

With Alurail, BOPLA has developed a modular DIN rail enclosure which is especially suitable for use in measurement, control and automatic control technology. Basic profiles, each in eight standard lengths, are also available.

A split basic profile which facilitates PCB installation can also be supplied. In addition to the front panel, customer-specific PCBs can also be inserted into the basic profile as a front end element. Individual design of the enclosure construction is made possible by the clipping on and screwing of different module types in various lengths onto the basic profile.

are equipped with integrated guide grooves for one or more PCBs. If required by the customer, the basic and module profiles can be supplied in special lengths.

In addition to the fitting of the enclosure onto a DIN rail (35 mm) acc. to DIN EN 60715 TH35 (previously DIN EN 50022), the enclosure can also be fitted directly to the wall. The fitting element required for this purpose is available as part of the Alurail accessories programme.

As a system supplier, in addition to the matching connection terminals BOPLA also offers customer-specific membrane keypads and all the necessary processing work at low cost and from a single source.

Enclosure material: Profiles: extruded aluminium profile, Al Mg Si 0.5; profile caps: polyamide 6.6 FR. For technical data, see pages 646-655.

Colour: Aluminium profile: anodised; profile caps: light grey, similar to RAL 7035; special colours on request.

Ingress protection: Up to IP 40/ DIN EN 60529, depending on enclosure construction.

Accessories (additional charge):

- ARPM...: Module profiles for screwing onto the basic profile
- ARPMG 00/...: Split module profiles for screwing onto the basic profile
- ARM...: Module caps
- ARM...FP: Module front panels
- AR...MB: Module bridges for fitting the module profiles onto the basic profile (required if basic profile and module profile are of different lengths)
- AR ... WB: Wall fixing set
- AR-E: Earthing set
- AR-R: Snap-on element
- AR ... -KS-AL: Side panels, aluminium

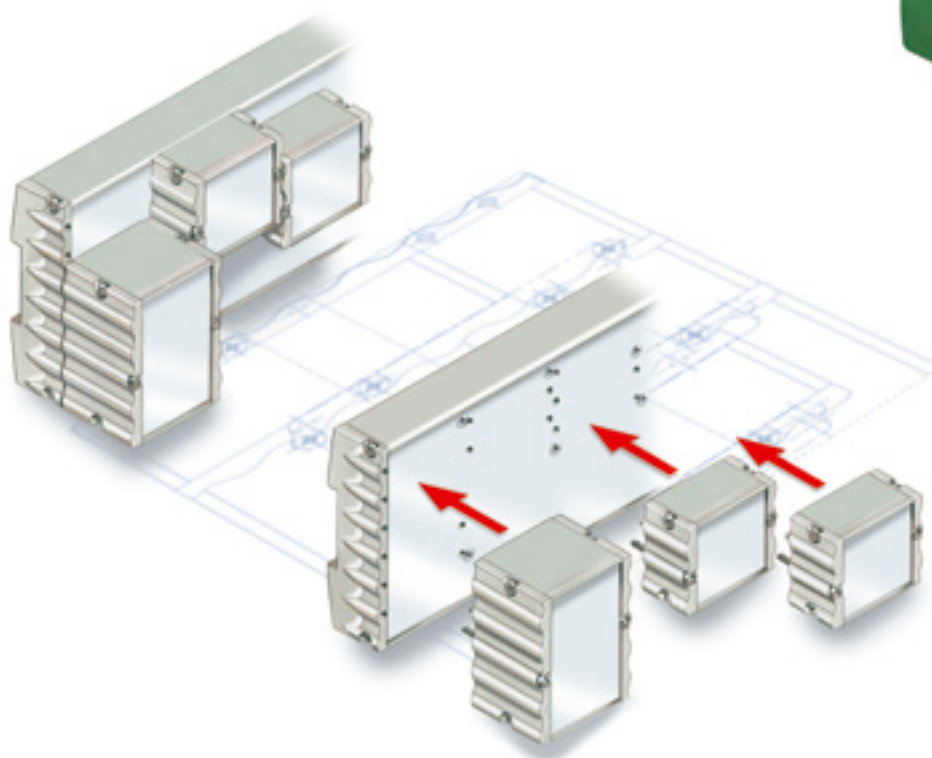
Note:

Connection terminals for your individual needs are shown starting on page 267. All plastic parts are made of flame-resistant material (UL 94 V0). The enclosure construction (basic profile ARP 75/31 and ARP 105/31 respectively in combination with a module profile ARPM 45/27) corresponds to DIN 43880 for installation equipment.

Note

All profile and module caps are available in special colours on request.

Alurail – construction variants



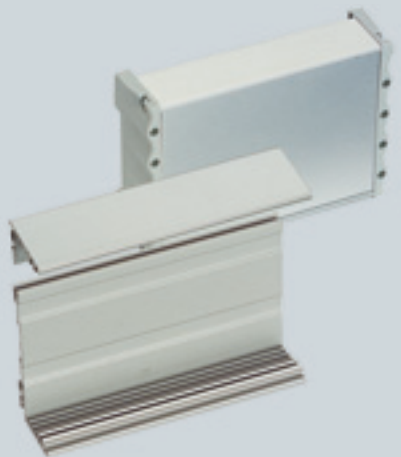
Alurail with profile caps in yellow-green, similar to RAL 6018.



Alurail 75/31



Basic profile ARP 75/31-...
 The basic profile can be fixed onto a DIN rail (35 mm) acc. to DIN EN 60715 TH35 (previously DIN EN 50022) or directly onto the wall.
 The anodised profile is fitted with slots for holding PCBs or mounting plates.
 Different module profiles which can be screwed onto the basic profile permit individual enclosure construction.



Split basic profile ARPG 75/31-...



Profile caps AR 75/31-...

Basic profiles

Order designation

Model	Order no.	LG (Basic profile length)	W
ARP 75/31-52,5	87010525	42.5	75.0
ARP 75/31-70	87010700	60.0	75.0
ARP 75/31-105	87011050	95.0	75.0
ARP 75/31-140	87011400	130.0	75.0
ARP 75/31-175	87011750	165.0	75.0
ARP 75/31-210	87012100	200.0	75.0
ARP 75/31-245	87012450	235.0	75.0
ARP 75/31-1000	87010000	990.0	75.0

Scope of delivery: Enclosure profile

Note:

Please order front panels and basic profile caps separately.
 Special lengths on request.

The module profiles are shown in "Alurail accessories" starting on page 184.

Split basic profiles

Order designation

Model	Order no.	LG (Basic profile length)	W
ARPG 75/31-52,5	87030525	42.5	75.0
ARPG 75/31-70	87030700	60.0	75.0
ARPG 75/31-105	87031050	95.0	75.0
ARPG 75/31-140	87031400	130.0	75.0
ARPG 75/31-175	87031750	165.0	75.0
ARPG 75/31-210	87032100	200.0	75.0
ARPG 75/31-245	87032450	235.0	75.0
ARPG 75/31-1000	87030000	990.0	75.0

Scope of delivery: Enclosure profile

Note:

Please order front panels and basic profile caps separately.
 Special lengths on request.

The module profiles are shown in "Alurail accessories" starting on page 184.

Profile caps

Order designation

Model	Order no.	Design
AR 75/31-KS 1	87301100	Profile caps with drill holes for fixing the module
AR 75/31-KS 2	87302100	Profile caps without drill holes

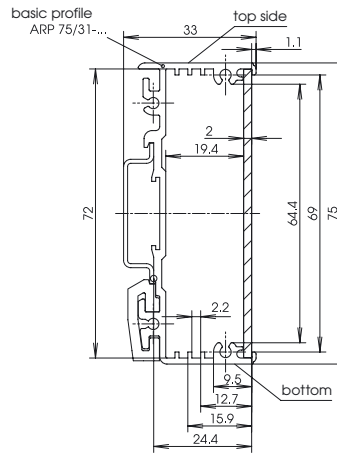
Scope of delivery:

2 basic profile caps,
 4 fixing screws,
 1 snap-on element,
 1 positioning screw for snap-on element

Note:

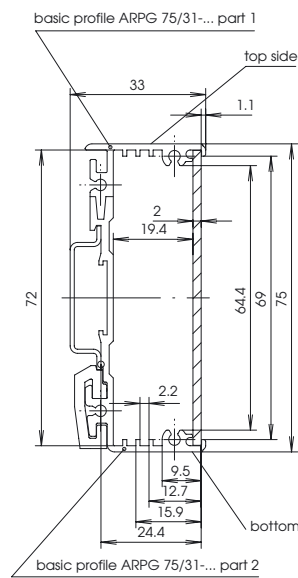
Caps are made of PA 6.6, light grey (similar to RAL 7035) in UL 94 V0; special colours are available on request.

