>30809-640</b>	<b>30809-646</b>
		PCB depth 220 mm						
3	7	<b>30809-668</b>	<b>20838-001</b>	<b>20838-093</b>	21101-705	24560-270	<b>30809-635</b>	<b>30809-641</b>
	10	<b>30809-678</b>	<b>20838-002</b>	<b>20838-094</b>			<b>30809-636</b>	<b>30809-642</b>
	12	<b>30809-676</b>	<b>20838-003</b>	<b>20838-095</b>			<b>30809-637</b>	<b>30809-643</b>
	14	<b>30809-674</b>	<b>20838-004</b>	<b>20838-096</b>			<b>30809-638</b>	<b>30809-644</b>
	21	<b>30809-672</b>	<b>20838-005</b>	<b>20838-097</b>			<b>30809-639</b>	<b>30809-645</b>
	28	<b>30809-670</b>	<b>20838-006</b>	<b>20838-098</b>			<b>30809-640</b>	<b>30809-646</b>
		Depth 1000 mm (without thread for front panel and rear panel)						
3	7	<b>30809-679</b>						
	10	<b>30809-698</b>						
	12	<b>30809-699</b>						
	14	<b>30809-680</b>						
	21	<b>30809-681</b>						
	28	<b>30809-682</b>						
Dimensions see page		7.94	7.95				7.94	

1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
Part no. includes one packing unit (PU); delivery is exclusively made in PU

## HF frame type plug-in units

### Individual components Slide nuts, fixing for PCBs, mounting kit

#### Order Information

		Slide nut		Fixing for PCBs			Fixing material for one HF frame type plug-in unit	
		M 2.5	M 3	Individual components top                      bottom		Complete assembly kit		
		 <p style="text-align: center; font-size: small;">04807076</p> <p style="text-align: center; font-size: x-small;">width across flats (WAF) 7, for insertion into HF body tube, top and bottom, provides lateral fixing (on right)</p>		 <p style="text-align: center; font-size: small;">KAA45843</p> <p style="text-align: center; font-size: x-small;">bracket (stainless steel), 1.5 mm; please order retention screws separately</p>		<p style="text-align: center; font-size: x-small;">bracket top and bottom (stainless steel), 1.5 mm; incl. two cheesehead screws M2.5 x 4</p>		for complete assembly of a 3 U HF frame type plug-in unit: front panel, rear panel and handle, description see page 7.93
Height U	Width HP	PU 100 pieces	PU 100 pieces	1 piece (SPQ 10) <sup>1)</sup>	1 piece (SPQ 10) <sup>1)</sup>	PU 1 kit	PU 1 kit	
3	7 10 12 14 21 28	21100-112	21100-289	30809-701	30809-700	21101-937	21100-105	
<b>Accessories</b>								
Cheesehead screw M2.5 x 4, St, nickel-plated, PU 100 pieces		-	-	21100-431	21100-431	-	-	

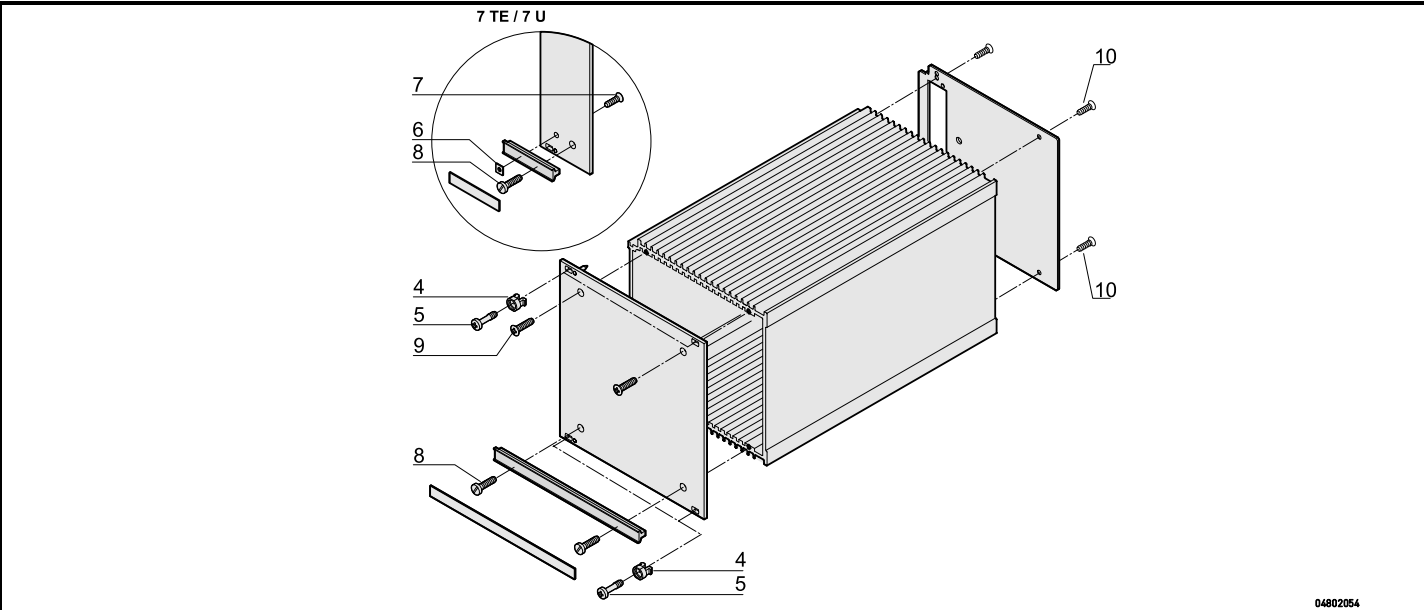
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple  
Part no. includes one packing unit (PU); delivery is exclusively made in PU






