



## **ENYSTAR** **Distribution boards up to 250 A**

with door, in accordance with IEC 61439-3

- combinable enclosure system
- degree of protection: IP 66
- made from polycarbonate
- protection class II, □

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Further technical information can be found on the Internet  
[www.hensel-electric.de](http://www.hensel-electric.de) -> Products

**Standard-conforming rating of distribution boards**

The IEC 61439 - the standard for the construction of switchgear assemblies - brings changes that affect the planning of a switchgear assembly. In addition, new tasks and responsibilities are awaiting the manufacturer of a switchgear assembly.

Decisive for the optimal functioning of a switchgear assembly under operating conditions is the correct rating of the interface characteristics of the assembly. For this purpose, the assembly is considered as **BLACK-BOX** with four interface characteristics which shall ensure compatibility with the ratings of the circuits to which it is connected and the installation conditions and shall be declared by the assembly manufacturer using the criteria identified below.

**Assembly considered as BLACK BOX with the four interface characteristics according to IEC 61439-2, -3**



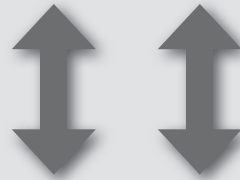
**Installation and ambient conditions**

- For protected outdoor installation
- Degree of protection IP 66
- Combinable enclosure system, extendable in all directions
- 4 enclosure sizes in grid of 90 mm
- EMC compliant busbar system
- Wall-mounting



**Operation and maintenance**

- Distribution board up to 250 A intended to be operated by ordinary persons in accordance with IEC 61439-3
- Protection class II up to rated current of 250 A
- Flexible through standardised and tested kits
- Spacious connection areas
- Fulfill the requirements for operation by ordinary persons (DBO)



**BLACK BOX with 4 interfaces**

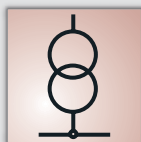
**ENYSTAR Distribution Board**



Combinable enclosure system, insulation-enclosed, total insulated, degree of protection IP 66, **for the assembly of ENYSTAR distribution boards up to 250 A intended to be operated by ordinary persons (DBO) in accordance with IEC 61439-3**

The requirements for all installed electrical functions within the assembly have been proved compliance with the applicable requirements of IEC 61439-3.

$I_{nc}$  and RDF must be specified in the documentation.



**Connection to the electrical network**

- Electric circuit / final circuit
- Circuit-breaker up to 250 A
- Switch disconnector up to 250 A
- Fuse switch disconnector up to 250 A
- Bus-mounted fuse base up to 63 A
- Cable connection from top / from bottom
- Connection: conductors from copper / aluminum
- Optional connection of CEE sockets according to EN 60309 and sockets with earthing contact according to DIN 49440-1



**Circuits and consumers**

- Rated voltage  $U_N = 690$  V a.c. / 1000 V d.c.
- Rated current  $I_N$  up to 250 A
- Circuit-breaker up to 250 A
- Switch disconnector up to 250 A
- Fuse switch disconnector up to 250 A
- 5-conductor systems
- Cable connection from top / from bottom

**Changes facing the manufacturer of a switchgear assembly (Panel builder)**

IEC 61439 - the standard for the assembly of switchgear assemblies and distribution boards - determines the safety requirements for electrical equipment for the compliance of protection objectives for people and facilities. Requirements for products are more clearly defined and a new terminology is introduced.

**BLACK BOX Specification**

The designer specifies a switchgear assembly by defining the interface parameters as BLACK BOX. Based on these interface specifications the manufacturer of a switchgear assembly has to rate and define the structure of the switchgear assembly.

**Product presentation in media changed significantly**

The standard has an effect as well on the documentation of products. Additional information, such as the rated current of circuits and the number of circuits, are now listed for each product as they are now required by designers and manufacturers for the construction of switchgear assemblies.

**The international catalogue presents ENYSTAR empty and circuit breaker boxes.**



Further enclosures with electrical functions for the assembly of ENYSTAR distribution boards up to 250 A, for example, with built-in busbars, circuit breakers, etc., see at: [www.hensel-electric.de](http://www.hensel-electric.de)

**For design and assembly according IEC 61439 / EN 61439 with ENYSTAR Distribution Boards up to 250 A please refer to the guide at [www.hensel-elctric.de/61439](http://www.hensel-elctric.de/61439).**

The guide to design and assemble in accordance with EN 61439 for ENYSTAR distribution boards up to 250 A and Mi Power distribution boards up to 630 A can be downloaded:



[www.hensel-electric.de/en](http://www.hensel-electric.de/en)

**ENYGUIDE**

**Planning tool Configurator ENYGUIDE at [www.enyguide.eu](http://www.enyguide.eu)**

Free planning software ENYGUIDE: allows the quick and easy configuration of distribution boards.