Basic profiles



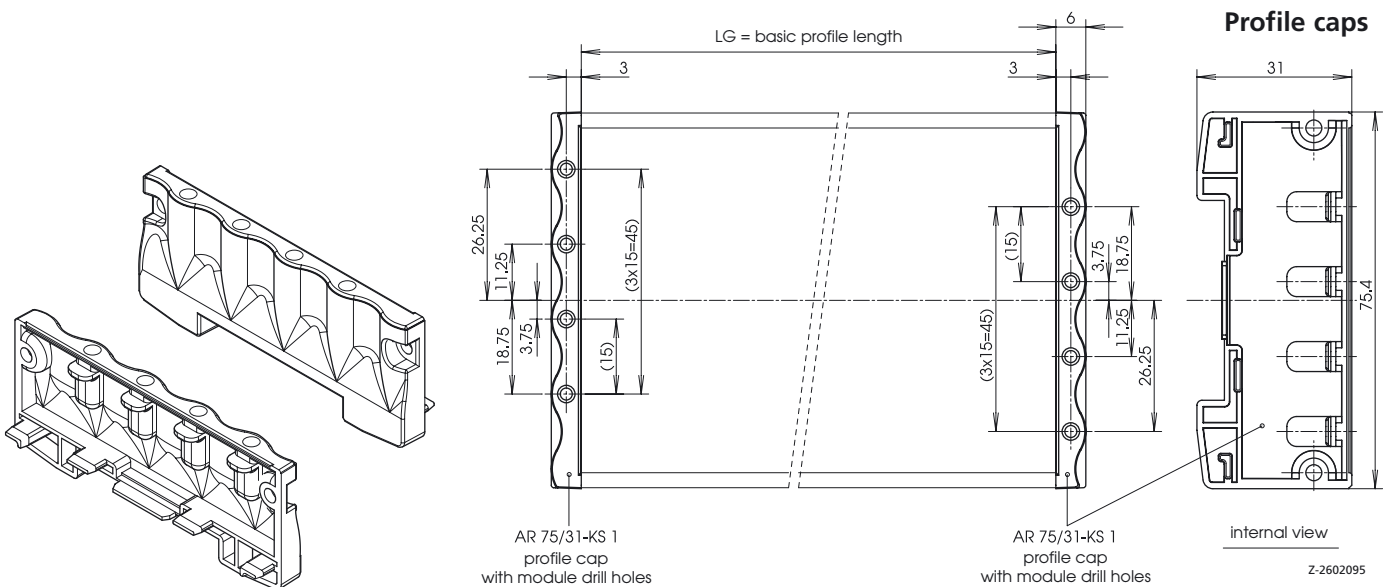
Z-2602094

Split basic profiles



Z-2602360

Profile caps



Z-2602095



Alurail 75/31



AR 75...-KS-AL

Aluminium side panels

Order designation

Model	Order no.	For system components
AR 75-KS-AL	87304100	ARP 75/31-...
AR 75/45-KS-AL	87304200	ARP 75/31-... +ARPM 45/27-...
AR 75/75-KS-AL	87304300	ARP 75/31-... +ARPM 75/42-...

Scope of delivery:

- 2 side panels,
- 4 fixing screws,
- 1 snap-on element,
- 1 positioning screw for snap-on element

Note:

The aluminium side panels can be used as an alternative to the profile caps AR... -KS... . This permits an especially narrow construction for the units.

Transfer connectors can be fitted in the side panels from one unit to the adjacent unit. Instead of the basic profile front panel, when the side panels are used the module front panel ARM 75-...FP must be fitted in the basic profile, see page 189.



Basic profile front panels AR 75-...FP
The front panels are manufactured of anodised aluminium as standard.

Basic profile front panels

Order designation

Model	Order no.	For profile length
AR 75-52,5 FP	87400525	42.5
AR 75-70 FP	87400700	60.0
AR 75-105 FP	87401050	95.0
AR 75-140 FP	87401400	130.0
AR 75-175 FP	87401750	165.0
AR 75-210 FP	87402100	200.0
AR 75-245 FP	87402450	235.0
AR 75-1000 FP	87400000	990.0

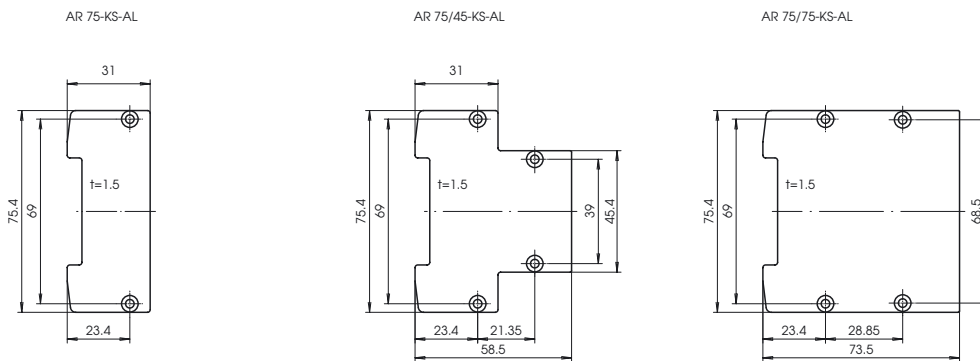
Scope of delivery:

- 1 anodised front panel

Note: Front panels made of red-translucent or clear plastic can also be manufactured on request for use

with LEDs or similar. Customer-specific PCBs with a front membrane as an operating front can also be used.

Aluminium side panels

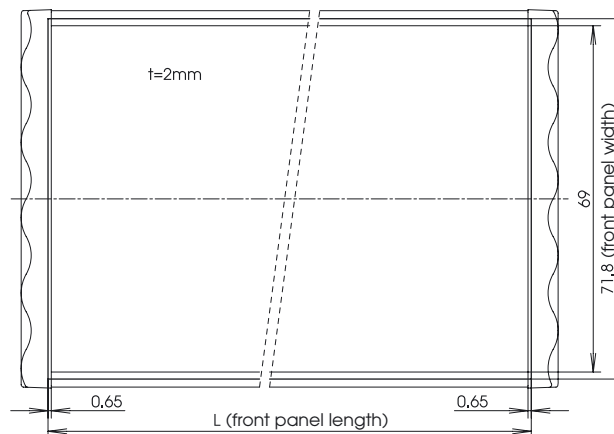


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Basic profile front panels

Table of dimensions

Model	L (Front panel length)
AR 75-52,5 FP	43.8
AR 75-70 FP	61.3
AR 75-105 FP	96.3
AR 75-140 FP	131.3
AR 75-175 FP	166.3
AR 75-210 FP	201.3
AR 75-245 FP	236.3
AR 75-1000 FP	991.3



Z-2602097

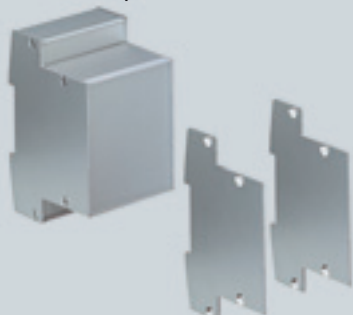
Alurail 105/31



Basic profile ARP 105/31-...
The basic profile can be fixed onto a DIN rail (35 mm) acc. to DIN EN 60715 TH35 (previously DIN EN 50022) or directly onto the wall.
The anodised profile is fitted with slots for holding Euro card format PCBs or mounting plates.



Profile caps AR 105/31-...



AR 105...-KS-AL



Basic profile front panels AR 105-...FP
The front panels are manufactured of anodised aluminium as standard.

Basic profiles

Order designation

Model	Order no.	LG (Basic profile length)	W
ARP 105/31-52,5	87020525	42.5	105.0
ARP 105/31-70	87020700	60.0	105.0
ARP 105/31-105	87021050	95.0	105.0
ARP 105/31-140	87021400	130.0	105.0
ARP 105/31-175	87021750	165.0	105.0
ARP 105/31-210	87022100	200.0	105.0
ARP 105/31-245	87022450	235.0	105.0
ARP 105/31-1000	87020000	990.0	105.0

Scope of delivery: Enclosure profile

Note:

Please order front panels and basic profile caps separately.
Special lengths on request.

Screwing different module profiles onto the basic profile creates an individual enclosure construction. The module profiles are shown in "Alurail accessories" starting on page 184.

Profile caps

Order designation

Model	Order no.	Design
AR 105/31-KS 1	87301200	Profile caps with drill holes for fixing the module
AR 105/31-KS 2	87302200	Profile caps without drill holes

Scope of delivery:

2 basic profile caps,
4 fixing screws,
1 snap-on element,
1 positioning screw for snap-on element

Note:

Caps are made of PA 6.6, light grey (similar to RAL 7035) in UL 94 V0; special colours are available on request.

