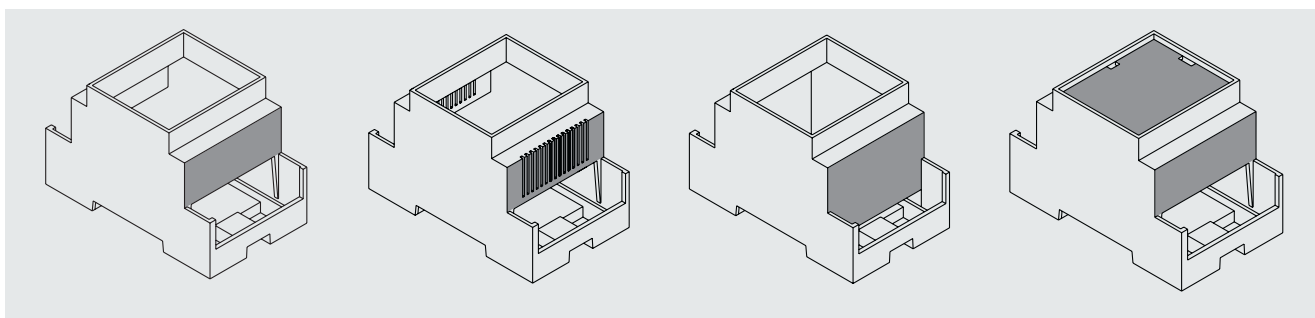


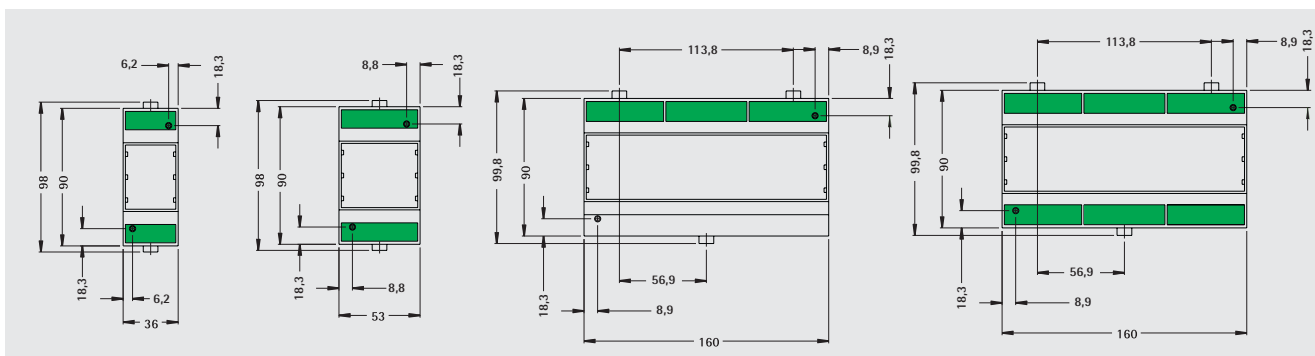


Enclosure system apra Rail MB • 449

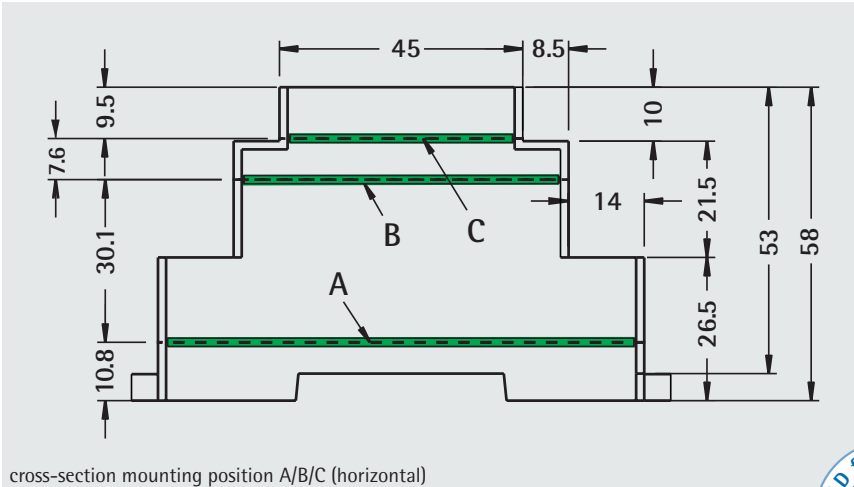


Type I: short side panel Type II: short side panel, ventilated Type III: long side panel Type IV: short side panel with closed front

Description	Type	No. of modules	W mm	H mm	L mm	1 side open	2 sides open
apra Rail MB	I	1 module	18	90	58	-	449-110-00
apra Rail MB	II	1 module	18	90	58	-	449-110-60
apra Rail MB	III	1 module	18	90	58	-	449-110-20
apra Rail MB	IV	1 module	18	90	58	-	449-110-40
apra Rail MB	I	2 modules	36	90	58	-	449-120-00
apra Rail MB	II	2 modules	36	90	58	-	449-120-60
apra Rail MB	III	2 modules	36	90	58	-	449-120-20
apra Rail MB	IV	2 modules	36	90	58	-	449-120-40
apra Rail MB	I	3 modules	53	90	58	-	449-130-00
apra Rail MB	II	3 modules	53	90	58	-	449-130-60
apra Rail MB	III	3 modules	53	90	58	-	449-130-20
apra Rail MB	IV	3 modules	53	90	58	-	449-130-40
apra Rail MB	I	4 modules	71	90	58	-	449-140-00
apra Rail MB	II	4 modules	71	90	58	-	449-140-60
apra Rail MB	III	4 modules	71	90	58	-	449-140-20
apra Rail MB	IV	4 modules	71	90	58	-	449-140-40
apra Rail MB	I	5 modules	88	90	58	449-150-00	449-150-10
apra Rail MB	II	5 modules	88	90	58	449-150-60	449-150-70
apra Rail MB	III	5 modules	88	90	58	449-150-20	449-150-30
apra Rail MB	IV	5 modules	88	90	58	449-150-40	449-150-50
apra Rail MB	I	6 modules	106	90	58	449-160-00	449-160-10
apra Rail MB	II	6 modules	106	90	58	449-160-60	449-160-70
apra Rail MB	III	6 modules	106	90	58	449-160-20	449-160-30
apra Rail MB	IV	6 modules	106	90	58	449-160-40	449-160-50
apra Rail MB	I	9 modules	160	90	58	449-170-00	449-170-10
apra Rail MB	II	9 modules	160	90	58	449-170-60	449-170-70
apra Rail MB	III	9 modules	160	90	58	449-170-20	449-170-30
apra Rail MB	IV	9 modules	160	90	58	449-170-40	449-170-50
apra Rail MB	I	12 modules	210	90	58	-	449-500-10
apra Rail MB	II	12 modules	210	90	58	-	449-500-70

