

4: Cassettes and Modules

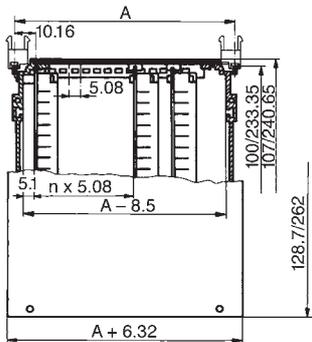


- Designed to accept single or double eurocards
- Depths 160 mm (6.29") or 220 mm (8.66")
- Aligned for connectors conforming to IEC 60603-2
- External dimensions meet the requirements for attachment to sub racks as specified in IEC 60297
- Plug-in units
- PCB firmly attached to the side extrusions

4.1 Cassette A

- Accepts several PCBs on horizontal pitch of 1 HP (5.08 mm, 0.20")
- IEC60603-2 connectors can be mounted internally at rear
- Connectors can be interwired to form a functional plug-in unit
- Suitable for use with all sub racks, adaptation kits for mounting eurocards and eurocard mounting sets
- Several eurocards 100 x 160 mm (3.93" x 6.29") or 100 x 220 mm (3.93" x 8.66") can be fitted
- Several double eurocards 233.35 x 160 mm (9.18" x 6.29") or 233.35 x 220 mm (9.18" x 8.66") can be fitted
- Possibility to mount 100 x 160 mm (3.93" x 6.29") PCBs recessed inside a 100 x 220 mm (3.93" x 8.66") cassette with insertion from front or rear (see wiring example)
- Edge connectors used for interwiring are attached to connector mounting angles at the rear of the cassette
- Card guides are used to locate the cassette in the sub rack
- Right and left side extrusions with grooves for sliding in a PCB
- Installation of further PCB's by assembly of card guides in the perforated bottom/top covers
- **Scope of delivery:**
 - Front panel
 - Side extrusions
 - Top/bottom covers
 - Mounting angle
 - Extension piece
 - Assembly material
 - Rear panel (6 U version only)
 - Side covers (6 U version only)
- Front panel screws, see 4.1.1
- Handles, see 4.4.2

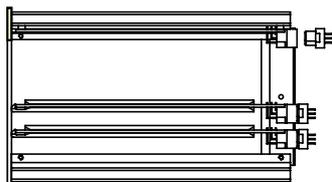
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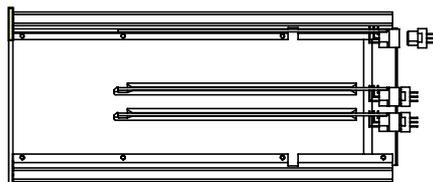
Dimensions Cassette A

Width	A mm	A inch
14 HP	64.60	2.54
21 HP	100.16	3.94
28 HP	135.72	5.34
42 HP	206.84	8.14

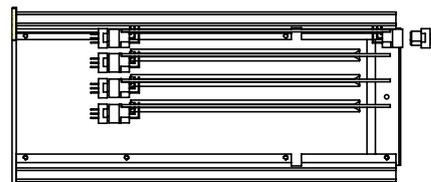
Mounting Possibilities



Card Depth 160/220 mm



Card Depth 160 mm Recessed



Card Depth 160 mm Rear Insertion*

* When 160 mm cards are inserted from the rear of a 220 mm cassette, a rear panel is required (see 4.1.5)

4.1.1 Cassette A, for Several Eurocards



4.1.1 Cassette A, for Several Eurocards

Depth	Width	3 U	6 U
160 mm 6.29"	14 HP	23A302	-
	21 HP	23A312	-
	28 HP	23A322	-
	42 HP	23A332	-
220 mm 8.66"	14 HP	-	23A603
	-	-	-

Front Panel Screws

- Set of 10 screws, M2.5 x 11.3
- With screw retainer
- Per cassette A 4 screws are needed

Description	Part-No. 10 pcs.
Torx screws, size T8, with plastic screw retainer	63K159
Rounded head screws recessed, with plastic screw retainer	63-159