- Dimensional drawings and parts lists are automatically created by ENYGUIDE.
- Representation of the distribution board as a detailed 3D-image or a 2D-drawing.
- Various view planes show the equipment, covers and doors.
- ENYGUIDE determines the necessary accessories such as the number of wall separators independently.
- No time-consuming program installation is needed.

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

**Distribution boards up to 250 A with door**

combinable enclosure system, insulation-enclosed, degree of protection IP 66, made from polycarbonate, for the assembly of distribution boards up to 250 A, intended to be operated by ordinary persons in accordance with IEC 61439-3

- for indoor and protected outdoor installation
- dust-proof and protected against water (IP 66)
- protection class II 
- colour: grey, RAL 7035

**Material: Polycarbonate**

- Burning behaviour: Glow wire test according to IEC 60695-2-11, self-extinguishing, flame-retardant
- UV resistant according to IEC 61439-1, Section 10.2.4: The material is examined for UV resistance
- Toxic behaviour: silikon- and halogen-free
- Chemical resistance: Resistant against acid 10 % and alkaline 10 %, petrol and mineral oil

ENYSTAR®  
Distribution boards



Combinable enclosure system with doors



Easy operation of the devices behind a door with protection against accidental contact.



Quick assembly



Assembling ENYSTAR distribution boards according to IEC 61439-3

**Doors**

- all enclosure sizes with door
- transparent and opaque
- door hinge changeable
- sealable
- locking facilities: lockable, door fasteners for tool and hand operation
- operation of the devices behind the door protected with covers
- no overhangig handles

**Quick Assembly**

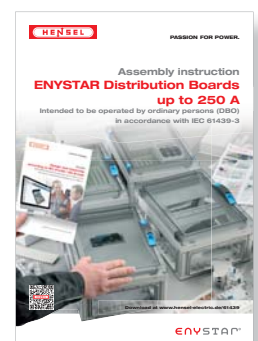
- closed or open enclosure walls, which can fast and easily be closed with closing plate sets
- integrated gaskets
- safe connectors

**Pre-assembled enclosures with electrical functions**

- Protection covers in enclosures with electrical functions
- Connection Box for the installation of devices that must be operated externally, such as plug devices, push buttons and switches
- Cable entry via flanges up to cable diameter of 72 mm

**Assembly instruction**

Please request or download information:  
[www.hensel-electric.de/en](http://www.hensel-electric.de/en) -> Downloads



# Dependent on the system

## Electrical parameters



### Electrical parameters

rated voltage: max. 690 V a.c.  
 rated insulation voltage: 690 V a.c., 1000 V d.c.  
 rated current: max. 250 A  
 rated short-time withstand current: max. 13 kA

**The design values are possibly reduced by the installed equipment technology, please refer to technical data of the product or index technical data.**

## System properties



### Environmental conditions

Ambient temperature  
 - for distribution boards in accordance with IEC 61439-3: -5 °C up to 35 °C, max. + 40 °C  
 Relative humidity: 50% at 40 °C, 100% at 25 °C  
 - for empty enclosures: - 25 °C up to + 70 °C  
 The climatic influences and effects on the equipment are to be considered, see technical details / operating and ambient conditions




### Application area

**The enclosures are suitable for outdoor installation, protected against weather influences.** However, pay attention to the climatic effects on the installed equipment, see operating and ambient conditions in index technical data.



### Insulation

insulated enclosures (protection class II) 



### Impact strength

degree of protection against mechanical load IK 08 (5 Joule) in accordance with IEC 62262



### Protection against foreign solid objects and direct contact

dust-proof degree of protection IP 66



### Protection against ingress of water with harmful effects

protected against water degree of protection IP 66

# Dependent on material

## Material properties: polycarbonate



### Burning behaviour

glow wire test 960 °C in accordance with IEC 60695-2-11 flame-retardant, self-extinguishing



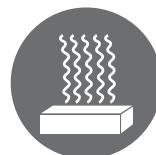
### UV resistance

UV resistance according to IEC 61439-1, Section 10.2.4: the material is examined for UV resistance