Aluminium side panels

Order designation

Model	Order no.	For system components
AR 105-KS-AL	87304110	ARP 105/31-...
AR 105/45-KS-AL	87304210	ARP 105/31-... +ARPM 45/27-...
AR 105/75-KS-AL	87304310	ARP 105/31-... +ARPM 75/42-...

Scope of delivery:

2 side panels,
4 fixing screws,

Note: The aluminium side panels can be used as an alternative to the profile caps AR... -KS... . This permits an especially narrow construction for the units.

1 snap-on element,
1 positioning screw for snap-on element
Transfer connectors can be fitted in the side panels from one unit to the adjacent unit. If a basic profile front panel AR 105...FP is used at the same time, it must be shortened by 1.3 mm.

Basic profile front panels

Order designation

Model	Order no.	For profile length
AR 105-52,5 FP	87410525	42.5
AR 105-70 FP	87410700	60.0
AR 105-105 FP	87411050	95.0
AR 105-140 FP	87411400	130.0
AR 105-175 FP	87411750	165.0
AR 105-210 FP	87412100	200.0
AR 105-245 FP	87412450	235.0
AR 105-1000 FP	87410000	990.0

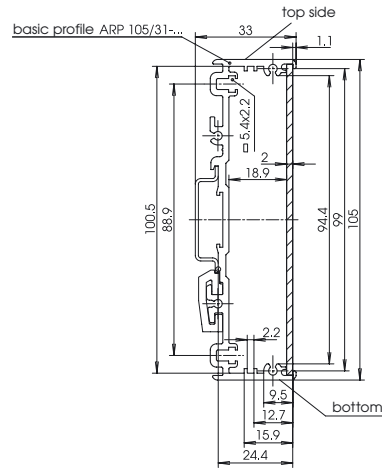
Scope of delivery:

1 anodised front panel

Note: Front panels made of red-translucent or clear plastic can also be manufactured on request for use

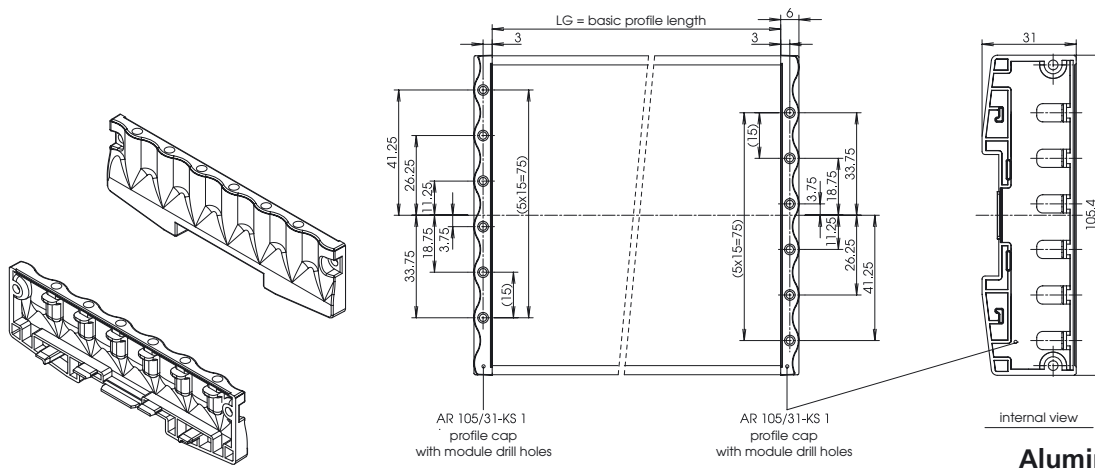
with LEDs or similar. Customer-specific PCBs with a front membrane as an operating front can also be used.

Basic profiles



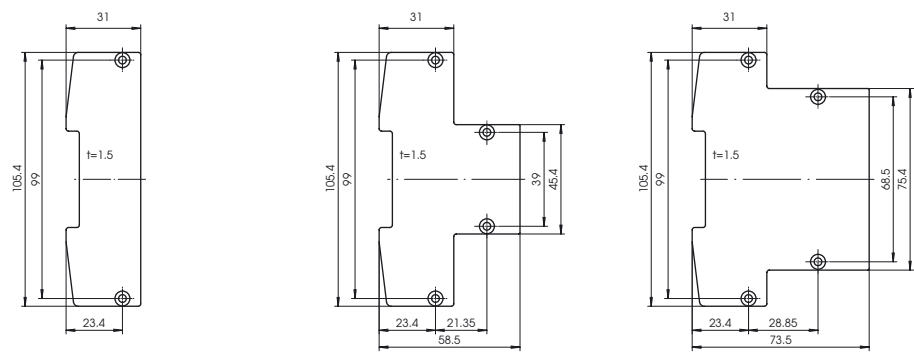
Z-2602098

Profile caps



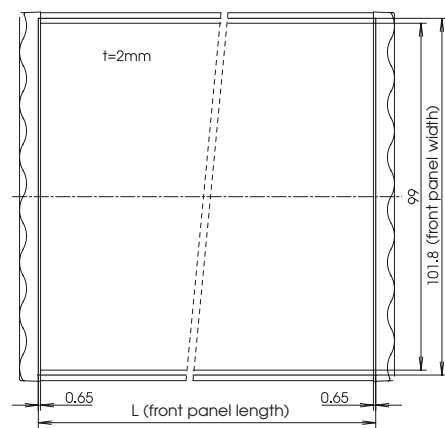
Z-2602099

Aluminium side panels



Z-2602609

Basic profile front panels



Z-2602101

Table of dimensions

Model	L (Front panel length)
AR 105/31-52,5 FP	43.8
AR 105/31-70 FP	61.3
AR 105/31-105 FP	96.3
AR 105/31-140 FP	131.3
AR 105/31-175 FP	166.3
AR 105/31-210 FP	201.3
AR 105/31-245 FP	236.3
AR 105/31-1000 FP	991.3



Alurail accessories

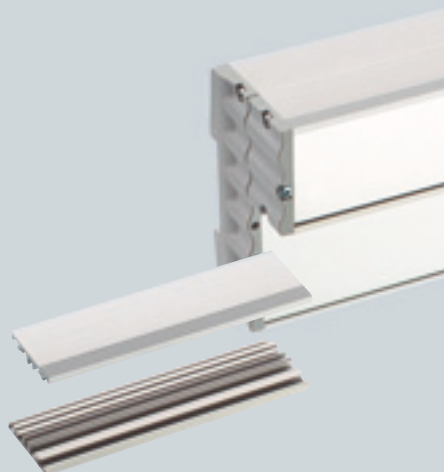


Module profile ARPM 45/27-...

The module profiles ARPM 45/27-... and ARPMG 00/27-... are fitted with slots to hold PCBs or mounting plates and, by using module caps ARM 45/27, can be placed and screwed onto the basic profile caps AR 75/31 or AR 105/31.

The position of the module profile over the appropriate basic profile can be changed in 15 mm steps (see diagrams on page 185).

If the lengths of the basic profile and the module profile(s) are different, it is also necessary to use the module bridges AB...MB when fixing the modules onto the front panel of the basic profile.



Split module profile ARPMG 00/27-...

Module profiles ARPM 45/27-...

Order designation

Model	Order no.	LM (Module profile length)	W	H
ARPM 45/27-35	87100350	25.0	45.0	27.5
ARPM 45/27-52,5	87100525	42.5	45.0	27.5
ARPM 45/27-70	87100700	60.0	45.0	27.5
ARPM 45/27-105	87101050	95.0	45.0	27.5
ARPM 45/27-140	87101400	130.0	45.0	27.5
ARPM 45/27-175	87101750	165.0	45.0	27.5
ARPM 45/27-210	87102100	200.0	45.0	27.5
ARPM 45/27-245	87102450	235.0	45.0	27.5
ARPM 45/27-1000	87100000	990.0	45.0	27.5

Scope of delivery: Enclosure profile

Note:

Special lengths on request.
For matching module caps ARM 45/27 and front panels ARM 45-... FP, see page 188.
For module bridges, see page 190.

Split module profiles ARPMG 00/27-...