For more front panel screws refer to chapter E

4: Cassettes and Modules

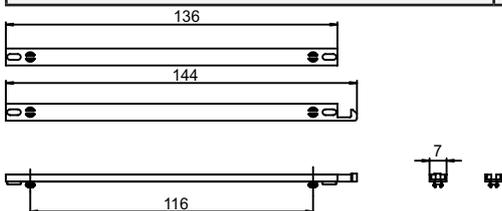
4.1.2 Card Guides



4.1.2 Card Guides

- For mounting PCBs in cassettes
- Assembly in the perforated bottom/top covers
- Light grey UL94 V-0

Description	Card Depth	Part-No. 1 Pair
Card guides in cassettes	160/220 mm (6.29"/8.66")	61-034



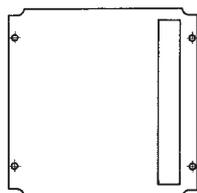
4.1.3 Rear Panel



4.1.3 Rear Panel

- For mounting from rear for 160 mm (6.29") cards in cassettes 220 mm (8.66")

Connector Body Style, acc. IEC60603-2	Height	14 HP	21 HP	28 HP
B, C, D	for 3 U	-	23-386-1	23-387-1
E, F, H	for 3 U	23-385-2	23-386-2	-



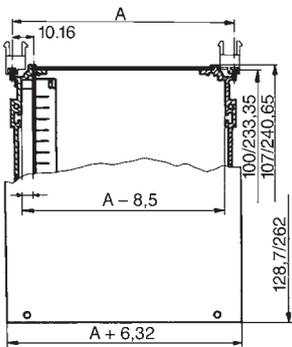
Please note:

For front panels, handles and front panel screws must be ordered separately. Card guides for use inside cassettes, card guides to locate cassettes, edge connector mounting pieces and special screws for mounting connectors need to be ordered separately.

4: Cassettes and Modules

4.2 Module B

- Accepts one PCB and various non-standard and bulky components which can be mounted using the grooves formed in the side extrusions
- By interwiring the components, the module can be used as functional plug-in unit
- Suitable for use with all sub racks, adaptation kits for mounting eurocards and euro-card mounting sets
- Accepts a eurocard 100 x 160 mm (3.93" x 6.29") or 100 x 220 mm (3.93" x 8.66") and double eurocards 233.35 x 160 mm (9.18" x 6.29") or 233.35 x 220 mm (9.18" x 8.66") fastened to the side extrusions and leaving room for non-standard and bulky components
- Card guides are used to locate the module in the sub rack
- **Scope of delivery:**
 - Front panel
 - Side extrusions
 - Top/bottom covers
 - Rear panel
 - Assembly material
 - Side covers (6 U versions only)
- Front panel screws, see 4.2.1
- Handles see 4.4.2



Dimensions Module B

Width	A mm	A inch
14 HP	64.60	2.54
21 HP	100.16	3.94
28 HP	135.72	5.34

4.2.1 Module B, for One Eurocard and Bulky Components



4.2.1 Module B, for One Eurocard and Bulky Components

Depth	Width	Connector Body Style acc. IEC 60603-2	3 U	6 U
160 mm 6.29"	21 HP	B, C, D	23B312-1	23B612-1
		E, F, H	23B312-2	-
220 mm 8.66"	14 HP	E, F, H	23B303-2	23B603-2
	21 HP	E, F, H	23B313-2	23B613-2

Front Panel Screws

- Set of 10 screws, M2.5 x 11.3
- With screw retainer
- Per module B 4 screws are needed

Description	Part-No. 10 pcs.
Torx screws, size T8, incl. plastic screw retainer	63K159
Rounded head screws recessed, incl. plastic screw retainer	63-159

For more front panel screws refer to chapter 7

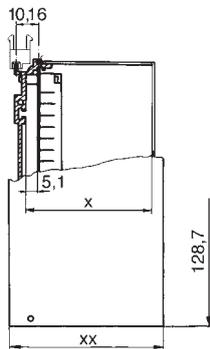
Please note:

Handles for front panels, front panel screws and card guides to locate the module need to be ordered separately.