### Chemical resistance

resistance against acid 10% and alkaline 10%, petrol and mineral oil



### Toxic behaviour

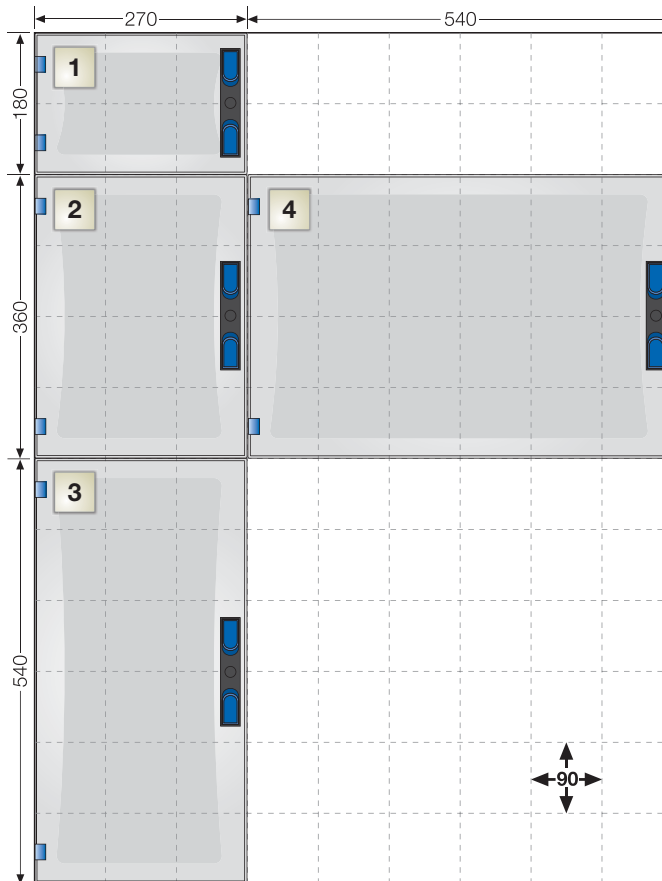
silicone- and halogen-free

**Distribution board with door**

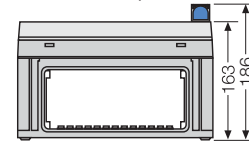
- combinable
- modular structure of enclosures in grid of 90 mm
- 4 enclosure sizes: 270 x 180 mm, 270 x 360 mm, 270 x 540 mm and 540 x 360 mm
- for the assembly of distribution boards up to 250 A
- all enclosures can also be used as single enclosures

**Combinable enclosures with door and closing plates**

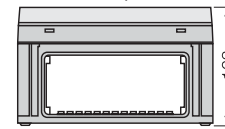
- 4 box sizes: 276 x 186 mm, 276 x 366 mm, 276 x 546 mm and 546 x 366 mm



**Enclosure depth with hand operation**

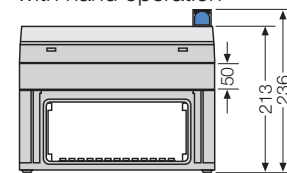


**with tool operation**

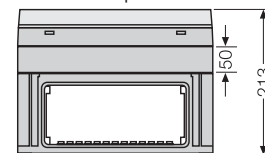


**Extension frame for extending installation depths by 50 mm with hand operation**

for extending installation depths by 50 mm with hand operation



**with tool operation**



ENYSTAR® Distribution boards

ENYSTAR distributors are highly adaptable in confined spaces and therefore well suited for industrial and commercial buildings:

- modular,
- with high degree of protection,
- expandable in all directions (vertical and horizontal).

Extension frames allow the installation of devices with different installation heights.



**Transparent covers:**

All electrical functions at a glance. Errors can be instantly localized. The current course is always visible from the outside in the event of a fault or for retrofitting.

**Flexible and expandable**

even in case of retrofitting additional circuits. Depending on the number of additional required circuits matching enclosure sizes are available. They can be combined horizontally or vertically on each enclosure wall.

**Electrical safety, dimensional stability**

In an impact or any other mechanical stress ENYSTAR enclosures gradually buffer and spring immediately back to the original shape. A temporarily contact with live parts does not cause a short-circuit. The protection against electric shock is maintained.

Combinable distribution boards with door



Empty enclosures door locking with **hand operation**  
**Operation and access also by unskilled persons**

Empty enclosures door locking with **tool operation**  
**Access and operation only by skilled persons**

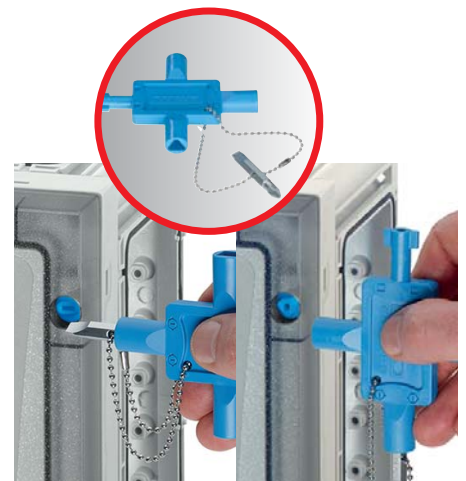
Circuit breaker boxes



- Hand-operated locking facilities in areas, where electrotechnical unskilled persons operate equipment



- Locking option with key prevents unauthorized access



- Multikey for door locking systems: Standard locking system for tool-operation with slot screwdriver and triangle 8 mm, optional square lock 8 mm and double-bit.

Combinable enclosures with door and closing plates

Empty enclosures and circuit breaker boxes additionally with closing plate sets for closing enclosure walls



Enclosure walls closed via closing plates

Flanges to be ordered separately





**Can be combined and extended in all directions**

Because of the increasing requirements, flexibility is essential in the electrical installation.