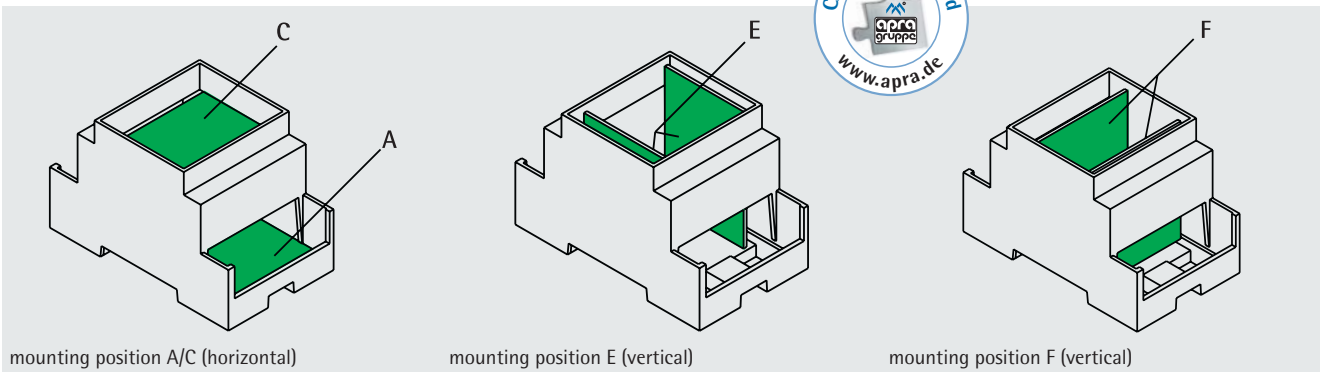


2 modules, 2 sides open 3 modules, 2 sides open 9 modules, 1 side open 9 modules, 2 sides open

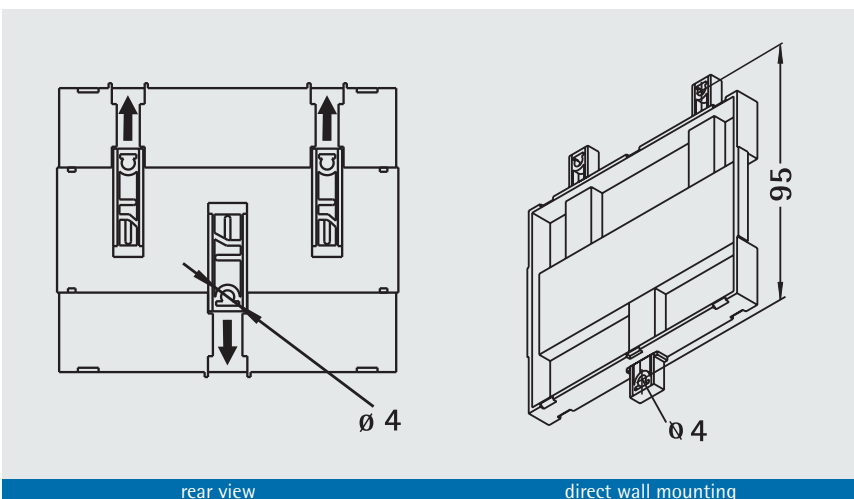


apra Rail MB PCB dimensions and installation positions

Please see the possible mounting positions for circuit boards for apra Rail MB in the drawing mentioned below.



No. of modules	Installation position				
	A (horizontal) mm	B (horizontal) mm	C (horizontal) mm	E (vertical) mm	F (vertical) mm
1 module	86,5 x 14	57 x 14	41,8 x 14	34 x 59,6	40 x 14,8
2 modules	86,5 x 33	57 x 32	42 x 32	34 x 59,7	40 x 33
3 modules	86,5 x 50	57 x 49	42 x 49	34 x 59,8	40 x 50
4 modules	86,5 x 68	57 x 67	42 x 67	34 x 59,9	40 x 68
5 modules	86,5 x 84	57 x 83	42 x 83	34 x 59,10	40 x 84
6 modules	86,5 x 103	57 x 102	42 x 102	34 x 59,11	40 x 103
9 modules	86,5 x 155	57 x 155,4	42 x 154	34 x 59,12	40 x 155



Snap-in mounting clip

- DIN rail fixing
- suitable for top hat rail TS 35
- can also be used for wall mounting (3 x Ø 4 mm)

Description	Order no.
Snap-in clip, white	449-001-00
Snap-in clip, black	449-002-00

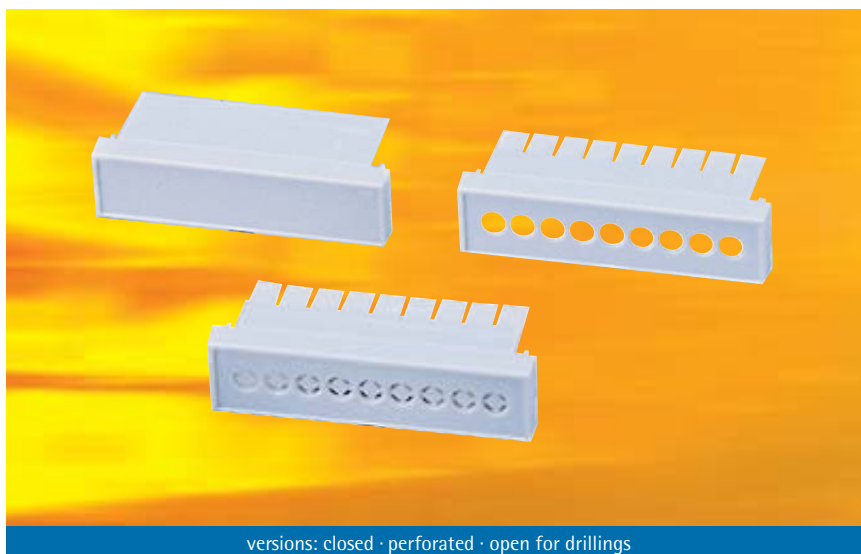


apra Rail MB terminal cover

- protection against contacts to mounted connectors
- can be used to cover unused terminals
- 3 versions available: closed, perforated or with open drillings

Material:

Polycarbonate,
flammability tested acc. to UL 94-V0



versions: closed · perforated · open for drillings

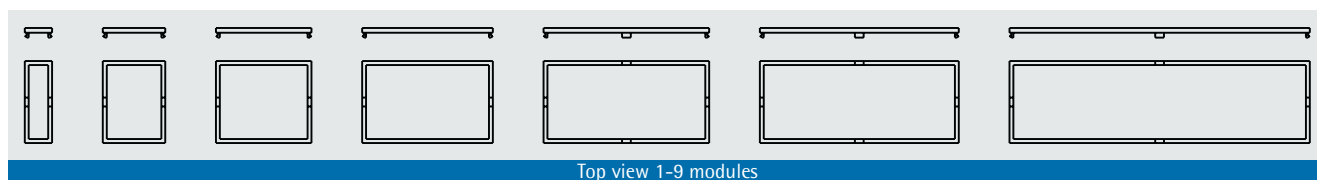
No. of modules	closed	open		perforated		open		open	
		contacts	grid 5,08 mm	contacts	grid 5,08 mm	contacts	grid 7,5 mm	contacts	grid 10,16 mm
1 module	449-110-09	3	449-110-06	3	449-110-05	2	449-110-07	2	449-110-08
2 modules	449-120-09	6	449-120-06	6	449-120-05	4	449-120-07	3	449-120-08
3/6/9 modules	449-130-09	9	449-130-06	9	449-130-05	6	449-130-07	5	449-130-08
4 modules	449-140-09	12	449-140-06	12	449-140-05	8	449-140-07	6	449-140-08
5 modules	449-150-09	15	449-150-06	15	449-150-05	10	449-150-07	7	449-150-08

apra Rail MB front panel

- can be clipped on enclosure
- 4 types available:
 - grey
 - red transparent
 - transparent
 - grey transparent
- foils can be integrated
- machining possible