Order designation

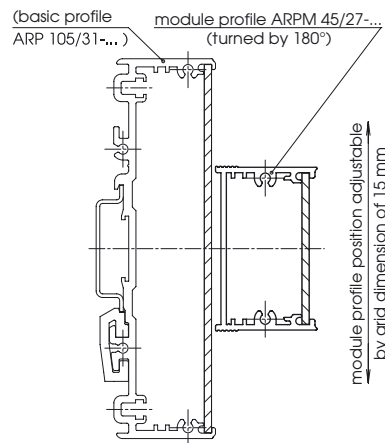
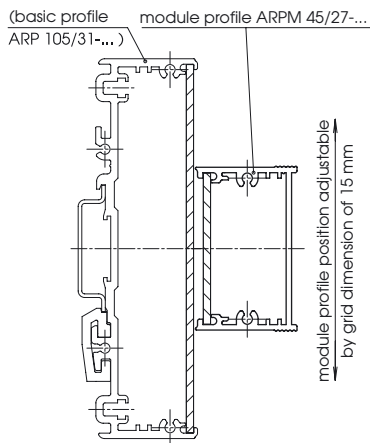
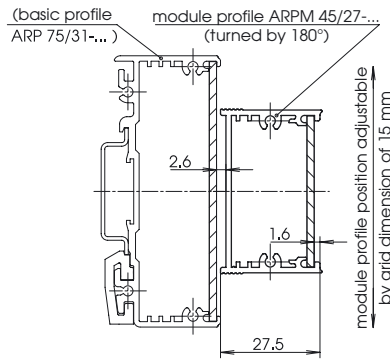
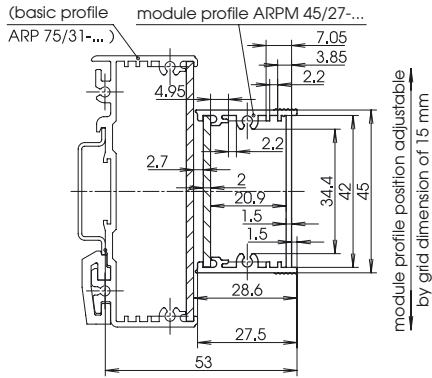
Model	Order no.	LM (Module profile length)	H
ARPMG 00/27-35	87120350	25.0	27.5
ARPMG 00/27-52,5	87120525	42.5	27.5
ARPMG 00/27-70	87120700	60.0	27.5
ARPMG 00/27-105	87121050	95.0	27.5
ARPMG 00/27-140	87121400	130.0	27.5
ARPMG 00/27-175	87121750	165.0	27.5
ARPMG 00/27-210	87122100	200.0	27.5
ARPMG 00/27-245	87122450	235.0	27.5
ARPMG 00/27-1000	87120000	990.0	27.5

Scope of delivery:
2 split aluminium profiles

Note:

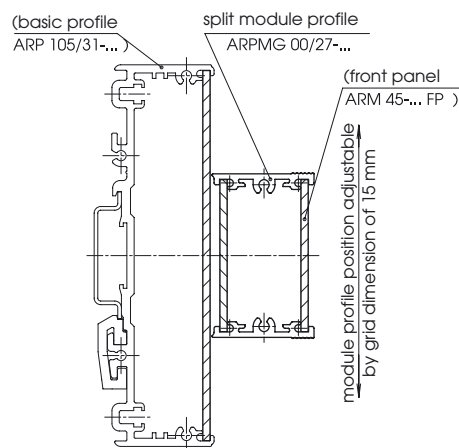
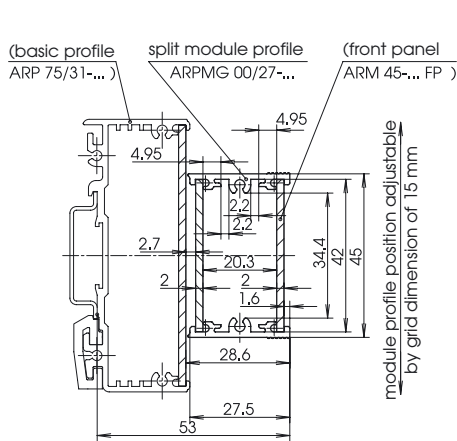
Special lengths on request.
For matching module caps ARM 45/27 and front panels ARM 45-... FP, see page 188.
For module bridges, see page 190.

Module profiles ARPM 45/27-...



Z-2602102

Split module profiles ARPMG 00/27-...



Z-2602103



Alurail accessories



Module profile ARPM 75/42-...

The module profiles ARPM 75/42-... and ARPMG 00/42-... are fitted with slots to hold PCBs or mounting plates and, by using module caps ARM 75/42, can be placed and screwed onto the basic profile caps AR 75/31 or AR 105/31.

The position of the module profile over the appropriate basic profile can be changed in 15 mm steps (see diagrams on page 187).

If the lengths of the basic profile and the module profile(s) are different, it is also necessary to use the module bridges AB...MB when fixing the modules onto the front panel of the basic profile.



Split module profile ARPMG 00/42-...

Module profiles ARPM 75/42-...

Order designation

Model	Order no.	LM (Module profile length)	W	H
ARPM 75/42-35	87110350	25.0	75.0	42.5
ARPM 75/42-52,5	87110525	42.5	75.0	42.5
ARPM 75/42-70	87110700	60.0	75.0	42.5
ARPM 75/42-105	87111050	95.0	75.0	42.5
ARPM 75/42-140	87111400	130.0	75.0	42.5
ARPM 75/42-175	87111750	165.0	75.0	42.5
ARPM 75/42-210	87112100	200.0	75.0	42.5
ARPM 75/42-245	87112450	235.0	75.0	42.5
ARPM 75/42-1000	87110000	990.0	75.0	42.5

Scope of delivery: Enclosure profile

Note:

Special lengths on request.

For matching module caps ARM 75/42 and front panels ARM 75-... FP, see page 189.

For module bridges, see page 190.

Split module profiles ARPMG 00/42-...

Order designation

Model	Order no.	LM (Module profile length)	H
ARPMG 00/42-35	87130350	25.0	42.5
ARPMG 00/42-52,5	87130525	42.5	42.5
ARPMG 00/42-70	87130700	60.0	42.5
ARPMG 00/42-105	87131050	95.0	42.5
ARPMG 00/42-140	87131400	130.0	42.5
ARPMG 00/42-175	87131750	165.0	42.5
ARPMG 00/42-210	87132100	200.0	42.5
ARPMG 00/42-245	87132450	235.0	42.5
ARPMG 00/42-1000	87130000	990.0	42.5

Scope of delivery:

2 split aluminium profiles

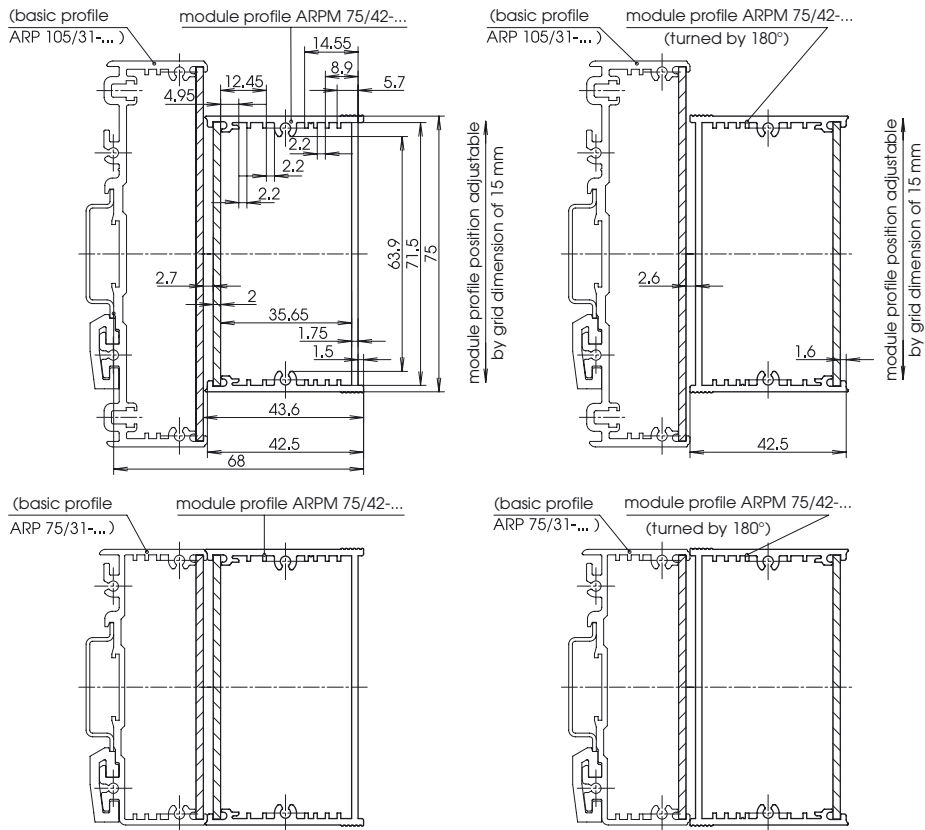
Note:

Special lengths on request.