4: Cassettes and Modules

4.3 Module C

- These narrow modules can be used for the shielding and mechanical protection of single PCBs or as small functional plug-in units
- Suitable for use with all sub racks and eurocard mounting sets
- The C-type module accepts one eurocard 100 x 160 mm (3.93" x 6.29") or 100 x 220 mm (3.93" x 8.66") with edge connector to IEC60603-2, types B, C, D
- The closed module provides good shielding and also mechanical protection for sensitive components
- Card guides are used to slide the module into the sub rack
- **Scope of delivery:**
 - Front panel
 - Side extrusion
 - Cover
 - Assembly material
- Front panel screws, see 4.3.1
- Handles see 4.4.2



Dimensions Module C

Width	x mm	x inch	xx mm	xx inch
7 HP	24.48	0.96	35.36	1.39
10 HP	39.72	1.56	50.60	1.99
14 HP	60.04	2.36	70.92	2.79

4.3.1 Module C, for One Eurocard and Bulky Components



4.3.1 Module C, for One Eurocard and Bulky Components

Depth	Width	Cover	3 U
160 mm 6.29"	7 HP	solid	23C307-10
	10 HP	solid	23C310-10
		perforated	23C310-11
220 mm 8.66"	7 HP	solid	23C314-10
		perforated	23C314-11
220 mm 8.66"	7 HP	solid	23C307-30
		perforated	23C307-31

Front Panel Screws

- Set of 10 screws, M2.5 x 11.3
- With screw retainer
- Module C width 7 HP = 2 screws; ≥ 10 HP = 4 screws

Description	Part-No. 10 pcs.
Torx screws, size T8	63K159
Rounded head screws recessed	63-159

For more front panel screws refer to chapter E

Please note:

Handles for front panels, front panel screws and card guides to locate the module need to be ordered separately.

4: Cassettes and Modules

4.4 Accessories for Cassettes and Modules

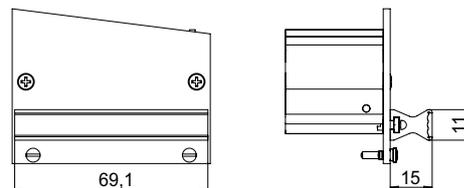
4.4.1 Card Guides



4.4.1 Card Guides

- Used to locate the module in the sub rack
- Black plastic UL94 V-0

Card Depth		Part-No.
mm	inch	
160	6.29	61-044
220	8.66	61-039

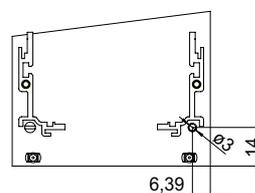


4.4.2 Fluted Handles



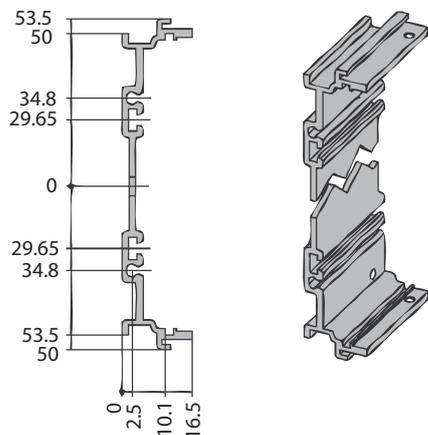
4.4.2 Fluted Handles

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



7 HP	10 HP	14 HP
23-060	23-061	23-062

4.4.3 Side Wall Extrusion

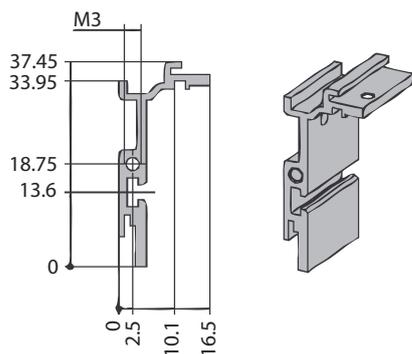


4.4.3 Side Wall Extrusion

- To build up customised solutions
- For 3 U type 23 cassettes and modules
- **Scope of delivery:**
 - 1 side wall extrusion
- Assembly material has to be ordered separately