ENYSTAR enclosures can be combined and arranged freely in

order to adapt the system flexibly to the individual requirements in site:

Combination next to each other or one above the other.

Large doors for all box sizes allow a simple accessibility of the electrical functions.

ENYSTAR®  
Distribution boards



Combination of enclosures in **vertical** direction.



Combination of enclosures in **horizontal** direction.



**Distribution boards intended to be operated by ordinary persons**

Example 1:  
Distribution board with 72 modules (6 x 12 x 18 mm) built-up of 2 x FP 1318 with closing plates

Example 2:  
Distribution board with 125 A feeding, 36 modules (3 x 12 x 18 mm) and a terminal box for PE and N



**ENYSTAR®**  
**Connection Box**

The ENYSTAR Connection Box allows a simple and fast installation of devices that must be operated externally. Such as plug devices, pushbuttons, switches or also touch panels.

The new Connection Box is installed via safe plug connectors.

The ENYSTAR Connection Box is available in different designs and standard equipments.



**Empty enclosures**  
hand-operated door lockings

with transparent doors      with opaque doors

**Empty enclosures**  
tool-operated door lockings

with transparent doors      with opaque doors

ENYSTAR®  
Distribution boards



**FP 0140**  
built-in dimensions  
216x126x140 mm



**FP 0150**  
built-in dimensions  
216x126x140 mm



**FP 0141**  
built-in dimensions  
216x126x140 mm  
with closing plates



**FP 0151**  
built-in dimensions  
216x126x140 mm  
with closing plates



**FP 0240**  
built-in dimensions  
216x306x140 mm



**FP 0250**  
built-in dimensions  
216x306x140 mm



**FP 0241**  
built-in dimensions  
216x306x140 mm  
with closing plates



**FP 0251**  
built-in dimensions  
216x306x140 mm  
with closing plates



**FP 0340**  
built-in dimensions  
216x486x140 mm



**FP 0350**  
built-in dimensions  
216x486x140 mm



**FP 0341**  
built-in dimensions  
216x486x140 mm  
with closing plates



**FP 0351**  
built-in dimensions  
216x486x140 mm  
with closing plates



**FP 0440**  
built-in dimensions  
486x306x140 mm



**FP 0450**  
built-in dimensions  
486x306x140 mm



**FP 0441**  
built-in dimensions  
486x306x140 mm  
with closing plates



**FP 0451**  
built-in dimensions  
486x306x140 mm  
with closing plates



**FP 0461**  
built-in dimensions  
306x486x140 mm  
with closing plates



**FP 0471**  
built-in dimensions  
306x486x140 mm  
with closing plates



**FP 0100**  
built-in dimensions  
216x126x140 mm



**FP 0120**  
built-in dimensions  
216x126x140 mm



**FP 0101**  
built-in dimensions  
216x126x140 mm  
with closing plates



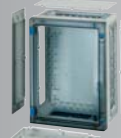
**FP 0121**  
built-in dimensions  
216x126x140 mm  
with closing plates



**FP 0210**  
built-in dimensions  
216x306x140 mm



**FP 0230**  
built-in dimensions  
216x306x140 mm



**FP 0211**  
built-in dimensions  
216x306x140 mm  
with closing plates



**FP 0231**  
built-in dimensions  
216x306x140 mm  
with closing plates



**FP 0310**  
built-in dimensions  
216x486x140 mm



**FP 0330**  
built-in dimensions  
216x486x140 mm  
with closing plates



**FP 0311**  
built-in dimensions  
216x486x140 mm  
with closing plates



**FP 0331**  
built-in dimensions  
216x486x140 mm  
with closing plates



**FP 0400**  
built-in dimensions  
486x306x140 mm



**FP 0420**  
built-in dimensions  
486x306x140 mm



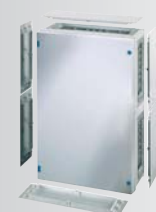
**FP 0401**  
built-in dimensions  
486x306x140 mm  
with closing plates



**FP 0421**  
built-in dimensions  
486x306x140 mm  
with closing plates



**FP 0411**  
built-in dimensions  
306x486x140 mm  
with closing plates



**FP 0431**  
built-in dimensions  
306x486x140 mm  
with closing plates

**Built-in equipment must be suitable for operation by electrotechnical unskilled persons and has to be protected by a cover against direct contact with hazardous life parts.**

Empty boxes for the installation of different electrical devices either directly over attachments in the bottom or on DIN rails or mounting plates.

Empty boxes for the installation of different electrical devices either directly over attachments in the bottom or on DIN rails or mounting plates.