For matching module caps ARM 75/42 and front panels ARM 75-... FP, see page 189.

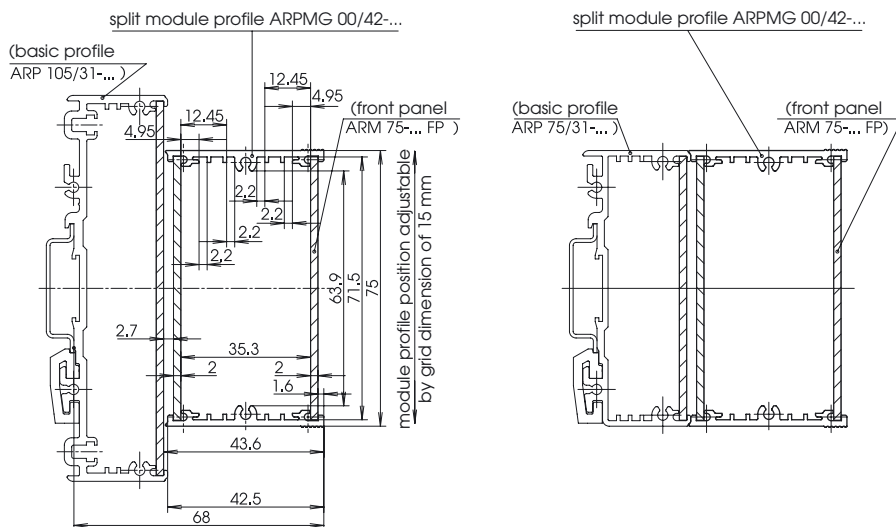
For module bridges, see page 190.

Module profiles ARPM 75/42-...



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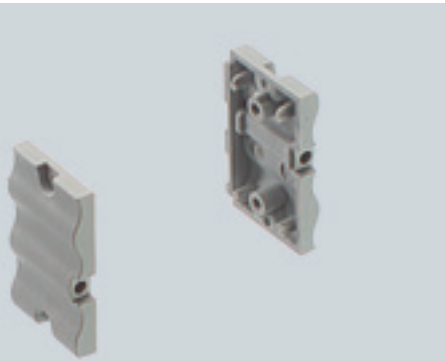
Split module profiles ARPMG 00/42-...



Z-2602107



Alurail accessories



Module caps ARM 45/27

The module cap set is used to fit module profiles ARPM 45/27-... and ARPMG 00/27-... onto the basic profile.

The caps can also be screwed onto the module profiles after being turned by 180°. In this case, the module front panel is at the front (see drawing on page 185).



Module front panels ARM 45-... FP
Front panels for use with split module profile ARPMG 00/27-... or as a cover for module profile ARPM 45/27-..., which is open on one side.

The different uses of the module front panels are shown in the diagrams on pages 185 and 195. The front panels are manufactured in anodised material as standard. Customer-specific front panels can also be manufactured on request.

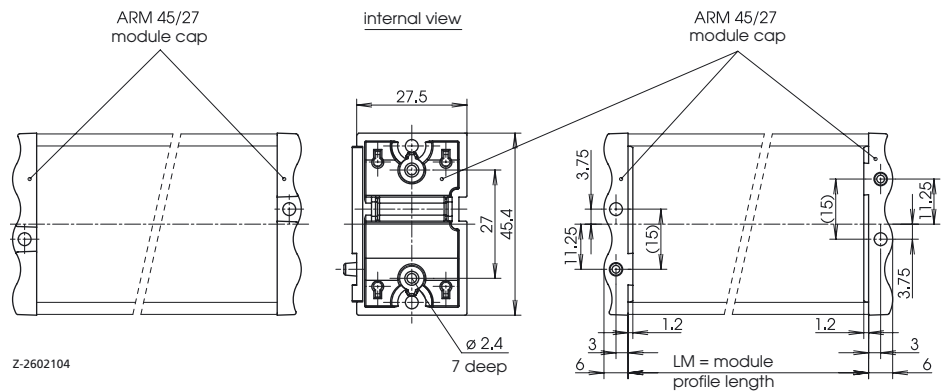
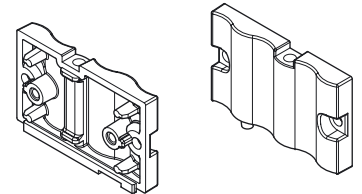
Module caps ARM 45/27

Order designation

Model	Order no.	Scope of delivery
ARM 45/27	87303100	2 module profile caps 4 fixing screws 2 mounting screws

Note:

Caps are made of PA 6.6, light grey (similar to RAL 7035) in UL 94 V0; special colours are available on request.



Module front panels ARM 45-... FP

Order designation

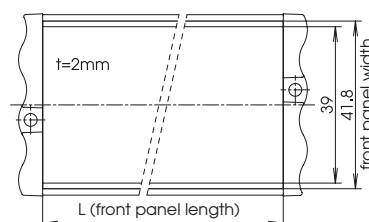
Model	Order no.	For module profile length
ARM 45-35 FP	87420350	25.0
ARM 45-52,5 FP	87420525	42.5
ARM 45-70 FP	87420700	60.0
ARM 45/105 FP	87421050	95.0
ARM 45/140 FP	87421400	130.0
ARM 45/175 FP	87421750	165.0
ARM 45/210 FP	87422100	200.0
ARM 45/245 FP	87422450	235.0
ARM 45/1000 FP	87420000	990.0

Scope of delivery:

1 anodised front panel

Table of dimensions

Model	L (Front panel length)
ARM 45-35 FP	25.0
ARM 45-52,5 FP	42.5
ARM 45-70 FP	60.0
ARM 45/105 FP	95.0
ARM 45/140 FP	130.0
ARM 45/175 FP	165.0
ARM 45/210 FP	200.0
ARM 45/245 FP	235.0
ARM 45/1000 FP	990.0



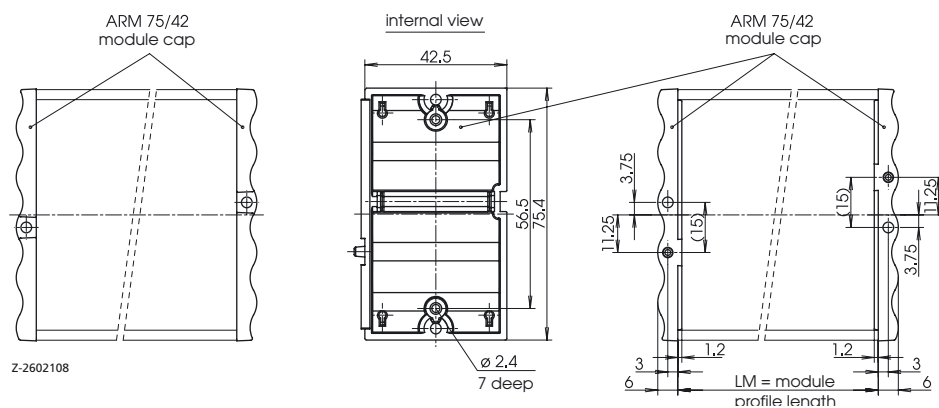
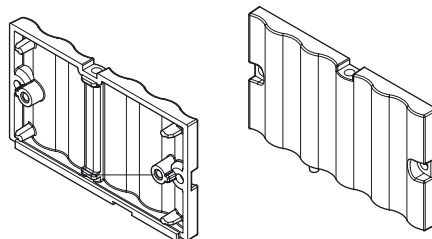
Module caps ARM 75/42

Order designation

Model	Order no.	Scope of delivery
ARM 75/42	87303200	2 module profile caps 4 fixing screws 2 mounting screws

Note:

Caps are made of PA 6.6, light grey (similar to RAL 7035) in UL 94 V0; special colours are available on request.