Length mm	Length inch	Part-No. Clear Passivation	Part-No. Raw
165.7	6.52	66-106-20	—
225.7	8.87	66-106-21	—
1350.0	53.14	—	66-106-14

4.4.4 Depth Extrusion



4.4.4 Depth Extrusion

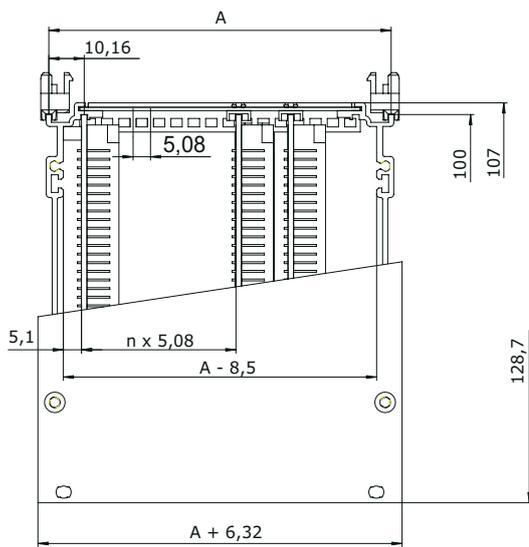
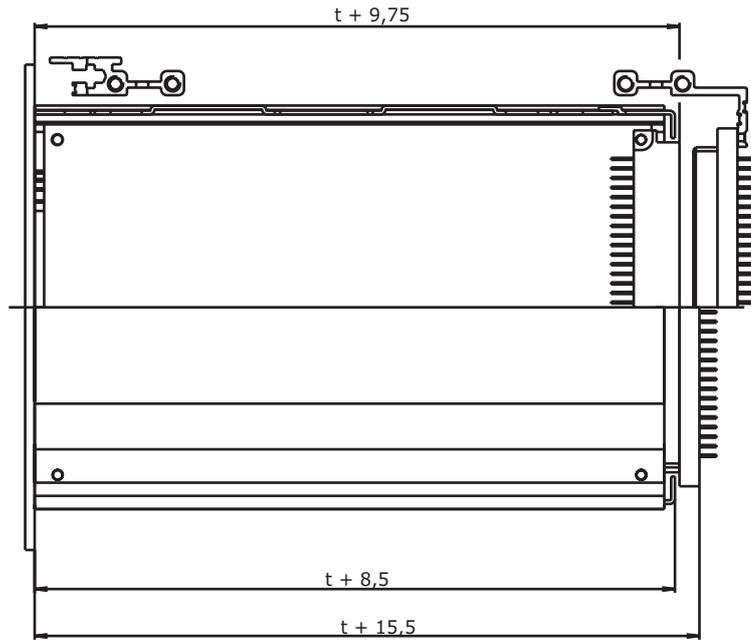
- To build up customised solutions
- For 6 U cassettes and modules type 23
- **Scope of delivery:**
 - 1 depth extrusion
- Assembly material has to be ordered separately

Length mm	Length inch	Part-No. Clear Passivation	Part-No. Raw
165.7	6.52	66-188-20	—
225.7	8.87	66-188-22	—
1350.0	53.14	—	66-188-14