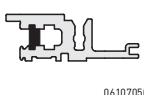

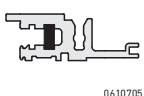





# HF frame type plug-in units

## Individual components Fixing material (100 pieces)

**Order Information**



04802054

Description	Item		Required quantity per plug-in unit	Description	Qty/PU	Part no.
<b>Fixing parts for mounting the module in subrack or case</b>						
Plastic sleeve for form hole 5.9 x 3.3, PA, UL 94 V-2, grey	4		2 at 7 HP		100	<b>21100-464</b>
			4 at > 7 HP			
Pozidrive/slotted collar screw M2.5 x 11, St, nickel-plated	5		2 at 7 HP		100	<b>21100-748</b>
			4 at > 7 HP			
Pozidrive/slotted collar screw M2.5 x 12.3, St, nickel-plated	5		2 at 7 HP		100	<b>21101-101</b>
			4 at > 7 HP			
<b>Fixing parts for mounting the module</b>						
Square nut DIN 562, M2.5, St, nickel-plated	6		1 at 7 HP		100	<b>21100-359</b>
Pozidrive countersunk screw M2.5 x 12, St, nickel-plated	7		1 at 7 HP		100	<b>21100-507</b>
Slotted cheesehead screw M2.5 x 16, St, nickel-plated	8		1 at 7 HP		100	<b>21100-150</b>
			2 at > 7 HP			
Raised Pozidrive countersunk panhead screw M2.5 x 8, St, nickel-plated	9		2		100	<b>21100-429</b>
Pozidrive countersunk screw M2.5 x 6, St, nickel-plated	10		4		100	<b>21100-515</b>

**Note**

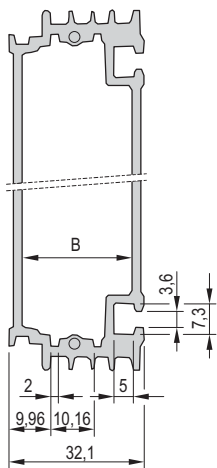
■ Further collar screws and sleeves see page 7.107

## HF frame type plug-in units

### Dimensions

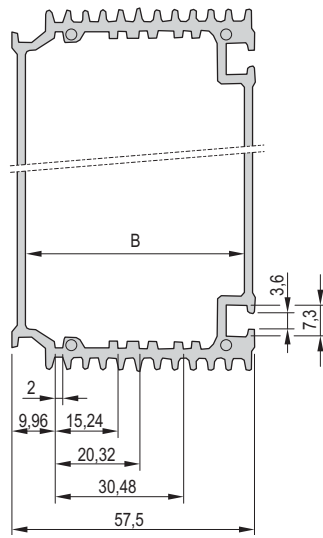
### HF body tube

7 HP



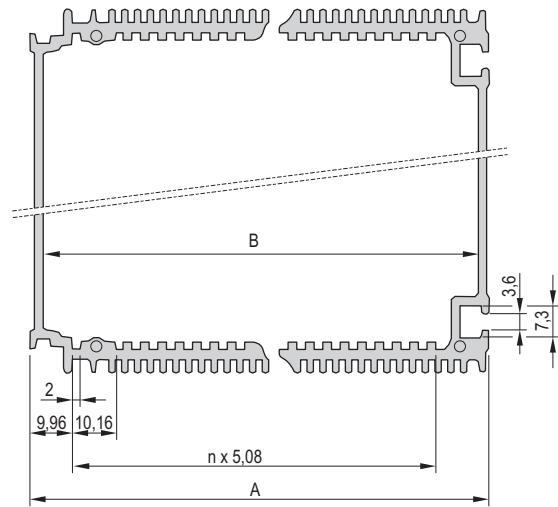
A4-247c

12 HP



04807079

10, 14, 21, 28 HP



A4-247a

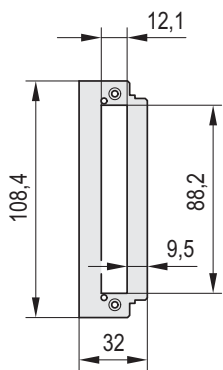
### Dimensions table

Dimension	7 HP	10 HP	12 HP	14 HP	21 HP	28 HP
mm						
n	-	3 × 5.08	-	7 × 5.08	14 × 5.08	21 × 5.08
A	-	47.34	-	67.66	103.22	138.78
B	26.34	41.58	51.74	61.90	97.46	133.02

### Dimensions

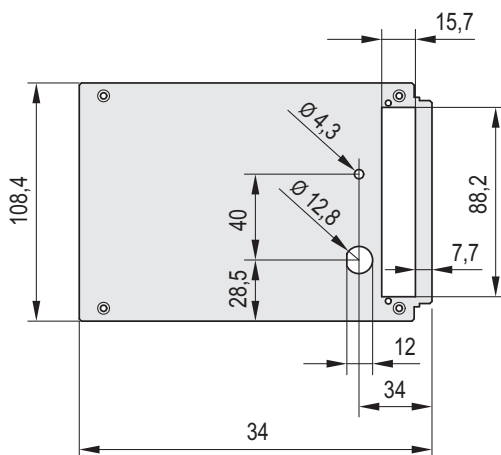
### Rear panel with/without cut-out for connector

7 HP



04807086

10, 12, 14, 21, 28 HP



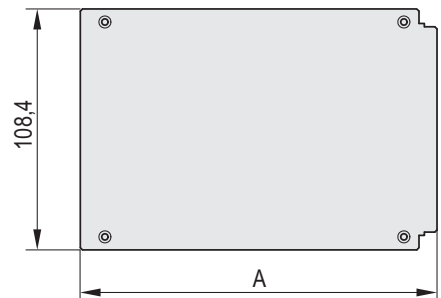
04802053

7 HP



04807087

10, 12, 14, 21, 28 HP



04807083

### Dimensions table

Width	A
mm	
7 HP	32.00
10 HP	47.24
12 HP	57.40
14 HP	67.40
21 HP	103.12
28 HP	136.68