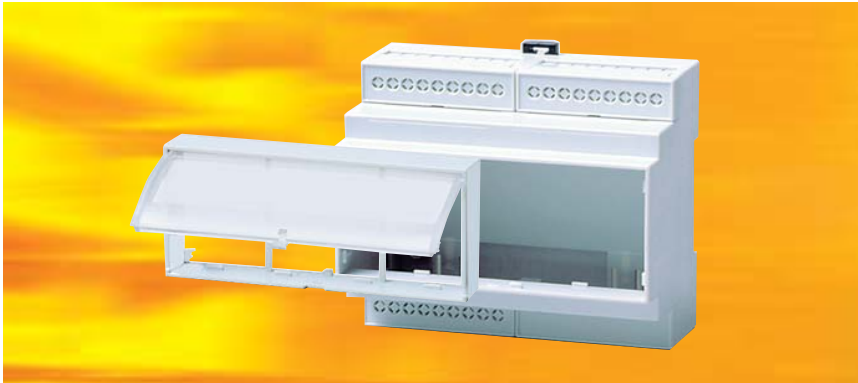
Material:

Polycarbonate



Top view 1-9 modules

No. of modules	grey	grey transparent	red transparent	transparent
1 module	449-110-01	449-110-04	449-110-02	449-110-03
2 modules	449-120-01	449-120-04	449-120-02	449-120-03
3 modules	449-130-01	449-130-04	449-130-02	449-130-03
4 modules	449-140-01	449-140-04	449-140-02	449-140-03
5 modules	449-150-01	449-150-04	449-150-02	449-150-03
6 modules	449-160-01	449-160-04	449-160-02	449-160-03
9 modules	449-170-01	449-170-04	449-170-02	449-170-03

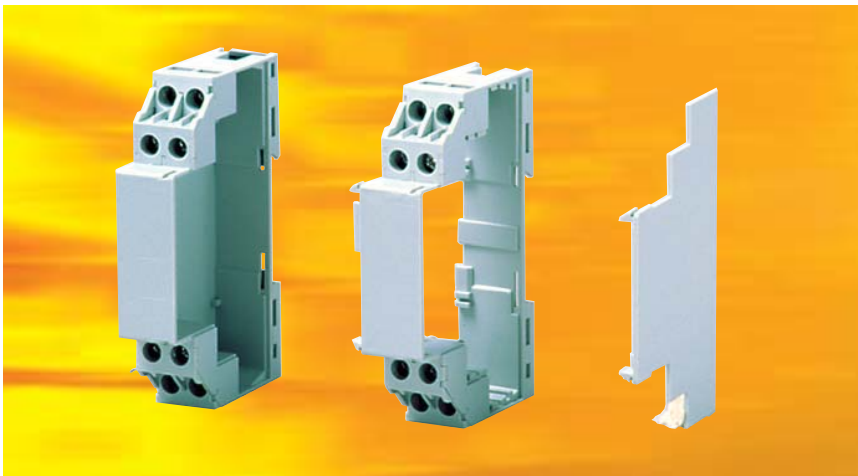


apra Rail MB chamfered cover

- protection against contact of switching elements
- available with or without hinge

Material:
Polycarbonate UL 94 V-0

No. of modules	Chamfered cover without hinge (for direct enclosure mounting)			Chamfered cover with hinge (only to be used with mounting frame)			Mounting frame grey
	grey	red transparent	transparent	grey	red transparent	transparent	
2 modules	449-120-81	449-120-82	449-120-83	449-120-91	449-120-92	449-120-93	449-120-90
3 modules	449-130-81	449-130-82	449-130-83	449-130-91	449-130-92	449-130-93	449-130-90
4 modules	449-140-81	449-140-82	449-140-83	449-140-91	449-140-92	449-140-93	449-140-90
5 modules	449-150-81	449-150-82	449-150-83	449-150-91	449-150-92	449-150-93	449-150-90
6 modules	449-160-81	449-160-82	449-160-83	449-160-91	449-160-92	449-160-93	449-160-90
9 modules	449-170-81	449-170-82	449-170-83	449-170-91	449-170-92	449-170-93	449-170-90

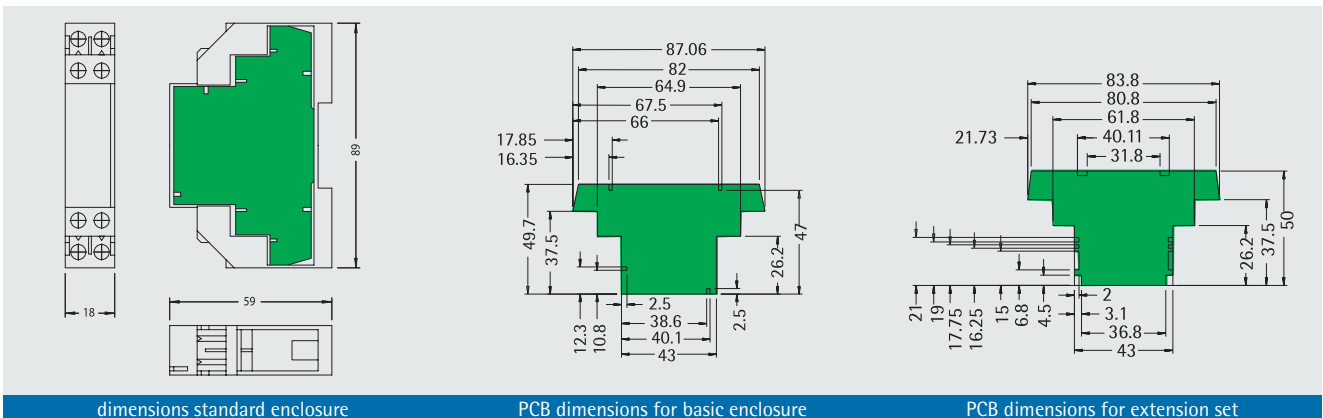


apra Rail EMB

- consists of basic case and two side panels (one detachable)
- variable sizes by using extension set
- each unit with 8 removable screw type terminals
- mounting on top-hat rail or wall mounting

Material:
ABS (for a minimum of 1000 pieces also Polycarbonate possible)

Degree of protection: IP 20



Description	W mm	Order no.
Basic enclosure	18	449-180-00
Extension set	18	449-180-10

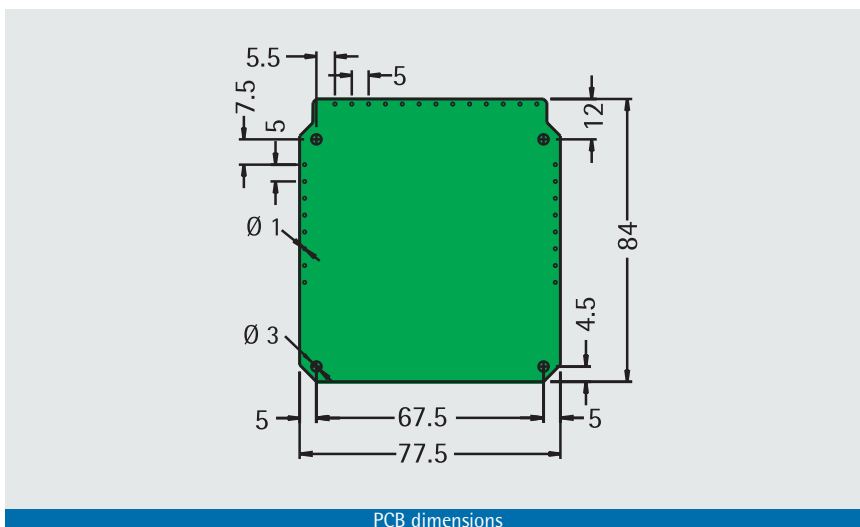


apra Rail VB

- fitting TS35, TS15 and C-rail
- 2 enclosure sizes for pluggable terminals in 5 mm grid
- cover plates for unused terminal areas
- maximum 12 terminals per side