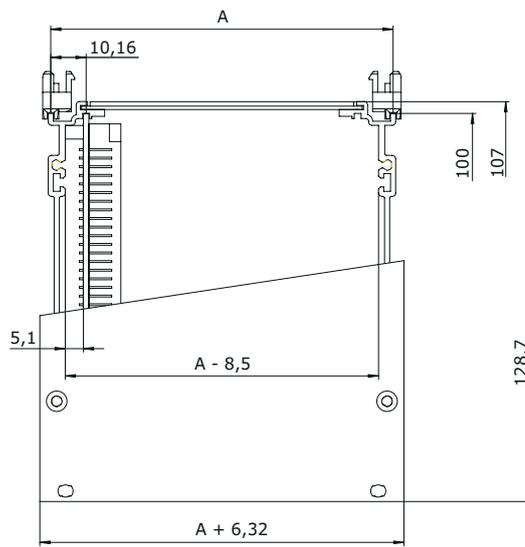
4: Cassettes and Modules

4.5 Line Drawings

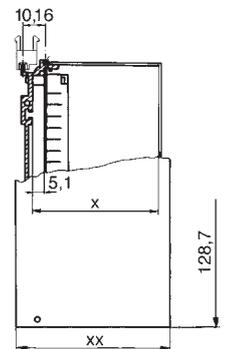
4.5.1 3 U Cassettes and Modules



Cassette A



Module B



Module C

Cassette A and Module B

Width	A mm	A inch
14 HP	64.60	2.54
21 HP	100.16	3.94
28 HP	135.72	5.34
42 HP	206.84	8.14

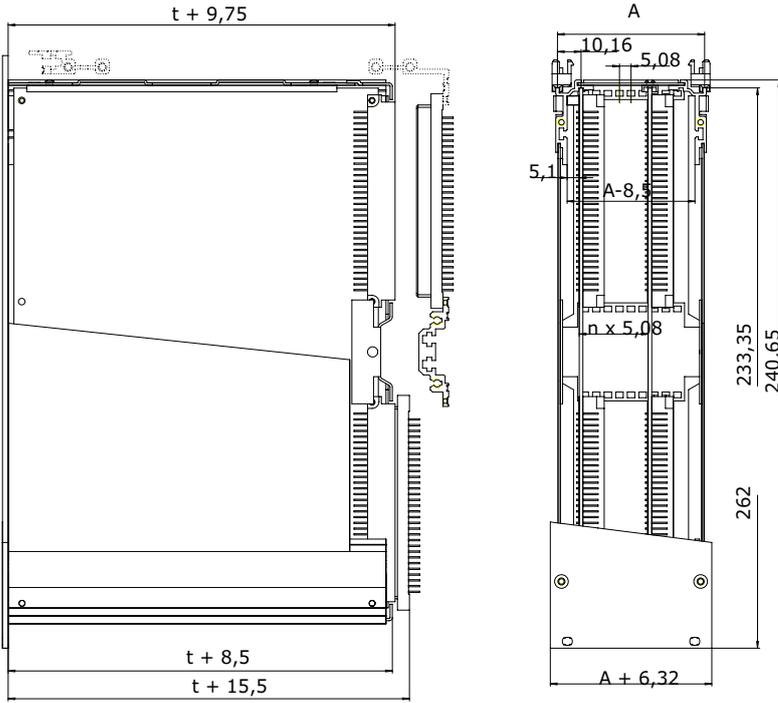
Module C

Width	x mm	x inch	xx mm	xx inch
7 HP	24.48	0.96	35.36	1.39
10 HP	39.72	1.56	50.60	1.99
14 HP	60.04	2.36	70.92	2.79

t = card depth = 160/220 mm (6.29"/8.66")

4: Cassettes and Modules

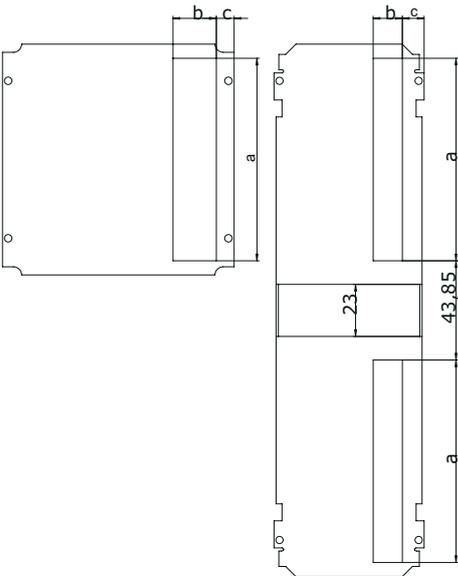
4.5.2 6 U Cassettes and Modules



Width	A mm	A inch
14 HP	64.60	2.53
21 HP	100.16	3.94
28 HP	135.72	5.34
42 HP	206.84	8.14

t = Card Depth = 160/220 mm (6.29"/8.66")