HF frame type plug-in units

Dimensions Front panels

Unshielded

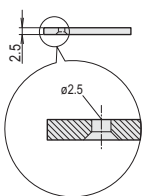
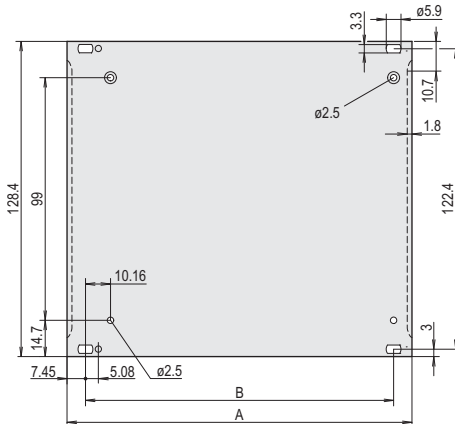
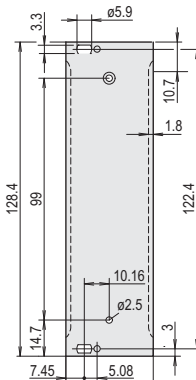
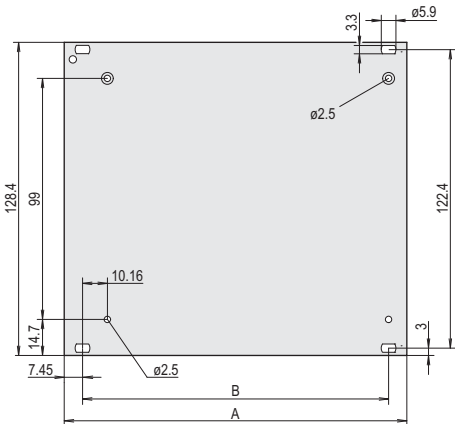
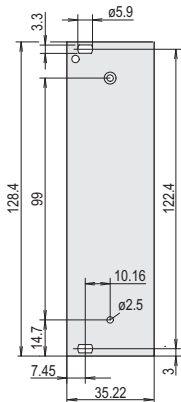
7 HP

10, 12, 14, 21, 28 HP

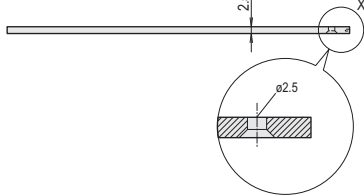
Shieldable, slotted for EMC stainless steel gasket

7 HP

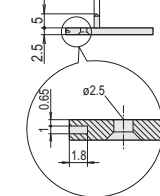
10, 12, 14, 21, 28 HP



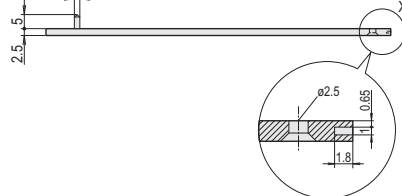
KAA43073



04807084



04807085

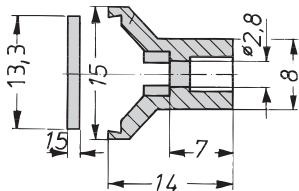


04803052

Dimensions table

Width	A	w
	mm	mm
7 HP	32.22	-
10 HP	50.46	35.56
12 HP	60.62	45.72
14 HP	70.78	55.88
21 HP	106.34	91.44
28 HP	141.90	127.00

Dimensions Front handle



A4-328e

Dimensions table

Width	Width
HP	mm
10 HP	49.4
12 HP	59.6
14 HP	69.7
21 HP	105.2
28 HP	140.8

## Frame type plug-in units

### Adaptor for horizontal rail mounting

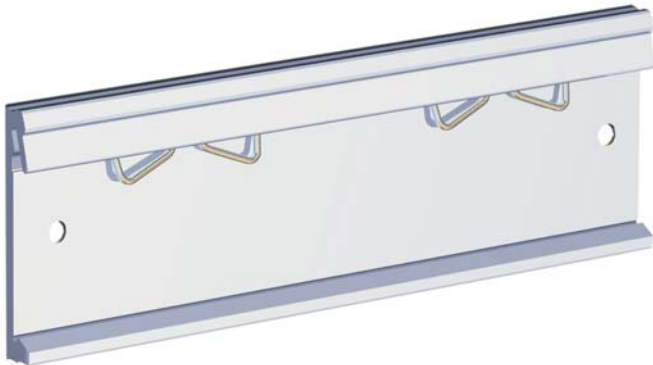
- For fitting of e.g. subracks, wall mounted cases, frame type plug-in units or PSUs on a horizontal rail with lip
- Adaptor is bolted to the desired product and can then be clipped onto the lipped horizontal rail (DIN 43880)

### Delivery comprises

Item	Qty	Description
1	1	Adaptor, Al extrusion, length 160 mm
1	1	Fixing material

### Order Information

Description	Part no.
Adaptor for horizontal rail mounting	11000-002



04812021

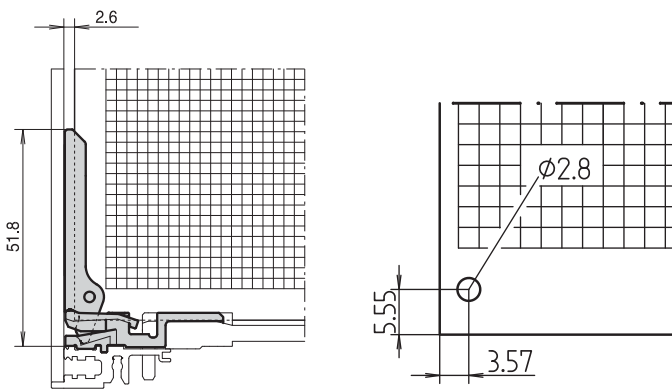
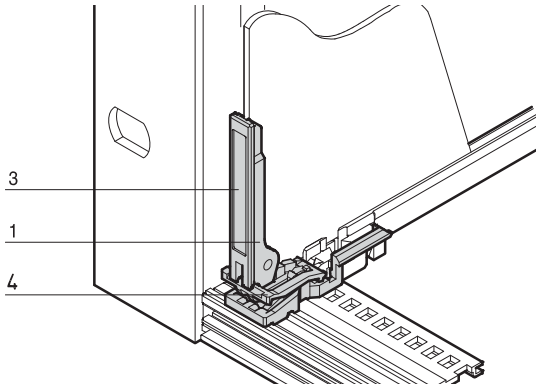


11395007

Example: horizontal rail adaptor with lip for 19" PSU

## PCB accessories

### PCB handle C



BPA45909

BPA45910 BPA45910

- For europacPRO, multipacPRO, ratiopacPRO, propacPRO and compacPRO
- Mounts behind front panel
- Insertion and extraction
- Can be labelled
- In accordance with IEC 60297-3-102