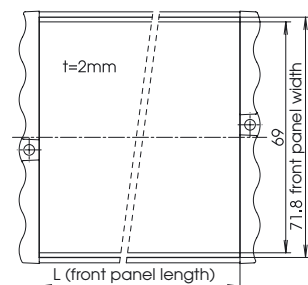
Module front panels ARM 75-... FP

Order designation

Model	Order no.	For module profile length
ARM 75-35 FP	87430350	25.0
ARM 75-52,5 FP	87430525	42.5
ARM 75-70 FP	87430700	60.0
ARM 75/105 FP	87431050	95.0
ARM 75/140 FP	87431400	130.0
ARM 75/175 FP	87431750	165.0
ARM 75/210 FP	87432100	200.0
ARM 75/245 FP	87432450	235.0
ARM 75/1000 FP	87430000	990.0

Scope of delivery:

1 anodised front panel



Z-2602109

Table of dimensions

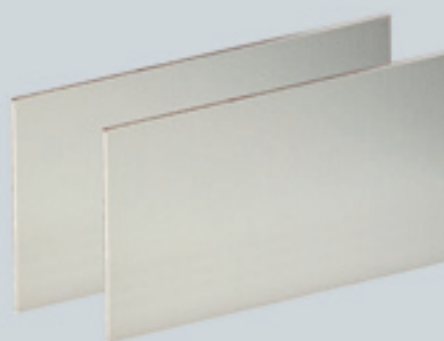
Model	L (Front panel length)
ARM 75-35 FP	25.0
ARM 75-52,5 FP	42.5
ARM 75-70 FP	60.0
ARM 75/105 FP	95.0
ARM 75/140 FP	130.0
ARM 75/175 FP	165.0
ARM 75/210 FP	200.0
ARM 75/245 FP	235.0
ARM 75/1000 FP	990.0



Module caps ARM 75/42

The module cap set is used to fit module profiles ARPM 75/42-... and ARPMG 00/42-... onto the basic profile.

The caps can also be screwed onto the module profiles after being turned by 180°. In this case, the module front panel is at the front (see drawing on page 187).



Module front panels ARM 75-... FP
Front panels for use with split module profile ARPMG 00/42-... or as a cover for module profile ARPM 75/42-..., which is open on one side.

The different uses of the module front panels are shown in the diagrams on pages 187 and 195.

The front panels are manufactured in anodised material as standard. Customer-specific front panels can also be manufactured on request.

Alurail accessories



Module bridges AR ... MB

Order designation

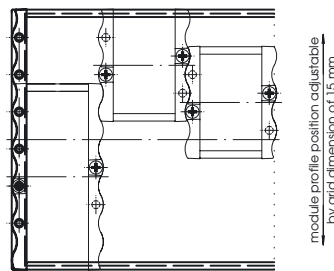
Model	Order no.	X (Module offset)	PU
AR 45 MB	87300045	0	5 pcs
AR 60 MB	87300060	15	5 pcs
AR 75 MB	87300075	30	5 pcs
AR 90 MB	87300090	45	5 pcs
AR 105 MB	87300105	60	5 pcs

Scope of delivery:
5 module bridges,
10 fixing screws

Note:

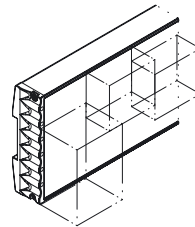
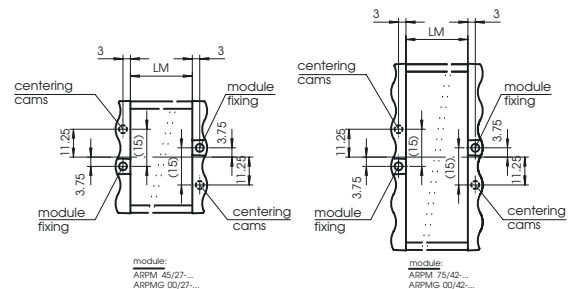
The module bridges can be screwed onto front panels and front PCBs.

① **Position of the modules**
The size and position of the modules must be specified. The position is determined by the basic grid (see ③) and the selected modules.

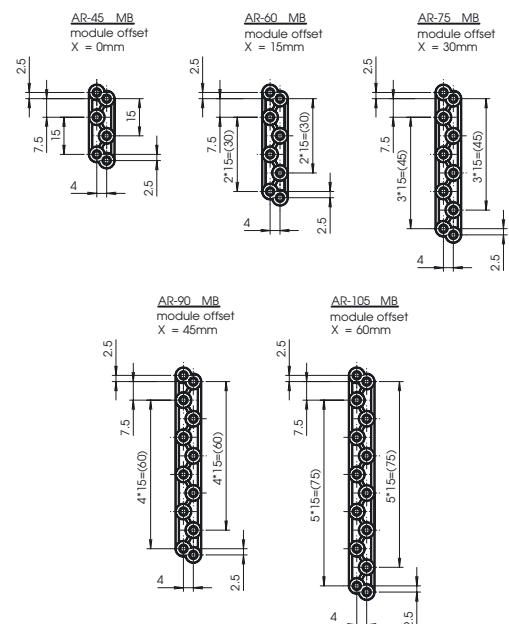
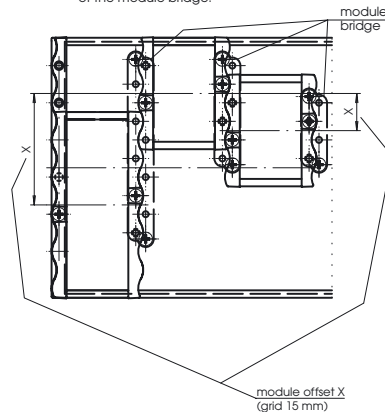


LM = module profile length

(see catalogue drawings for module profiles)



② **Selection of module bridges**
After the positions have been determined, select the suitable module bridges from the 5 available.
The clearance from one module centre to the next = module offset X.
This clearance determines the choice of the module bridge.

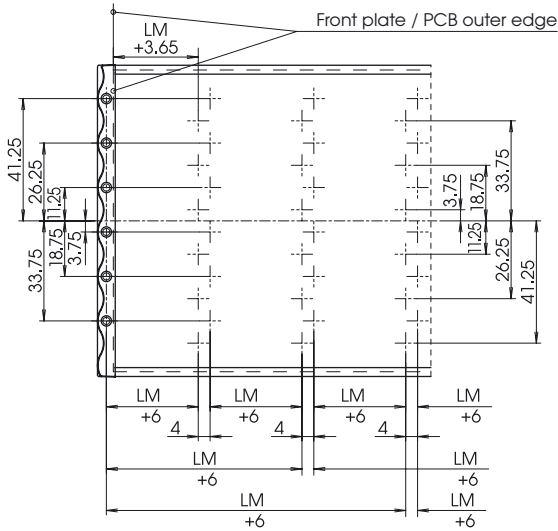


Module bridges AR ... MB
If the lengths of the basic profile and the module profile(s) are different, it is also necessary to use module bridges when fixing the modules. The module bridges can be screwed in position under the front panel or under a PCB. Please note the positions shown on this page when selecting the module bridges.
We will be pleased to carry out the processing of the front panel needed for the mounting of the module bridge.

Module bridges AR ... MB

3

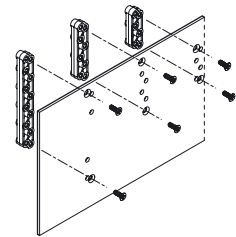
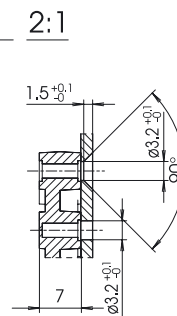
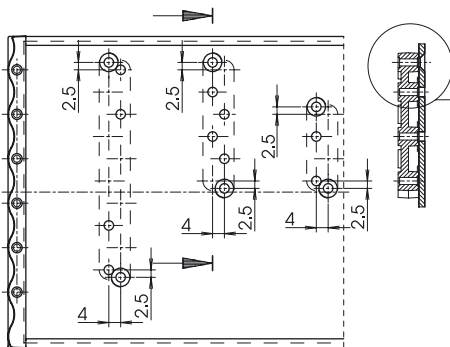
Basic grid for drill holes $\varnothing 3.2 + 0.1$
(shown without fixing drill holes
for the module bridges (see 4)).



4

Processing the front panel / PCB

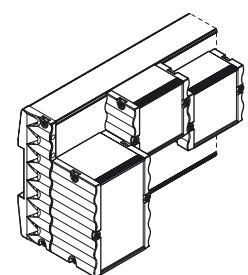
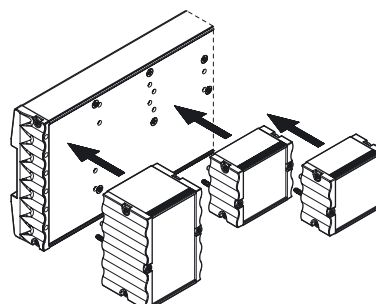
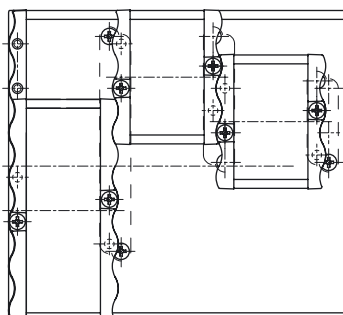
Drill holes $3.2 + 0.1$ must now be drilled at the required positions. In addition, 2 countersunk fixing drill holes are required for each module bridge (see drawing for dimensions). The module bridges can now be screwed onto the front panel / PCB.