**Circuit breaker boxes with PE/N**

for DIN rail equipment up to 63 A















**without PE/N**

for DIN rail equipment up to 63 A



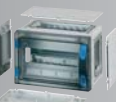











**Circuit breaker boxes without PE/N terminals**

for DIN rail equipment up to 63 A, with removable DIN rail rack and earth connection

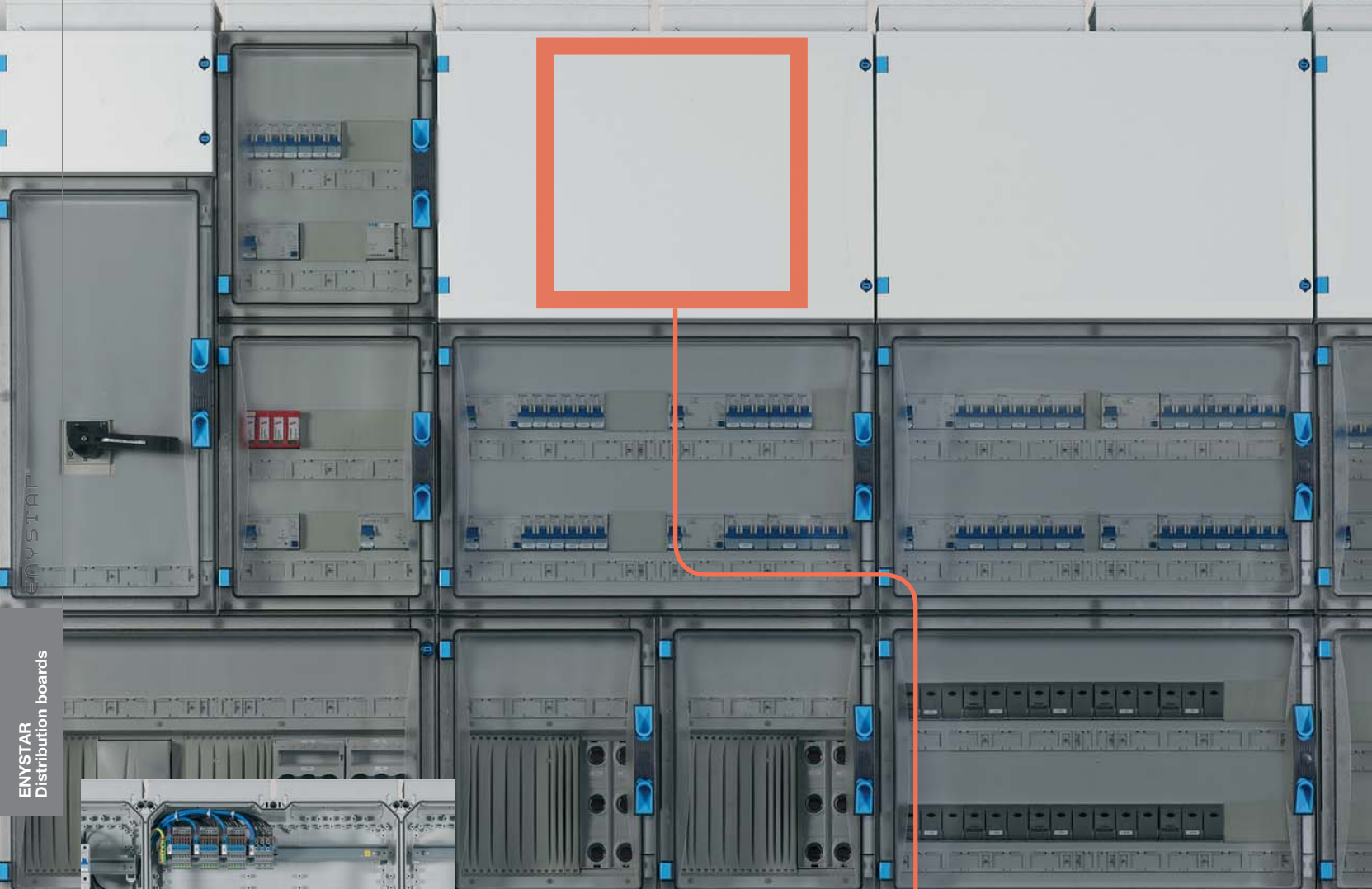
for DIN rail equipment up to 100 A

	<b>FP 1109</b> 1x9x18 mm		<b>FP 1105</b> 1x12x18 mm with closing plates
	<b>FP 1108</b> 1x9x18 mm with closing plates		<b>FP 1215</b> 2x12x18 mm with closing plates
	<b>FP 1219</b> 2x12x18 mm		<b>FP 1315</b> 3x12x18 mm with closing plates
	<b>FP 1218</b> 2x12x18 mm with closing plates		<b>FP 1415</b> 3x17x18 mm with closing plates
	<b>FP 1319</b> 3x12x18 mm		
	<b>FP 1318</b> 3x12x18 mm with closing plates		
	<b>FP 1409</b> 2x27x18 mm with closing plates		
	<b>FP 1408</b> 2x27x18 mm with closing plates		
	<b>FP 1418</b> 3x17x18 mm with closing plates		
	<b>FP 1211</b> 1x12x18 mm for miniature circuit breakers (MCB)		

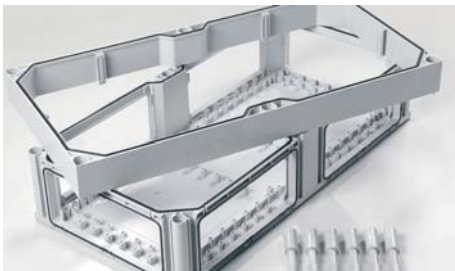
Circuit breaker boxes for the installation of DIN rail equipment in accordance with DIN 43 880 from 9 up to 54 modules.