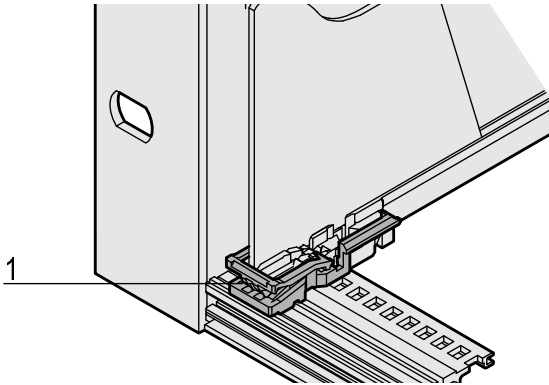
#### Order Information

Item	Description	Material	Colour	Qty/PU	Part no.
1	PCB handle C	PBT, UL 94 V-0	red	10	<b>24560-378</b>
3	Identification strip (1 sheet = 438 pieces)	Polyesterfilm, white/ self-adhesive	white/ matt	1	<b>60817-228</b>

#### Note

- Minimum spacing of guide rail 3 HP
- for board thickness 1.6 mm
- Please order PCB retainer C separately

### PCB retainer C



06002057

- For europacPRO, multipacPRO, ratiopacPRO, propacPRO and compacPRO
- Can also be used without PCB handle
- Application on top and bottom horizontal rail with "accessory" type guide rail

#### Order Information

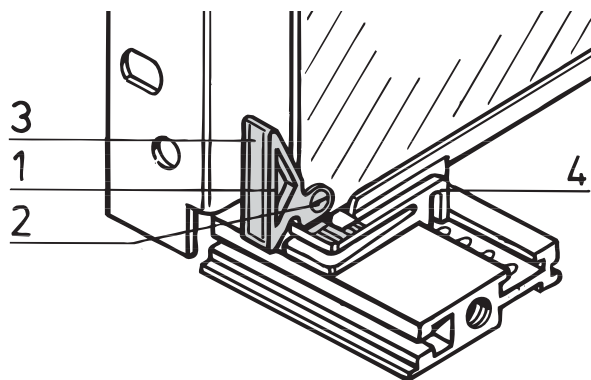
Item	Description	Material	Colour	Qty/PU	Part no.
1	PCB retainer C	PBT, UL 94 V-0	red	10	<b>24560-377</b>

#### Note

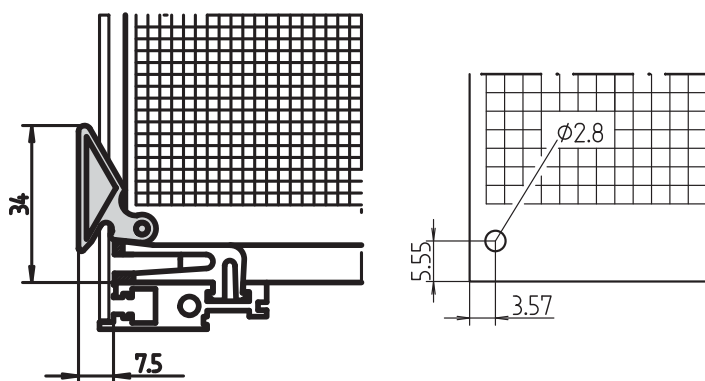
- Minimum spacing of guide rail 3 HP
- Cannot be used with propac, compac, inpac cases

## PCB accessories

## PCB handle B1



B42729



BZB42725 BZA42724

- For bolting or riveting to 1.6 mm PCBs (top and bottom)
- Extraction function only
- Can be labelled

## Order Information

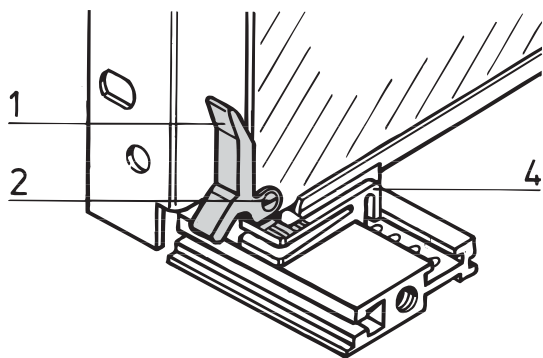
Item	Description	Material	Colour	Qty/PU	Part no.
1	PCB handle, bolt-on	PBT, UL 94 V-0	red	1 piece (SPQ 10)	<b>60817-067</b>
1a	PCB handle for rivet fitting	PBT, UL 94 V-0	red	1 piece (SPQ 10)	<b>60817-072</b>
2	Countersunk screw	St, nickel-plated, DIN 965	-	100	<b>21100-515</b>
2a	Tubular rivet	Brass, DIN 7340	-	100	<b>21100-076</b>
3	Identification strip	Polyester film, self-adhesive	white	100	<b>21100-569</b>

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

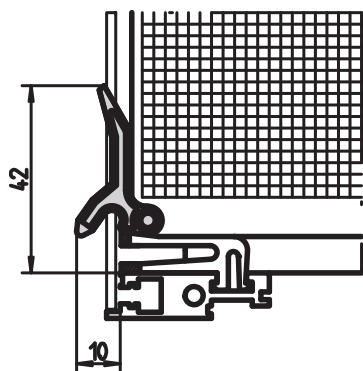
## Note

- Can be used with PCB retainer B1, B2, see page 7.104

## PCB handle B2



BZA46427



BZB42726

- For bolting to PCBs (1.6 mm); can only be used on bottom horizontal rail
- Extraction function only
- Can be labelled

## Order Information

Item	Description	Material	Colour	Qty/PU	Part no.
1	PCB handle	PBT, UL 94 V-0	red	1 piece (SPQ 10)	<b>60817-055</b>
2	Slotted cheesehead screw, M2.5 × 6	St, nickel-plated	-	100	<b>21100-146</b>