Material:

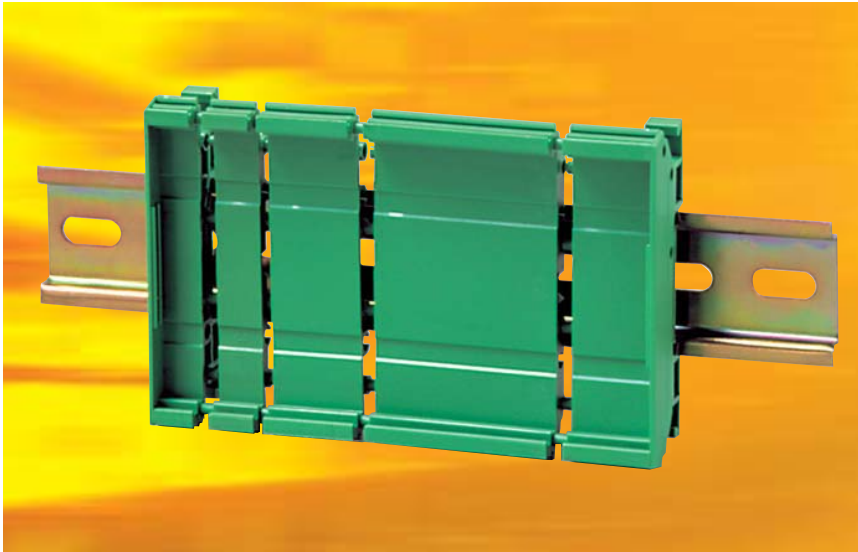
Polyamide green



Delivery

Item	Pc.	Description
1	2	Enclosure shells
2	2	Cover plates

Description	Dimensions W x H x L mm	Order no.
apra Rail VB 22,5 mm	22,5 x 90 x 82	449-180-20
apra Rail VB 45 mm	45 x 90 x 82	449-180-25

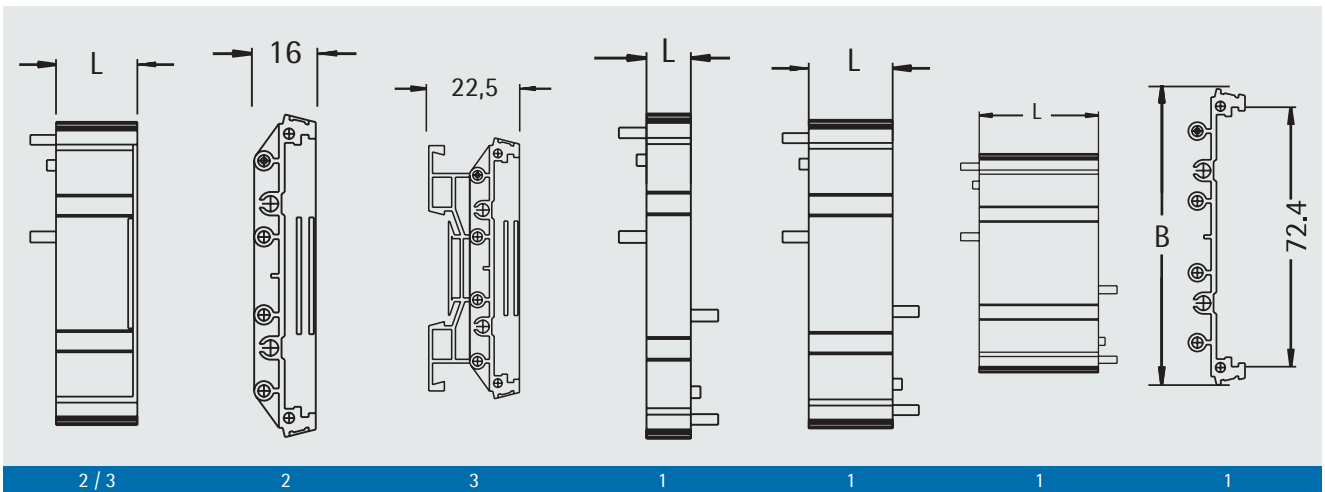


apra Rail MIS 72 mm

- applicable for 72 mm wide PCBs
- high flexibility due to its modular construction
- integrated fixing
- insertion possibility for labelling

Material:

Polyamide 66 green UL 94 V-0



Position	Description	L	W	PCB dimensions l	PCB dimensions w	Order no.
1	Intermediate unit	11,25	82	11,25	72	449-310-00
1	Intermediate unit	22,5	82	22,5	72	449-320-00
1	Intermediate unit	45	82	45	72	449-330-00
2	Header unit	11,25	82	10	72	449-310-10
2	Header unit	22,5	82	21	72	449-320-10
3	Header unit with foot	11,25	82	10	72	449-310-20
3	Header unit with foot	22,5	82	21	72	449-320-20
	Foot unit					449-340-00

Adapter for wall mounting

- flat adapter: wall mounting of units without foot
- high adapter: wall mounting of units with foot
- fits to apra Rail MIS 72 mm

Description	Order no.
Adapter flat	449-350-00
Adapter high	449-350-10



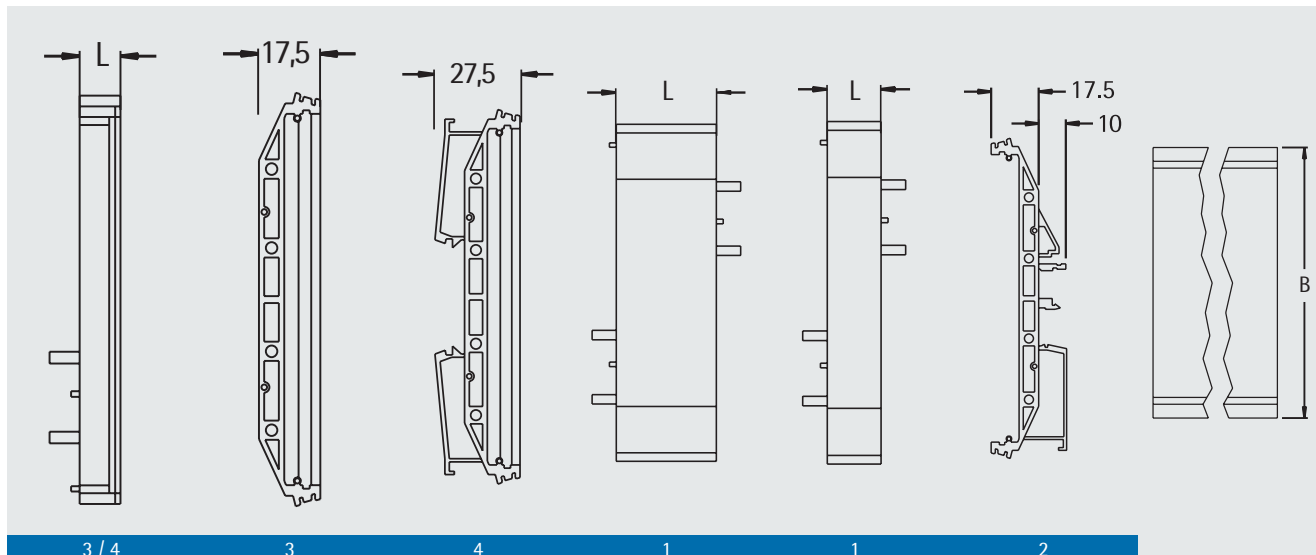
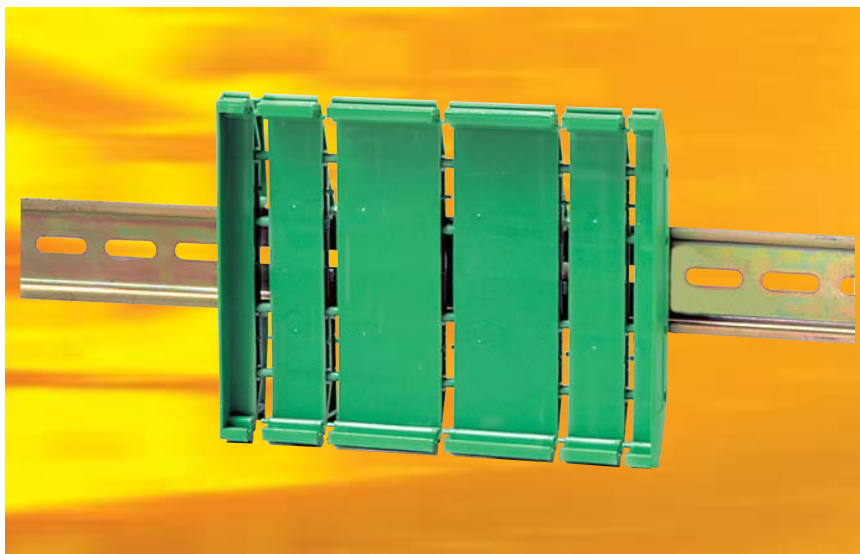