	<b>FP 1106</b> 1x9x18 mm		<b>FP 1101</b> 1x12x18 mm
	<b>FP 1107</b> 1x12x18 mm with closing plates		<b>FP 1249</b> 2x12x18 mm
	<b>FP 1216</b> 2x12x18 mm		<b>FP 1349</b> 3x12x18 mm
	<b>FP 1217</b> 2x12x18 mm with closing plates		<b>FP 1439</b> 2x27x18 mm
	<b>FP 1316</b> 3x12x18 mm		<b>FP 1211</b> 1x12x18 mm for miniature circuit breakers (MCB) with PE/N terminals
	<b>FP 1317</b> 3x12x18 mm with closing plates		<b>FP 1100</b> Terminal box
	<b>FP 1406</b> 2x27x18 mm with closing plates		
	<b>FP 1417</b> 3x17x18 mm with closing plates		

Circuit breaker boxes for the installation of DIN rail equipment in accordance with DIN 43 880 from 9 up to 54 modules.




ENYSTAR  
Distribution boards



## ENYSTAR

### Empty boxes

for the assembly of distribution boards up to 250 A  
intended to be operated by ordinary persons  
in accordance with IEC 61439-3

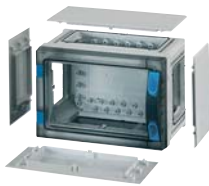
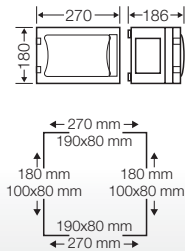
- All enclosure sizes with door
- Transparent or opaque doors
- Device installation either on mounting plates or DIN rails
- Installation depths extendable by using extension frames
- Enclosures can also be used as single boxes when enclosure walls are covered with closing plates
- Door lockings with hand or tool operation
- Protection class II, 
- Degree of protection: IP 66
- Material: PC (polycarbonate)
- Colour: grey, RAL 7035



**FP 0140**

**Built-in dimensions W 216 x H 126 x D 140 mm  
door locking with hand operation**

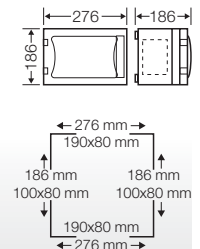
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0141**

**Built-in dimensions W 216 x H 126 x D 140 mm  
door locking with hand operation  
with closing plates for box walls**

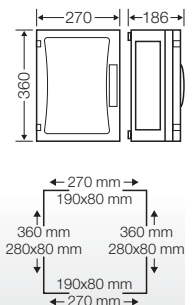
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



**FP 0240**

**Built-in dimensions W 216 x H 306 x D 140 mm  
door locking with hand operation**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 2
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



Please note:



Terminals for incoming/outgoing cables under accessories



Covers for protection of installation device, see accessories



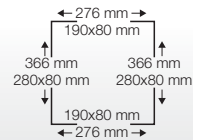
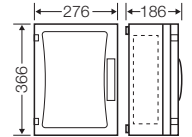
Empty enclosures with hinged lids



**FP 0241**

**Built-in dimensions W 216 x H 306 x D 140 mm**  
**door locking with hand operation**  
**with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 2
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



ENYSTAR®

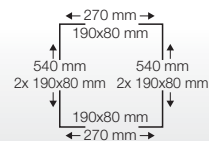
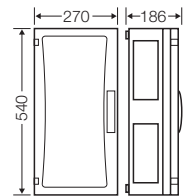
ENYSTAR  
Distribution boards



**FP 0340**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door locking with hand operation**

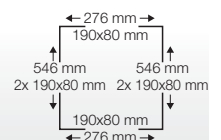
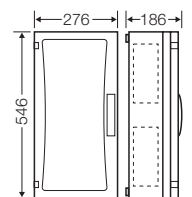
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 3
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0341**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door locking with hand operation**  
**with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 3
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

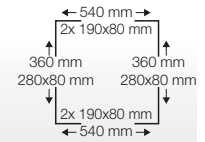
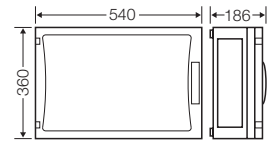