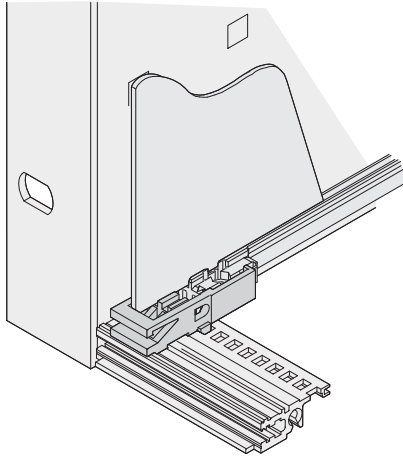
SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity: Please order at least 10 pieces printed circuit board handles or a multiple

## Note

- Can be used with PCB retainer B1, B2, see page 7.104

## PCB accessories

### PCB retainer B1, B2



- For fixing PCB
- Can also be used without PCB handle
- Application on top and bottom horizontal rail
- Suitable for PCB handles B1 and B2

#### Order Information

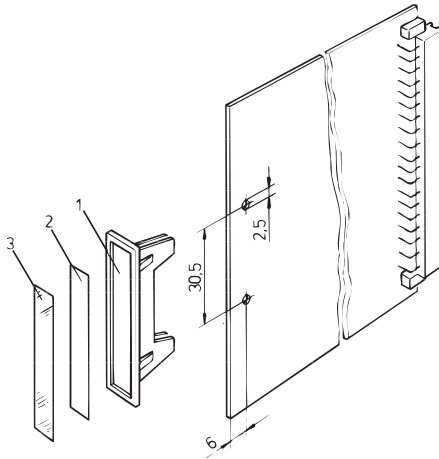
Description	Material	Colour	Qty/PU	Part no.
PCB retainer B1, B2	PPO, UL 94 V-0	red	10	<b>24560-381</b>

#### Note

- Groove width 2 mm

06109050

### PCB handle, snap-on



- For board thickness 1.6 mm

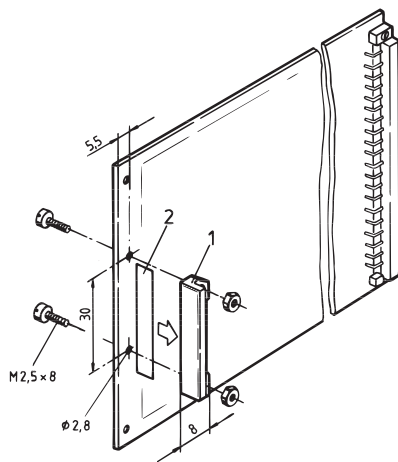
#### Order Information

Item	Description	Material	Colour	Qty	Part no.
1	PCB handle, can be locked	PPE, UL 94 V-1	grey	1 piece (SPQ 10)	<b>60800-039</b>
1	PCB handle, can be locked	PPE, UL 94 V-1	red	1 piece (SPQ 10)	<b>60800-045</b>
<b>Transparent strips</b> Item 3, 50 × 5 × 0.3 mm, PU 100 pieces					<b>69000-007</b>

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

A3261

### PCB handle, can be bolted/rieveted



- For board thickness 1.6 mm

#### Order Information

Item	Description	Material	Colour	Qty	Part no.
1	PCB handle, can be bolted/rieveted	PC	yellow	1 piece (SPQ 10)	<b>60817-050</b>
2	PCB handle, can be bolted/rieveted	PC	red	1 piece (SPQ 10)	<b>60817-051</b>
1	PCB handle, can be bolted/rieveted	PC	green	1 piece (SPQ 10)	<b>60817-052</b>

**Identification strip** Item 2, carton, white, 37.5 × 7 × 0.15 mm, 1 sheet = 105 pieces **69000-969**

**Pozidrive panhead screw** M2.5 × 8, St, nickel-plated, PU 100 pieces **21101-069**

**Hexagonal nut** A 2.5, nickel-plated, PU 100 pieces **21100-144**

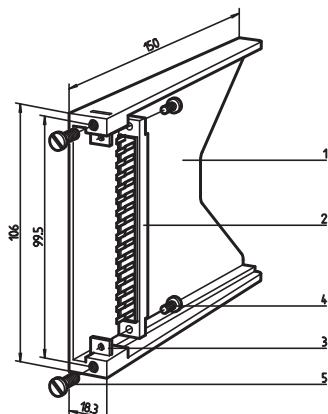
**Tubular rivet, form B (roundhead)** B 2.5 × 0.25 × 5, St/brass, raw, DIN 7340, PU 100 pieces **21100-459**

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

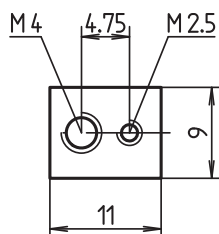
A4-1302

## PCB accessories

## PCB pocket



Retention bracket (DIN 41612)



LKA42605

- Accepts PCBs in euroboard format, 100 × 160 mm
- For female connectors to EN 60603 (DIN 41612)

## Delivery comprises (kit)

Item	Qty	Description
1	1	PCB pocket, PBT (P), grey, UL 94 V-0
3	2	Retention bracket, St, 2 mm, nickel-plated
4	2	Cheesehead screw M2.5 × 6, St, nickel-plated
5	2	Cheesehead screw M4 × 12, St, nickel-plated

## Order Information

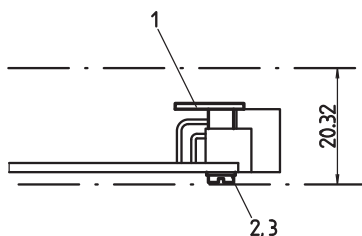
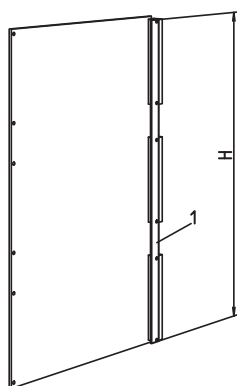
Item	Description	Material	Colour	Qty/PU	Part no.
1	PCB pocket	PBT (P)	grey	1	<b>20800-032</b>

## Note

- Connector (item 2) see page 11.2

LKA42606

## PCB strengthening (9 U)



LKA42609

- Protects large PCBs from bending
- Creates an additional crossbar (corresponding to IEEE recommendations, P 896, Nubus, Multibus® II etc.) that links all connectors mechanically
- Fixing points match connectors to EN 60603 (DIN 41612), types B, R, C and D