apra Rail MIS 107 mm

- applicable for 107 mm wide PCBs
- high flexibility due to its modular construction
- integrated fixing
- insertion possibility for labelling

Material:

Polyamide 66 green UL 94 V-0



Position	Description	L	W	PCB dimensions l	PCB dimensions w	Order no.
1	Intermediate unit	18,5	118	18,5	107	449-220-00
1	Intermediate unit	35	118	35	107	449-230-00
2	Intermediate unit with foot	18,5	118	18,5	107	449-220-10
2	Intermediate unit with foot	35	118	35	107	449-230-10
3	Header unit	11,5	118	10	107	449-210-00
4	Header unit with foot	11,5	118	10	107	449-210-10

Adapter for wall mounting

- flat adapter: wall mounting of units without foot
- high adapter: wall mounting of units with foot
- fits to apra Rail MIS 107 mm

Description	Order no.
Adapter flat	449-240-00
Adapter high	449-240-10





apra Rail EIS 72 mm

- for 72 mm wide PCBs
- special lengths possible

Material:
Polyamide 66 green UL 94 V-0

*Other lengths on request, extrusion length = PCB length - 4 mm

Description	Length mm *	Order no.
Extruded basic unit	2000	449-300-10
Header unit		449-300-20
Locating screws for header unit		449-300-40
Foot unit		449-300-30



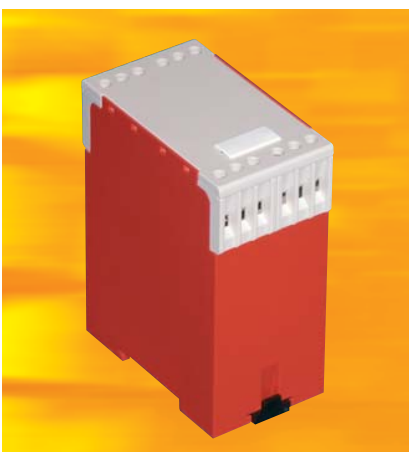
apra Rail EIS 107 mm

- for 107 mm wide PCBs
- special lengths possible

Material:
Polyamide 66 green UL 94 V-0

*Other lengths on request, extrusion length = PCB length - 4 mm

Description	Length mm *	Order no.
Extruded basic unit	2000	449-300-11
Header unit		449-300-22
Locating screws for header unit		449-300-44
Foot unit		449-300-33



apra Rail CH


- 12 contacts
- internal card guides
- interchangeable front panel
- terminals with pins for a minimum wiring complexity

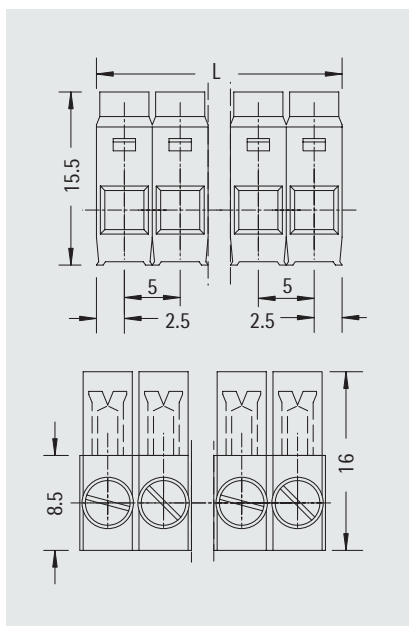
Material:
Polycarbonate UL 94 V-0

Order no.
449-180-30




Pluggable terminal strip (length can be customised)

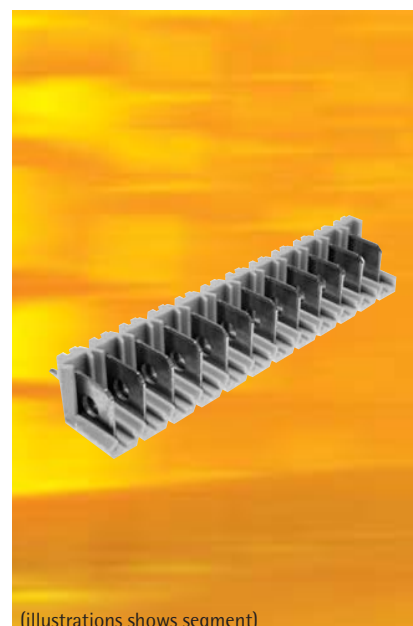
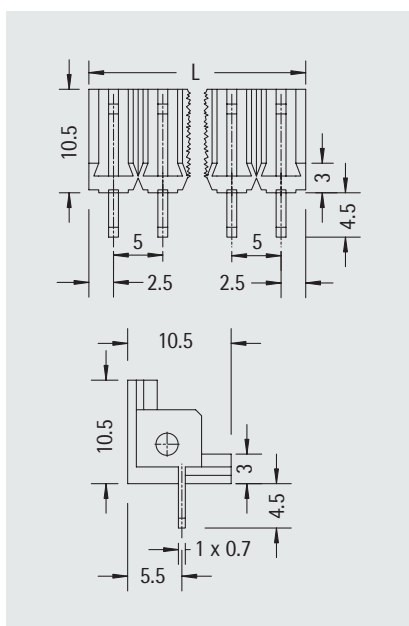
Nominal voltage: 380 V
Nominal current: 13,5 A
Cross section: max. 4 mm²
Material: Lexan grey, flammability tested acc. to UL 94 V-0
Insulating resistance: >5 MOhm
Working temperature: -20 °C up to 125 °C, 160 °C temporary
Approval: UL, , CE conformity