5

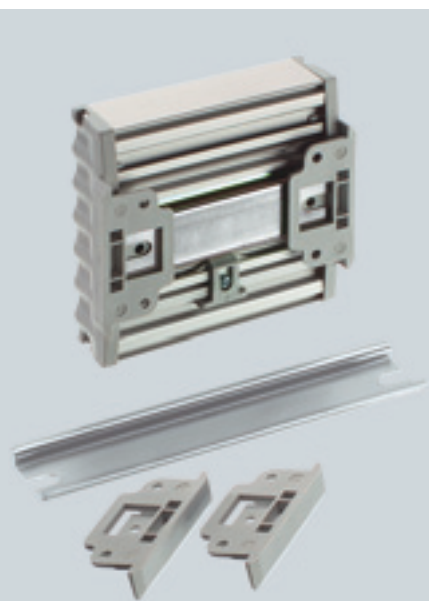
Fitting the modules

After the base enclosure has been assembled, the modules can be clipped on and screwed into position.





Alurail accessories



Wall fixing set AR ... WB
The wall fixing set is used for direct mounting of the Alurail enclosure on the wall.

Wall fixing sets AR ... WB

Order designation

Model	Order no.	DIN rail length
AR 52,5 WB	87310525	42.5
AR 70 WB	87310700	60.0
AR 105 WB	87311050	95.0
AR 140 WB	87311400	130.0
AR 175 WB	87311750	165.0
AR 210 WB	87312100	200.0
AR 245 WB	87312450	235.0

Scope of delivery:

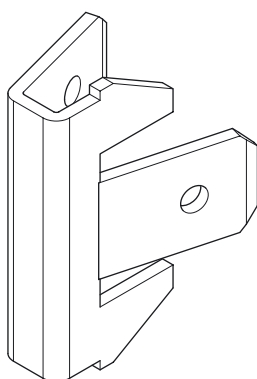
2 wall fixing elements,
1 DIN rail

Note:

The DIN rail length is identical to that of the relevant basic profile length of ARP 75/31 and ARP 105/31.

Please note that the screws needed for mounting are not included in the scope of delivery.

Earthing set AR-E



By using commercially available cable lugs for flat connectors acc. to DIN 46244-A6.3-0.8, the earthing set AR-E permits earthing of the enclosure parts or the fitted components.

Order designation

Model	Order no.	Designation	PU
AR-E	87309010	Earthing claws	5 pcs

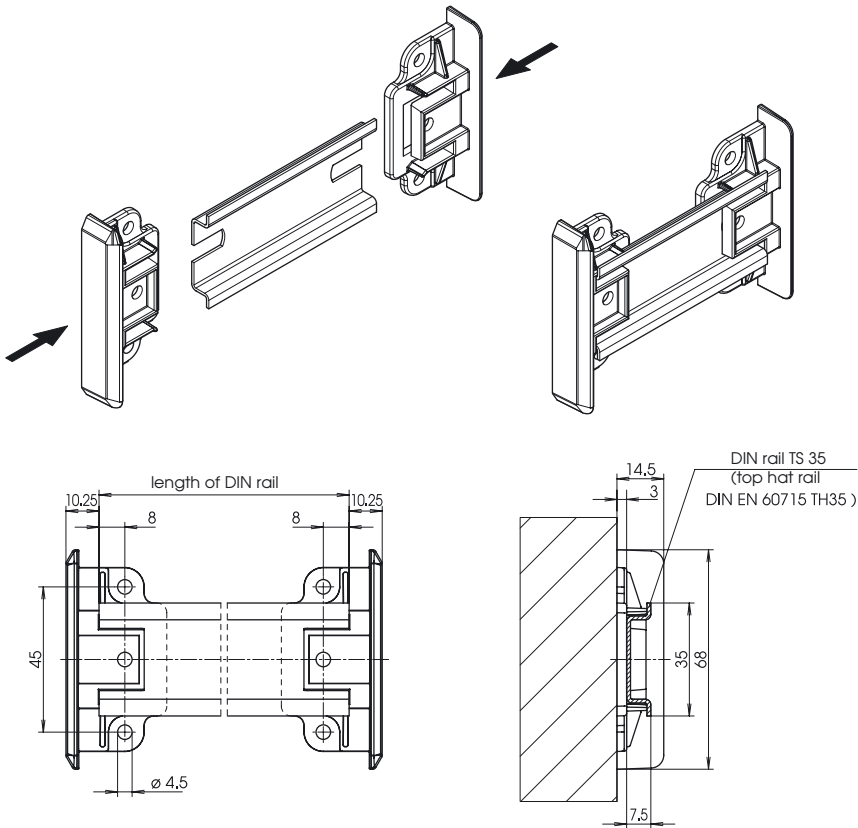
Scope of delivery:

Earthing claws

Note:

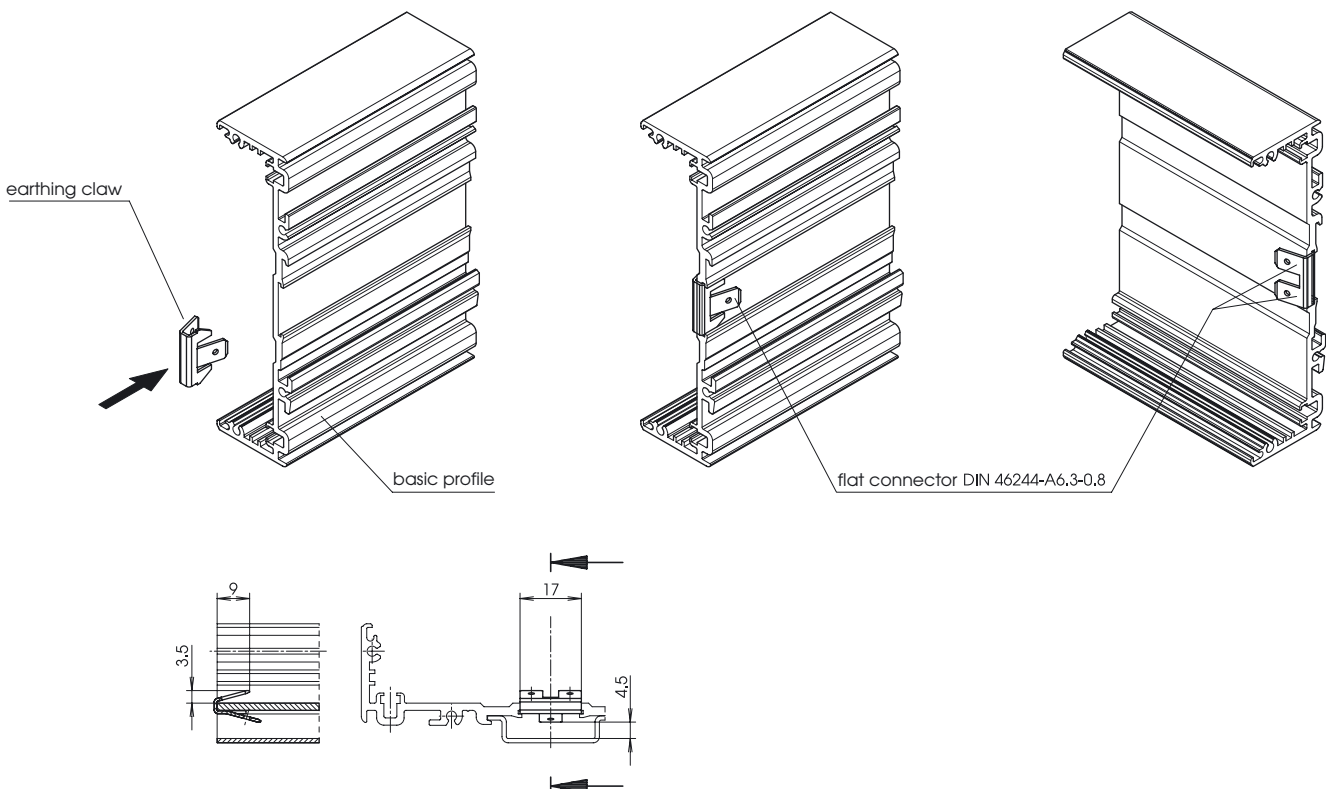
The earthing claw is pressed into the basic profile during assembly and breaks through the anodised layer, so ensuring proper contacting.