## Delivery comprises (kit)

Item	Qty	Description
1	1	PCB strengthening, Al extrusion, anodised, cut edges plain; separator, stainless steel, riveted on
2	6	Cheesehead screw M 2.5 × 12, St, nickel-plated
3	6	Washer 2.6, St, nickel-plated

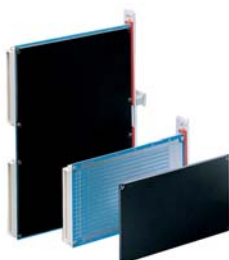
## Order Information

Description	Height H mm	Part no.
For 9 U PCBs	361.6	<b>20809-441</b>

LKA42593

## PCB covers

- Covers to protect solder side of board, see page 7.62



11092008

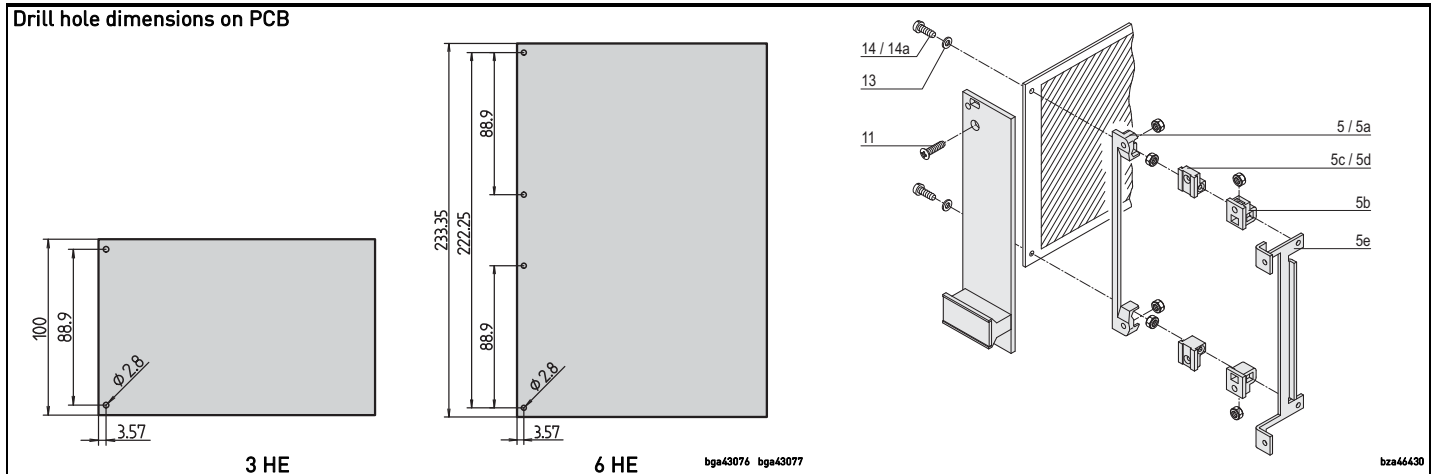


## PCB accessories

**Individual components**

**PCB support for static trapeziform handle**

### Fixing parts for extractor handles in key form 2



Fixing parts	Item	Image	Required quantity		Qty/PU	Part no.
			3 U	6 U		
PCB bracket 4 clearance holes for front panel/PCB fixing, 4 recesses for hexagon nuts; PBT, UL 94 V-0, red	5		1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-011</b>
PCB bracket 4 threads M2.5 for front panel/PCB fixing, PBT, UL 94 V-0, grey, 1 piece	5a	 <small>AZA45177</small>	1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-211</b>
PCB bracket Clearance hole for front panel fixing, with recess for hexagon nut, drill hole for self-tapping screw for PCB fixing, PBT, UL 94 V-0, grey, 1 piece	5b	 <small>AZA45177</small>	2	4	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-183</b>
PCB bracket 2 threads M2.5 for front panel/PCB fixing, die-cast zinc, 1 piece	5c	 <small>06707050</small>	2	4	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-181</b>
PCB bracket Thread M2.5 for front panel fixing, clearance hole for PCB fixing, die-cast zinc, 1 piece	5d	 <small>06707050</small>	2	4	1 piece (SPQ 10) <sup>1)</sup>	<b>60807-203</b>
PCB bracket 4 threads M2.5 for fixing front panel/PCB for recessed PCB mounting (20 mm), mounting depth 192.24 mm, St, zinc-plated; not for europacPRO, multipacPRO, ratiopacPRO, propacPRO or compacPRO, 1 piece	5e	 <small>AZA46586</small>	1	2	1 piece (SPQ 10) <sup>1)</sup>	<b>30808-871</b>

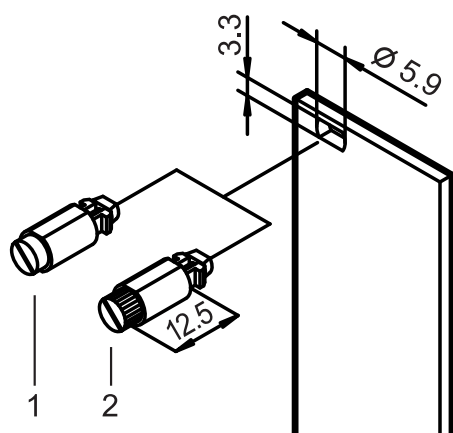
1) SPQ (standard pack quantity): Part number includes 1 piece, but delivery is exclusively made in standard pack quantity (SPQ); please order at least the SPQ quantity or a multiple

## Assembly parts

### Assembly parts

- Quick-release fasteners
- Sleeves
- Screws
- Cage nuts
- Tools

### Quick-release fasteners



06702062

- Vibration and shock proof
- 1/4 rotary lock with defined stop
- Detection of fastening position through slot position