Description	L mm	Grid mm	Order no.
Pluggable terminal strip, 36 contacts	180	5,00	449-410-01

Terminal pin (length can be customised)


Nominal voltage: 380 V
Nominal current: 13,5 A
Material: Lexan grey, flammability tested acc. to UL 94 V-0
Insulating resistance: >5 MOhm
Working temperature: -20 °C up to 125 °C, 160 °C temporary
Approval: UL, , CE conformity



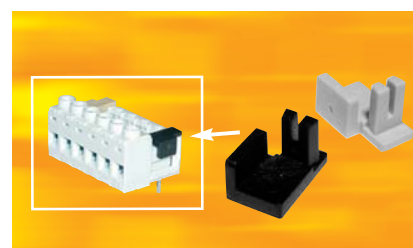
Description	L mm	Grid mm	Order no.
Terminal pin, 36 contacts	180	5,00	449-410-02

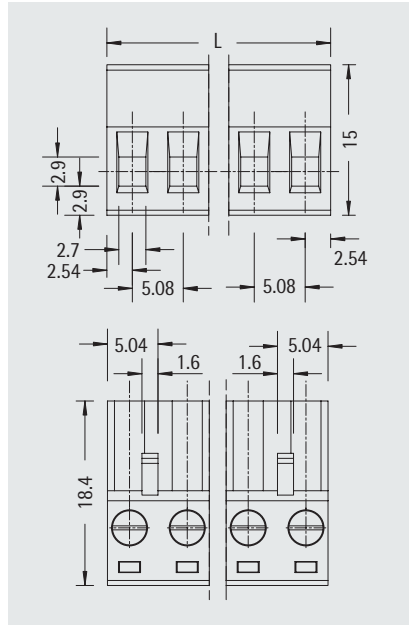
Polarising clip

- ensures correct vertical or horizontal orientation of the pluggable terminal strip

Material: Lexan grey, flammability tested acc. to UL 94 V-0
Working temperature: -20 °C up to 125 °C, 160 °C temporary
Approval: UL, , CE conformity

Order no. (pair)
449-410-03

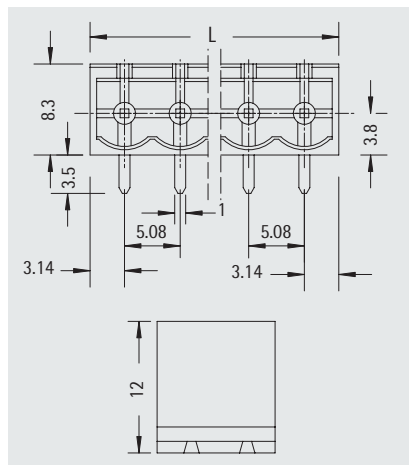




Pluggable terminal strip
(length can be customised)

Nominal voltage: 380 V
Nominal current: 12 A
Cross section: max. 2,5 mm²
Material: PA green, flammability tested acc. to UL 94 V-0
Insulating resistance: >5 MOhm
Working temperature: -20 °C up to 125 °C, 160 °C temporary
Approval: UL, , CE conformity

Description	L mm	Grid mm	Order no.
Pluggable terminal strip, 3 contacts	15,24	5,08	449-420-03
Pluggable terminal strip, 6 contacts	30,48	5,08	449-420-06
Pluggable terminal strip, 9 contacts	45,72	5,08	449-420-09
Pluggable terminal strip, 12 contacts	60,96	5,08	449-420-12



Banded terminal pin
(length can be customised)

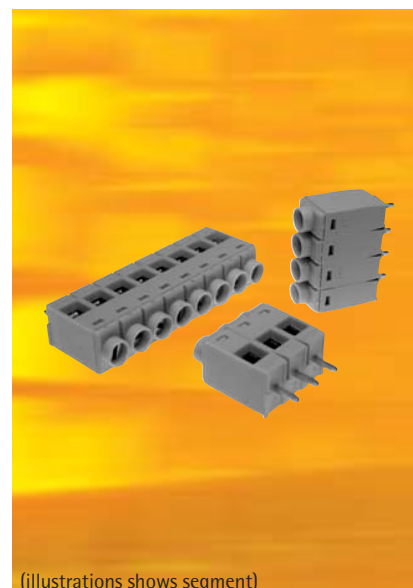
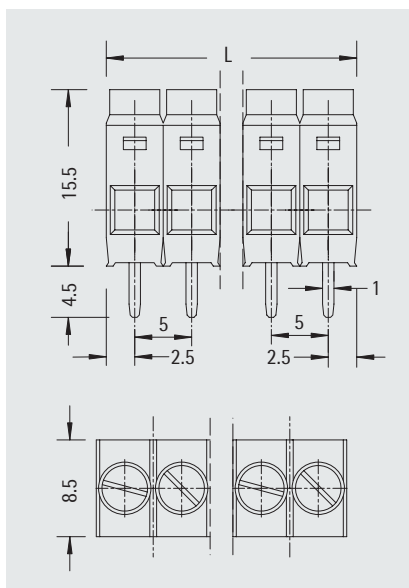
Nominal voltage: 380 V
Nominal current: 12 A
Material: PA green, flammability tested acc. to UL 94 V-0
Insulating resistance: >5 MOhm
Working temperature: -20 °C up to 125 °C, 160 °C temporary
Approval: UL, , CE conformity

Description	L mm	Grid mm	Order no.
Banded terminal pin, 3 contacts	15,24	5,08	449-430-03
Banded terminal pin, 6 contacts	30,48	5,08	449-430-06
Banded terminal pin, 9 contacts	45,72	5,08	449-430-09
Banded terminal pin, 12 contacts	60,96	5,08	449-430-12



Terminal clamp (length can be customised)

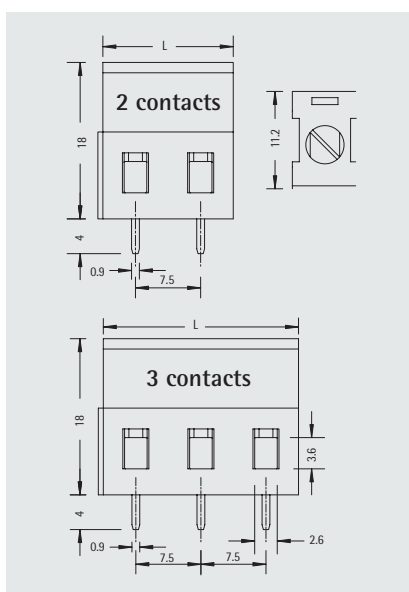
Nominal voltage: 380 V
Nominal current: 17,5 A
Cross section: max. 4 mm²
Material: Lexan grey, flammability tested acc. to UL 94 V-0
Insulating resistance: >5 MOhm
Working temperature: -20 °C up to 125 °C, 160 °C temporary
Approval: UL, CE conformity



Description	L mm	Grid mm	Order no.
Terminal clamp, 36 contacts	180	5,00	449-410-00

Terminal clamp (length can be customised)

Nominal voltage: 750 V
Nominal current: 24 A
Cross section: max. 4 mm²
Material: PA 66 green, flammability tested acc. to UL 94 V-0
Insulating resistance: >5 MOhm
Working temperature: -20 °C up to 125 °C, 160 °C temporary
Approval: UL, CE conformity