**FP 0440**

**Built-in dimensions W 486 x H 306 x D 140 mm  
door locking with hand operation**

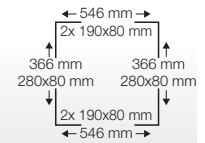
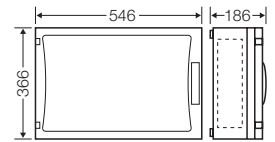
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0441**

**Built-in dimensions W 486 x H 306 x D 140 mm  
door locking with hand operation  
with closing plates for box walls**

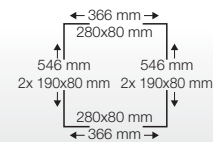
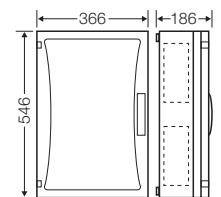
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



**FP 0461**

**Built-in dimensions W 306 x H 486 x D 140 mm  
door locking with hand operation  
with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



Please note:



Terminals for incoming/outgoing cables under accessories



Covers for protection of installation device, see accessories



Empty enclosures with hinged lids

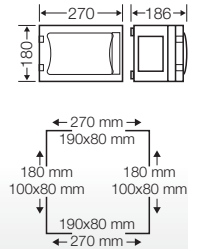




**FP 0150**

**Built-in dimensions W 216 x H 126 x D 140 mm  
door locking with hand operation**

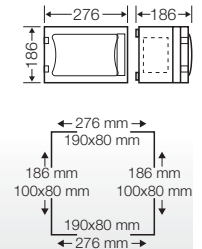
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0151**

**Built-in dimensions W 216 x H 126 x D 140 mm  
door locking with hand operation  
with closing plates for box walls**

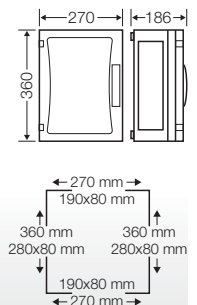
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



**FP 0250**

**Built-in dimensions W 216 x H 306 x D 140 mm  
door locking with hand operation**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 2
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately

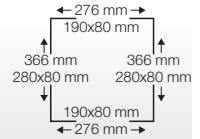
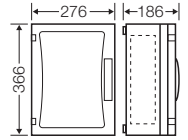




**FP 0251**

**Built-in dimensions W 216 x H 306 x D 140 mm**  
**door locking with hand operation**  
**with closing plates for box walls**

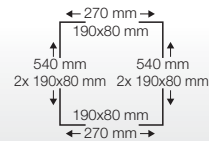
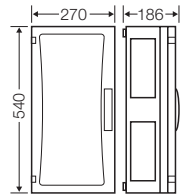
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 2
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



**FP 0350**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door locking with hand operation**

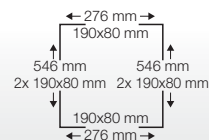
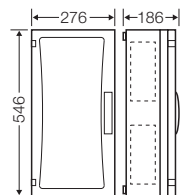
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 3
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0351**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door locking with hand operation**  
**with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 3
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



Please note:



Terminals for incoming/outgoing cables under accessories



Covers for protection of installation device, see accessories



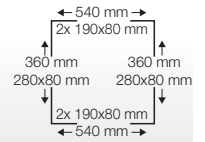
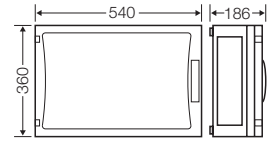
Empty enclosures with hinged lids



**FP 0450**

**Built-in dimensions W 486 x H 306 x D 140 mm  
door locking with hand operation**

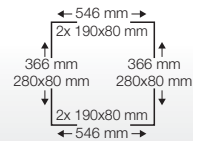
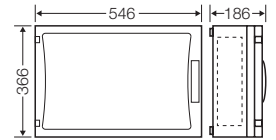
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0451**

**Built-in dimensions W 486 x H 306 x D 140 mm  
door locking with hand operation  
with closing plates for box walls**

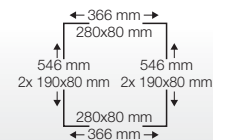
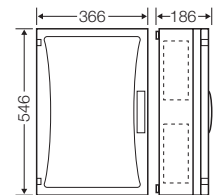
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



**FP 0471**

**Built-in dimensions W 306 x H 486 x D 140 mm  
door locking with hand operation  
with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

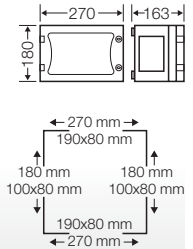




**FP 0100**

**Built-in dimensions W 216 x H 126 x D 140 mm door fastener with tool operation**

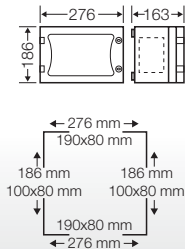
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0101**

**Built-in dimensions W 216 x H 126 x D 140 mm door fastener with tool operation with closing plates for box walls**

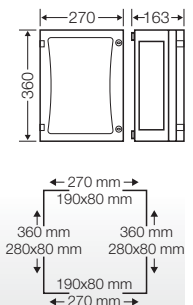
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