### Delivery comprises

Qty	Description
1	Locking pin, St, locking, Zn die-cast
1	Press-in sleeve, POM

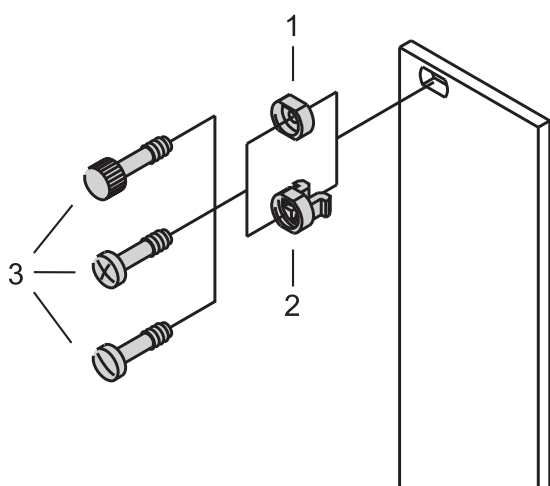
### Order Information

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

### Note

Quick-release fasteners: mounting without threaded insert

### Sleeves



06702061

### Order Information

Item	Description	Application	Qty/PU pieces	Part no.
2	Plastic sleeve, PA, grey	for unshielded front panels	100	<b>21100-464</b>
2	Plastic sleeve, PA, black	for unshielded front panels	100	<b>21100-591</b>
1	Metal sleeve, brass, nickel-plated	for shielded front panels	10	<b>21100-659</b>
1	Metal sleeve, brass, nickel-plated	for shielded front panels	100	<b>21100-660</b>
1	Metal sleeve, brass, black	for shielded front panels	10	<b>21100-885</b>
1	Metal sleeves, stainless steel	for shielded front panels	10	<b>21100-661</b>
1	Metal sleeves, stainless steel	for shielded front panels	100	<b>21100-662</b>

### Accessories

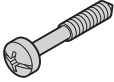
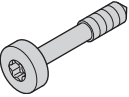
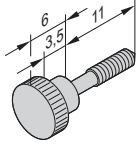
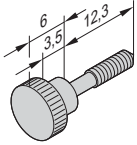
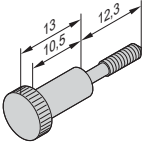
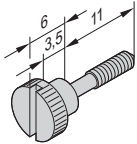
<b>Pozidrive/slotted collar screw</b> M2.5 × 11, St, nickel-plated, PU 100 pieces	<b>21100-748</b>
<b>Pozidrive/slotted collar screw</b> M2.5 × 12.3, St, nickel-plated, PU 100 pieces	<b>21101-101</b>

### Note

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

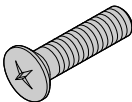

## Assembly parts

### Collar screws

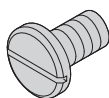
	Description	Material	Dimension	Qty/PU	Part no.
 <small>AZA46586</small>	Pozidrive/slotted collar screw	St, nickel-plated	M2.5 x 11	100	<b>21100-748</b>
		St, zinc-plated, black	M2.5 x 11	100	<b>21100-749</b>
		Stainless steel, with slot	M2.5 x 11	100	<b>21101-323</b>
		St, nickel-plated	M2.5 x 12.3	100	<b>21101-101</b>
		St, zinc-plated, black	M2.5 x 12.3	100	<b>21101-102</b>
		Stainless steel	M2.5 x 12.3	100	<b>21101-906</b>
 <small>AZA45941</small>	Torx collar screw	St, nickel-plated	M2.5 x 12.3	100	<b>21101-782</b>
		St, zinc-plated, black	M2.5 x 12.3	100	<b>21101-783</b>
 <small>06709050</small>  <small>06709051</small>  <small>06709052</small>	Collar screw with knurled head	Brass, nickel-plated	M2.5 x 11	50	<b>21100-268</b>
		Brass, nickel-plated	M2.5 x 12.3	100	<b>21101-749</b>
		Brass, nickel-plated	M2.5 x 12.3	100	<b>21101-909</b>
 <small>06709053</small>	Slotted collar screw with knurled head	Brass, nickel-plated	M2.5 x 11	100	<b>21101-106</b>

## Assembly parts

### Countersunk screws

	Description	Material	Dimension	Qty/PU	Part no.
	Pozidrive countersunk screw	St, nickel-plated	M2.5 x 6	100	<b>21100-515</b>
		St, nickel-plated	M2.5 x 12	100	<b>21100-507</b>
<small>aza45182</small>					
	Torx countersunk screw	St, zinc-plated	M4 x 5	100	<b>24560-139</b>
		St, zinc-plated	M4 x 14	100	<b>24560-145</b>
<small>AZA46585</small>					
	Raised Pozidrive countersunk screw	St, nickel-plated	M2.5 x 8	100	<b>21100-429</b>
		St, nickel-plated	M2.5 x 10	100	<b>21100-500</b>
		St, zinc-plated, black	M2.5 x 10	100	<b>21100-649</b>
		St, nickel-plated	M3 x 8	100	<b>21100-542</b>
<small>06702056</small>					
	Torx countersunk screw, self-tapping	St, zinc-plated	2.5 x 7.7	100	<b>24560-158</b>
<small>06707057</small>					

### Screws for plug-in units



#### Order Information

Description	Qty/PU	Part no.
Slotted flathead screw, 6-32 UNC x 6	100	<b>21100-712</b>

06706053

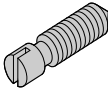
## Assembly parts

### Panhead screws



	Description	Material	Dimension	Qty/PU	Part no.
	Pozidrive panhead screw	St, nickel-plated	M2.5 x 5	100	<b>21101-314</b>
		St, nickel-plated	M2.5 x 6	100	<b>21101-219</b>
		St, nickel-plated	M2.5 x 8	100	<b>21101-069</b>
		St, nickel-plated	M2.5 x 10	100	<b>21101-220</b>
		St, nickel-plated	M2.5 x 12	100	<b>21101-221</b>
		St, nickel-plated	M2.5 x 16	100	<b>21101-222</b>
		St, zinc-plated	M5 x 12	100	<b>21100-788</b>
06702057					
	Torx panhead screw	St, zinc-plated	M2.5 x 6	100	<b>24560-159</b>
		St, nickel-plated	M2.5 x 7	100	<b>24560-147</b>
		St, nickel-plated	M2.5 x 10	100	<b>24560-148</b>
		St, nickel-plated	M2.5 x 12	100	<b>24560-161</b>
		St, nickel-plated	M2.5 x 14	100	<b>24560-162</b>
		St, zinc-plated	M4 x 6	100	<b>24560-135</b>
		St, zinc-plated	M4 x 6	100	<b>24560-151</b>
		St, zinc-plated	M4 x 10	100	<b>24560-155</b>
06702054					
	Screw + securing washer (PA)	St, nickel-plated	M2.5 x 12	100	<b>21100-777</b>
		06702051			
	Torx panhead screw, self-tapping	St, zinc-plated, black	2.5 x 7.3	100	<b>24560-157</b>
		St, zinc-plated	2.5 x 9.3	100	<b>24560-141</b>
06702058					