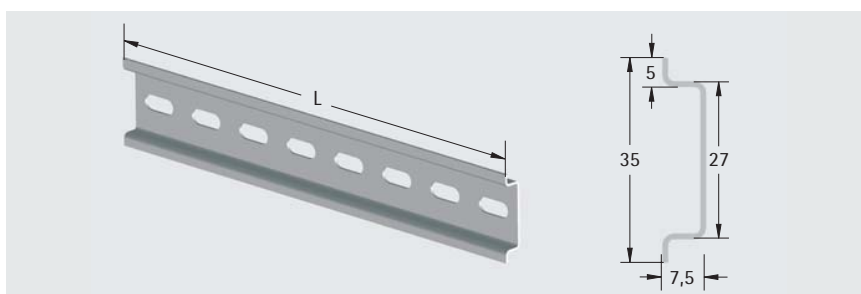
Description	L mm	Grid mm	Order no.
Terminal clamp, 2 contacts	15	7,50	449-440-02
Terminal clamp, 3 contacts	22,5	7,50	449-440-03

Top hat rail, type TS 35/7,5

• with perforation for M 6
Material: sheet steel, galvanised

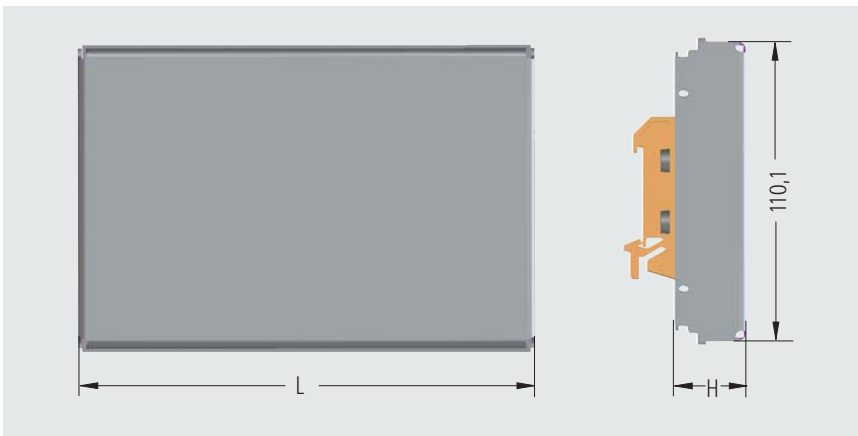
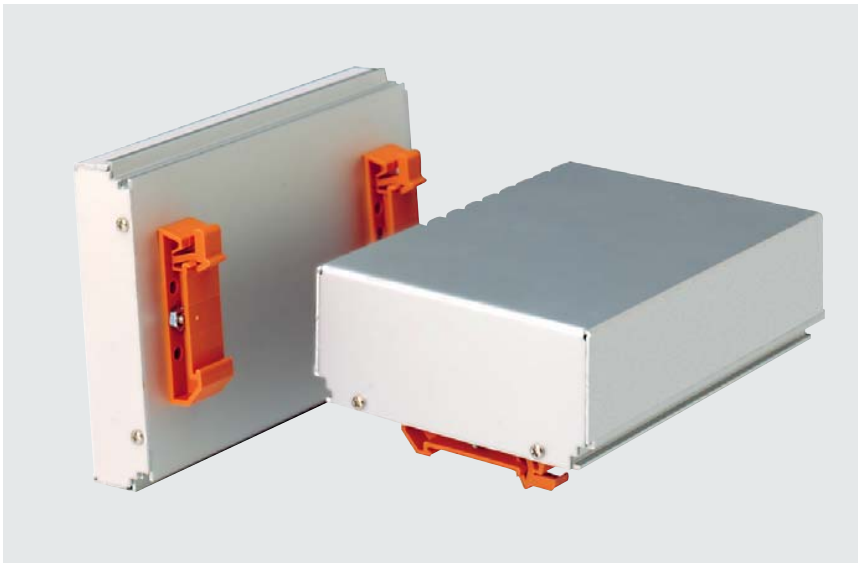
Other lengths available on request!

L mm	Order no.
200	640-236-02
500	640-236-09
600	640-236-08





420 • DIN rail case



H mm	L mm	PCB height H mm	PCB length L mm	Order no.
26	164	100	160	420-001-00
26	224	100	220	420-001-10
46	164	100	160	420-002-00
46	224	100	220	420-002-10

DIN rail case

- stable and convenient clip device for mounting on DIN rails
- easy assembly
- cost-effective

Application:

for 100 x 160 mm and 100 x 220 mm PCBs

Finish:

RAL 7035 light grey
transparent chromated interior

Construction:

Aluminium extrusion rear panel,
Aluminium cover shells and polyamide plastic DIN rail clips

Degree of protection:

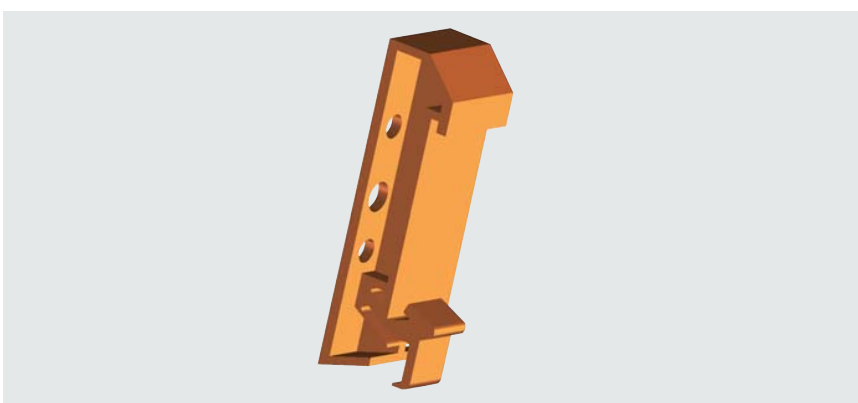
IP 30

Delivery:

not assembled, with mounting material

Delivery

Item	Pc.	Description
1	1	Cover shell
2	1	Rear panel
3	2	Din rail clips
4		Mounting material



DIN rail clip

- for mounting the enclosure to DIN rails

Material:

Polyamide, orange

Order no.
442-311

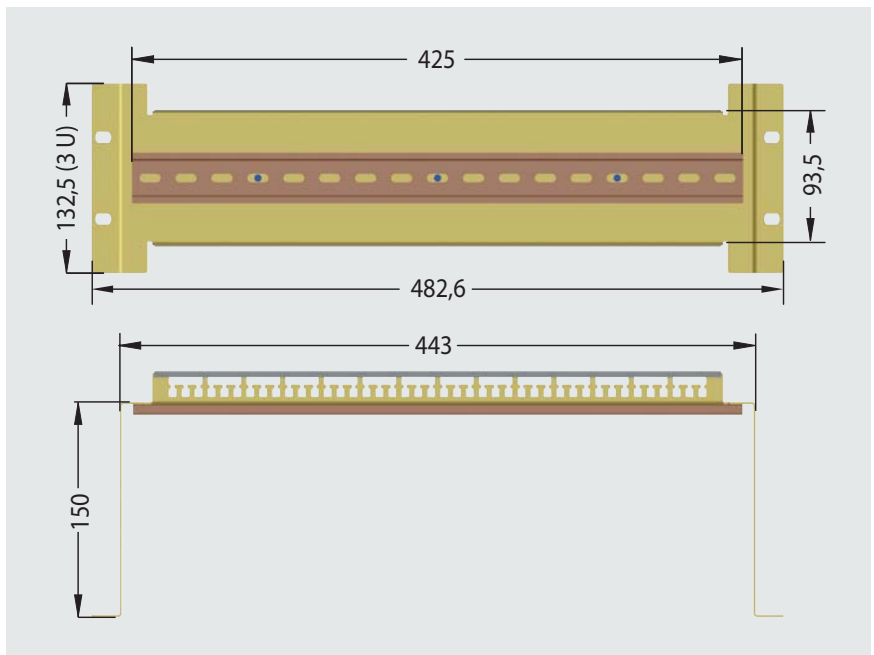
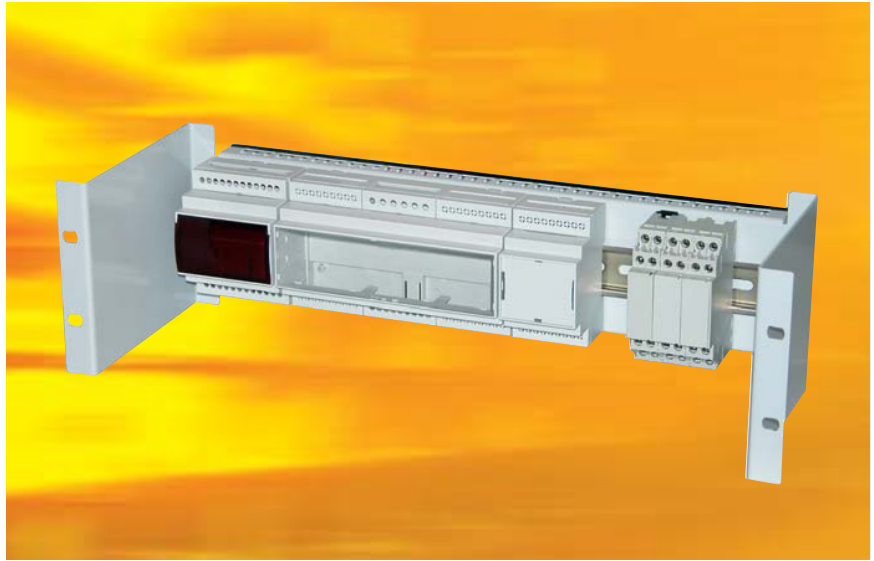
19" top hat rail support 3U

- for a recessed mounting of top hat rail enclosures at 19" levels of cabinets, racks or enclosures
- standard fitted with top hat rail TS 35 (width 425 mm)
- perfect to mount our top hat rail enclosures apraRail
- integrated cable guarding and strain-relief by cable clip bar

Material:
sheet metal

Finish:
galvanised or
RAL 7035 light grey

Delivery:
not assembled, with mounting material



Other top hat rail types, installation widths, heights or depths available on request!

Finish	Order no.
galvanised	205-420-20
RAL 7035	205-420-25
Protection against contact	Order no.
galvanised	205-420-00
RAL 7035	205-420-10

Further enclosure variations for top hat rail

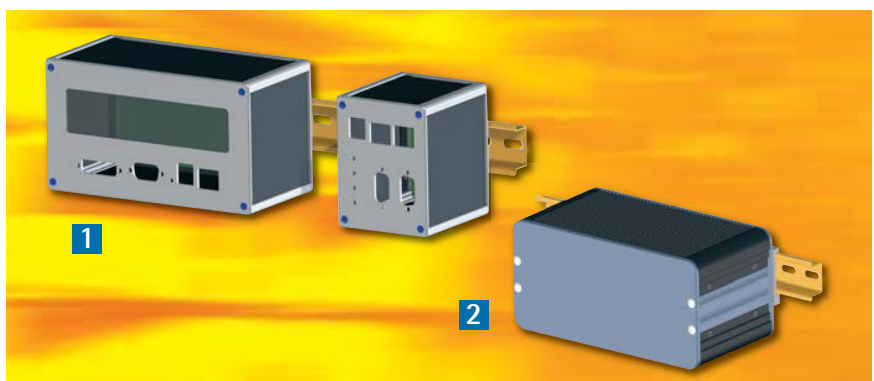
1 RAIL 414

- flexible dimensions and very sturdy - the adaptable enclosure solution

2 profi-set 264 cool

- enclosure solution with heat dissipating aluminium extrusions for heated surroundings

Ask us for your individual top hat rail enclosure solution - we will be pleased to advise you!





VisioDINbox

The VisioDINbox has an integrated top hat rail for front mounting in enclosure or cabinet doors. It offers the possibility to operate or read meters and control units easily without opening the door. Due to the optionally available transparent door with an IP rating of 54 the components are perfectly protected against dust and humidity.

- protection system from front: IP 54 for combination of transparent door and VisioDINbox
- tool-free mounting owing to panel-clip technology
- enclosure offers space for 1 – 14 modules
- easy cable connection in the cabling area by a frontally screwed plastic plate
- cable entry in the rear with integrated strain relief
- unused space can be covered by separate strips

Dimensions W x H x D:

Size 1: 144 x 144 x 60,5 mm
(opening: 138 +1,0 x 138 +1,0 mm)

Size 2: 288 x 144 x 60,5 mm
(opening: 282 +1,1 x 139 +1,0 mm)

Material:

Enclosure: Noryl SE1 GFN2,
listed acc. to UL 94 V-1
Door: Lexan 920A,
listed acc. to UL 94 V-0

Finish:

RAL 9005 black

Description	Order no.
VisioDINbox 144 x 144 mm	441-360-60
Transparent door, IP 54, 144 x 144 mm, with lock (lockable)	446-050-01
Transparent door, IP 54, 144 x 144 mm, with sash fastener	446-050-02
VisioDINbox 288 x 144 mm	441-480-60
Transparent door, IP 42, 288 x 144 mm, with lock (lockable)	446-130-01
Transparent door, IP 42, 288 x 144 mm, with sash fastener	446-130-02
Cover strip S 35 G (length 219 mm, pre-stamped with 9 mm grids)	640-222-00

Other sizes, special depths and colours, individual machining or key pad foils available on request – contact us!



DINcollect

Enclosure to take control units and displays mounted in panel instrument cases acc. to IEC 61554. Wiring can be done through the rear cable outlet.

The enclosure can easily be fixed to any kind of machinery or production equipment by means of an adjustable fitting which allows the operator a perfect viewing angle. The front accommodates two units of 96 x 96 mm and one unit of 48 x 96 mm size.

Material: Aluminium
Finish: RAL 7035 light grey
 RAL 9005 black

Other sizes available on request.



Description	Dimensions H x W x D mm	Order no.
DINcollect	130 x 370 x 260	190-300-00

VisioRAILbox

Optically appealing wall-mounting enclosure for the installation of DIN rail based controls in office or at home applications. Control lights or settings are visible through the tinted door.

The base enclosure can easily be fixed to a wall by 4 screws and the control units may be rapidly clipped onto 2 integrated DIN rails. Cabling can be wired through the rear cable outlet.

After installation, the top part with tinted door can easily be attached on the base and fixed with screws.

Dimensions H x W x D:
 Size 12 M: 316 x 150 x 95 mm
 (accommodates max. 12 modules)
 Size 24 M: 316 x 250 x 95 mm
 (accommodates max. 24 modules)

Material and design:

Base enclosure:
 Aluminium with 2 integrated DIN rails and rear cable outlet
Top part:
 metal finish alu brush surface ABS with tinted plexiglass® door



Description	Dimensions H x W x D mm	Order no.
VisioRAILbox 12 M	316 x 150 x 95	190-350-00
VisioRAILbox 24 M	316 x 250 x 95	190-350-10

Other sizes available on request.