Wall fixing sets AR ... WB



Z-2602111

Earthing set AR-E

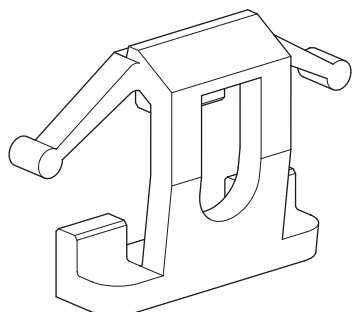


Z-2602112



Alurail accessories

Snap-on element AR-R



The snap-on element is used to fix the basic profiles onto the DIN rail (35 mm) acc. to DIN EN 60715 TH35 (previously DIN EN 50022).

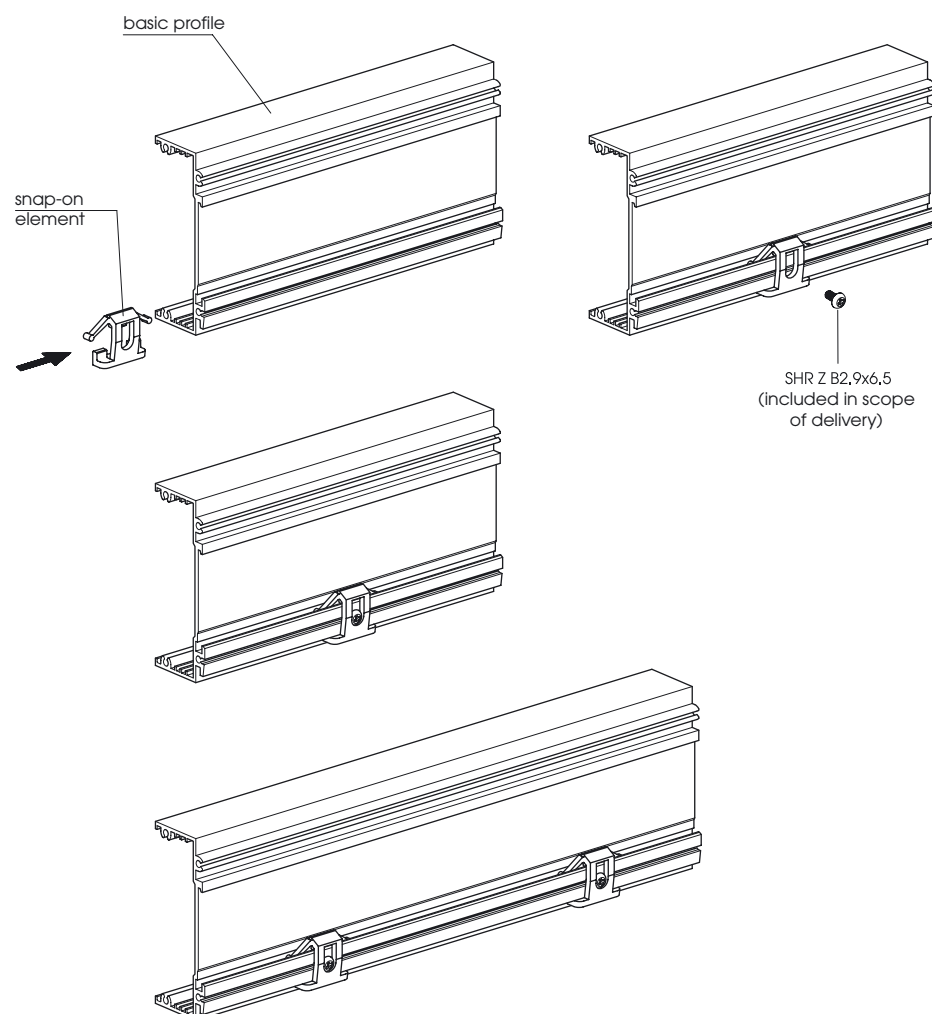
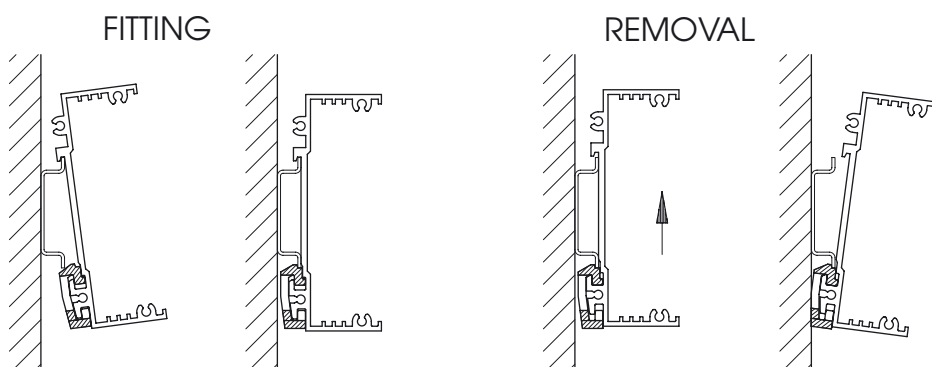
One snap-on element including positioning screw is supplied with profile cap sets AR 75/31 and AR 105/31 respectively. Depending on the intended application, the use of an additional snap-on element is necessary. This guarantees optimal support of the enclosure on the DIN rail.

Order designation

Model	Order no.	Designation	PU
AR-R	87309020	Snap-on element	5 pcs

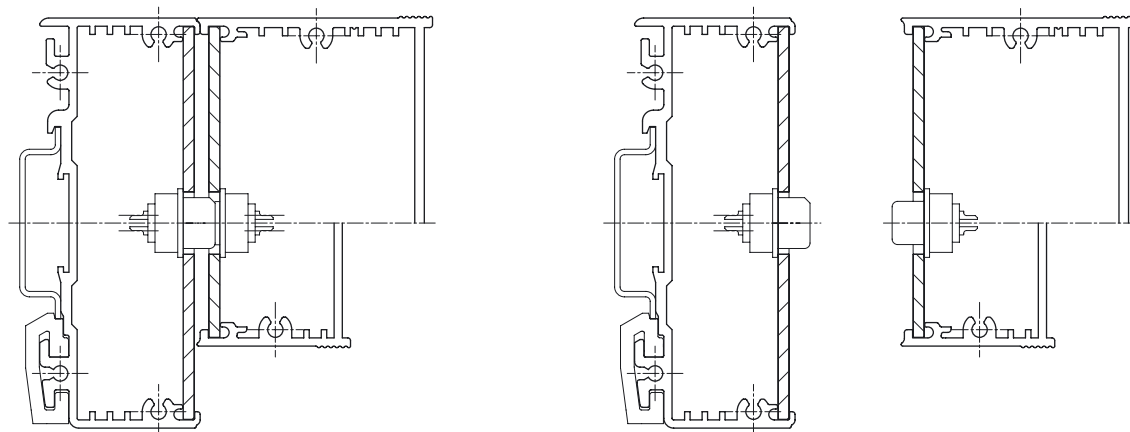
Scope of delivery:

Snap-on elements, positioning screws

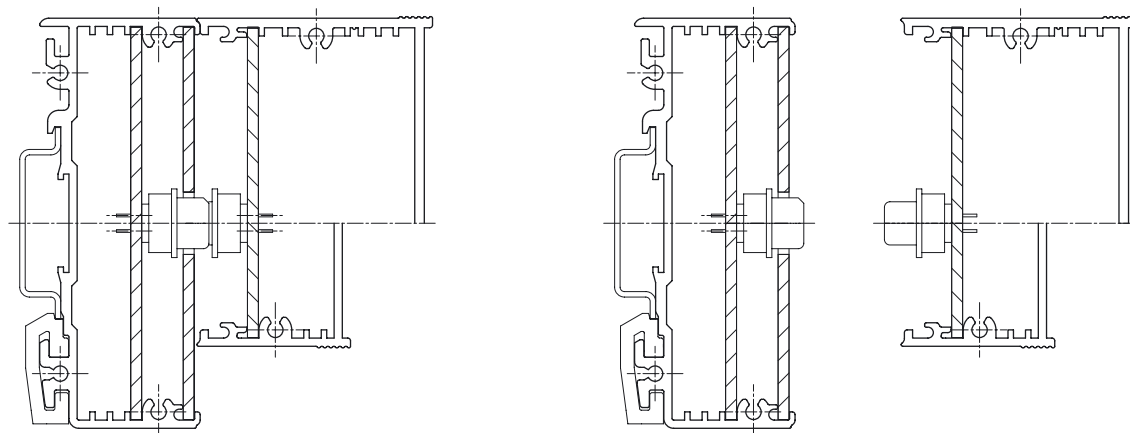


Examples of Alurail contacting

SubD connector with solder type (for direct soldering of a wire)



SubD connector with soldering pins (for soldering the connector/insert onto the PCB)



Connector strip/insert strip, pitch 2.54 mm (for soldering the connector strip/insert strip onto the PCB)