## Assembly parts




### Grub screws

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

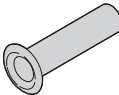
### Washers

	Description	Material	Dimension	Qty/PU	Part no.
 <small>AZA45178</small>	Washer	Plastic, PA	2.7 x 5 x 1	100	<b>21101-121</b>
		Plastic, PA	2.8 x 6,3 x 2	100	<b>21101-964</b>
		St, nickel-plated	A2.7 DIN 125	100	<b>21100-721</b>
 <small>AZA45180</small>	Shakeproof washer	St, nickel-plated	A 2.6	100	<b>21100-142</b>

### Nuts

	Description	Material	Dimension	Qty/PU	Part no.
 <small>AZA43239</small>	Hexagon nut	St, nickel-plated	M2.5	100	<b>21100-144</b>
 <small>06707050</small>	Square nut	St, nickel-plated	M2.5	100	<b>21100-359</b>
 <small>AZA45921</small>	Square nut	St, zinc-plated	M4	100	<b>24560-140</b>

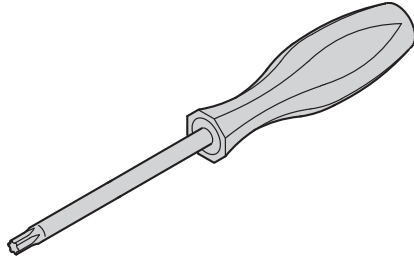
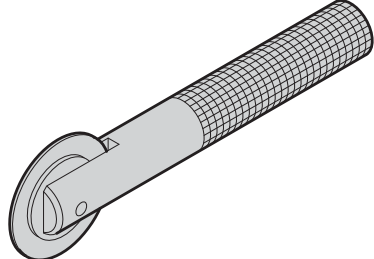
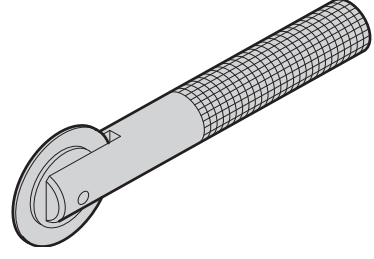
### Tubular rivet

	Description	Material	Dimension	Qty/PU	Part no.
 <small>06706050</small>	Tubular rivet, form B (roundhead)	St/brass, raw	B 2.5 x 0.25 x 5	100	<b>21100-459</b>

## Assembly parts

### Assembly tools

#### Order Information

	Description	Application	Dimension	Qty/PU	Part no.
 <small>AZA45925</small>	Torx screwdriver	For M2.5 screw	T8	1	<b>64560-026</b>
		For M4 screw	T20	1	<b>64560-027</b>
 <small>aza45938</small>	Assembly tool	Exclusively to fix stainless steel EMC gaskets in horizontal rails	-	1	<b>24560-271</b>
 <small>aza45937</small>	Assembly tool	To fix stainless steel EMC gaskets on front panels with lateral slot	-	1	<b>24560-270</b>

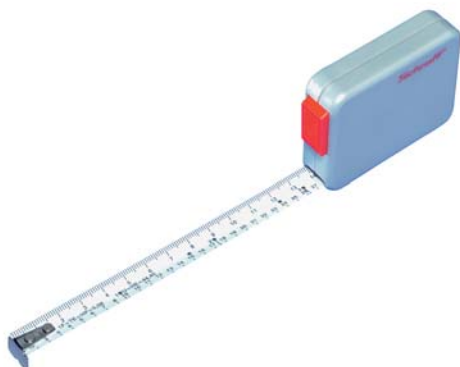
#### Note

- Assembly tool to insert keying/coding pegs in guide rails is available on request

## Assembly parts

### Measuring tape

- Measuring tape with cm, U-, HP-division (length 2 m)
- Plastic housing, metal measuring tape with automatic collection



32506001

### Order Information

Description	Qty/PU	Part no.
Measuring tape	1	<b>89009-001</b>



## Appendix – Order notes

### Packaging units

A packaging unit (PU) - e.g. carton, bag - contains the stated quantity. If you order the quantity 1, you will automatically receive the quantity defined as PU.

Example: EMC textile gasket  
See page 5.22  
Part number 21101-853

Quantity (per part number): 10 pieces

Order quantity: . . . . . Delivery quantity:

1 . . . . .	10 pieces
2 . . . . .	20 pieces
3 . . . . .	30 pieces

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### Standard pack quantity (SPQ)

Please take into consideration that deliveries may be carried out in the stated SPQs (SPQ, e.g. 5 pieces, 10 pieces, 50 pieces, etc.). Differing order quantities (e.g. 2 pieces) may be changed to the next possible delivery quantity = Standard Pack Quantity (in this case 10 pieces).

Example: Front horizontal rail  
See page 5.31  
Part number 34560-228

Quantity (per part number): 1 piece  
Standard pack quantity (SPQ): 10 pieces

Order quantity: . . . . . Delivery quantity:

≤ 10 . . . . .	10 pieces
> 10 ≤ 20 . . . . .	20 pieces
> 20 ≤ 30 . . . . .	30 pieces

### Delivery times

Part numbers in bold face type are ready for despatch within 2 working days; part numbers in normal type are ready for despatch within 10 working days.

### Business relations

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D-75334 Straubenhardt, Germany

The data in this catalogue have been thoroughly edited and checked - in assistance with an accredited Quality Management System in accordance with EN ISO 9001:2008.

Faults and spelling mistakes, but mainly changes due to improvements and further developments of our products are subject to change. There is no possibility to claim indemnity/compensation.

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