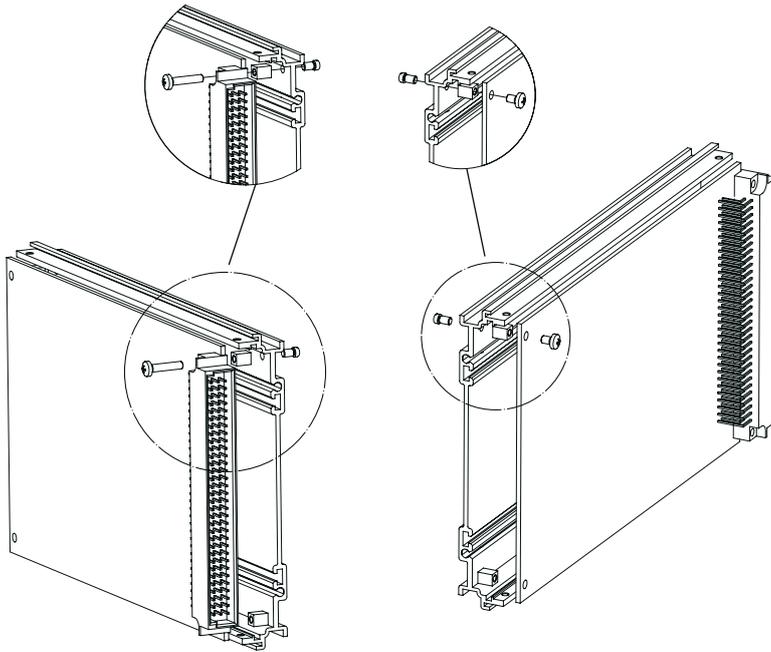
4.5.3 Rear Panel



	Height	IEC60603-2 Connectors			
		B, C, D mm	B, C, D inch	E, F, H mm	E, F, H inch
a	3 U	89.5	3.52	89.5	3.52
	6 U	89.5	3.52	89.5	3.52
b	3 U	12.0	0.47	19.0	0.74
	6 U	12.8	0.50	19.1	0.75
c	3 U	9.65	0.38	7.80	0.30
	6 U	9.55	0.37	7.75	0.30

4: Cassettes and Modules

4.5.4 Fixing Methods

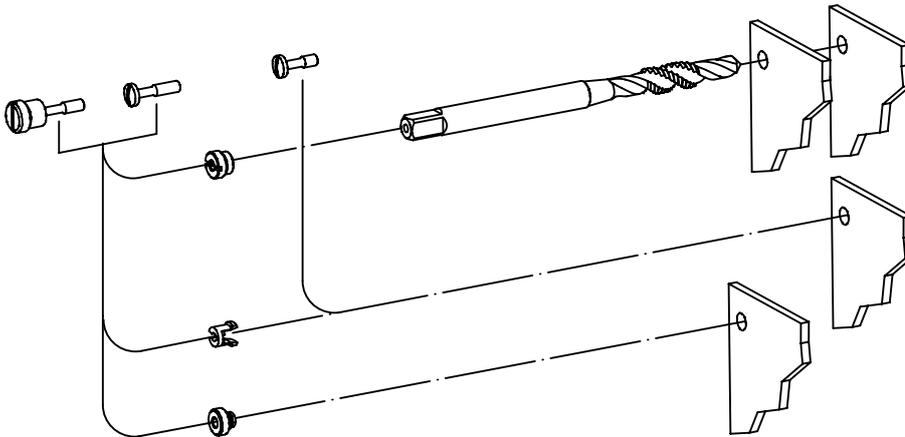


Rear Fastening

Front Fastening

The PCB can be fastened to the front or rear of the side extrusions

Fixing of Front Panel Screws



- Fixing screw only
- Screw with threaded bush
- Screw with retainer
- Screw with press-fit bush (M2.5 only)

If threaded bushes are used, the fixing holes must be drilled out and tapped, M5 x 0.5. Elma will perform this task on request.

No reworking is necessary when press-fit bushes are used.