**FP 0210**

**Built-in dimensions W 216 x H 306 x D 140 mm door fastener with tool operation**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 2
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



Please note:



Terminals for incoming/outgoing cables under accessories



Covers for protection of installation device, see accessories



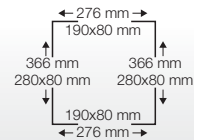
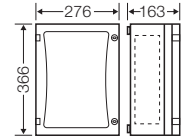
Empty enclosures with hinged lids



**FP 0211**

**Built-in dimensions W 216 x H 306 x D 140 mm**  
**door fastener with tool operation**  
**with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 2
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



ENYSTAR®

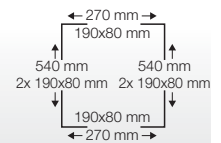
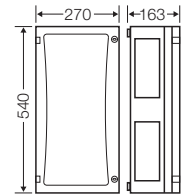
ENYSTAR  
Distribution boards



**FP 0310**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door fastener with tool operation**

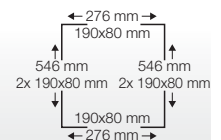
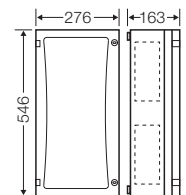
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 3
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0311**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door fastener with tool operation**  
**with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 3
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

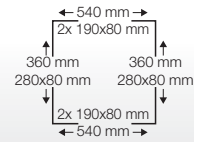
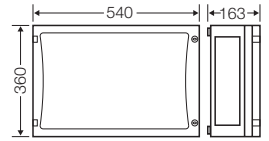




**FP 0400**

**Built-in dimensions W 486 x H 306 x D 140 mm  
door fastener with tool operation**

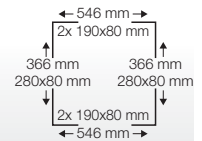
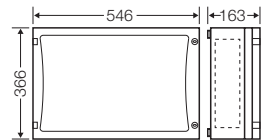
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0401**

**Built-in dimensions W 486 x H 306 x D 140 mm  
door fastener with tool operation  
with closing plates for box walls**

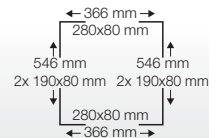
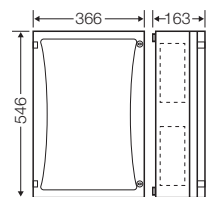
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



**FP 0411**

**Built-in dimensions W 306 x H 486 x D 140 mm  
door fastener with tool operation  
with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



Please note:



Terminals for incoming/outgoing cables under accessories



Covers for protection of installation device, see accessories



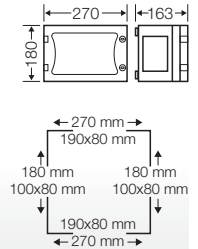
Empty enclosures with hinged lids



**FP 0120**

**Built-in dimensions W 216 x H 126 x D 140 mm**  
**door fastener with tool operation**

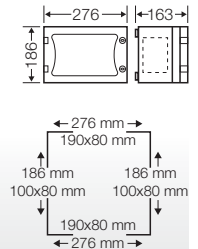
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0121**

**Built-in dimensions W 216 x H 126 x D 140 mm**  
**door fastener with tool operation**  
**with closing plates for box walls**

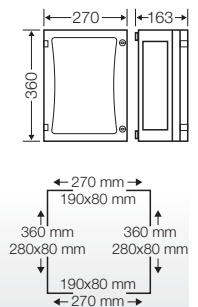
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



**FP 0230**

**Built-in dimensions W 216 x H 306 x D 140 mm**  
**door fastener with tool operation**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 2
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately

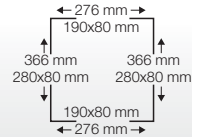
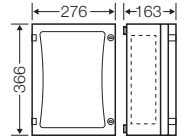




**FP 0231**

**Built-in dimensions W 216 x H 306 x D 140 mm**  
**door fastener with tool operation**  
**with closing plates for box walls**

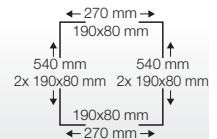
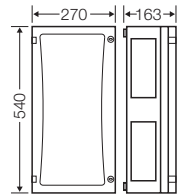
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 2
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



**FP 0330**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door fastener with tool operation**

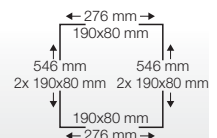
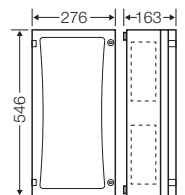
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 3
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0331**

**Built-in dimensions W 216 x H 486 x D 140 mm**  
**door fastener with tool operation**  
**with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 3
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



Please note:



Terminals for incoming/outgoing cables under accessories



Covers for protection of installation device, see accessories



Empty enclosures with hinged lids

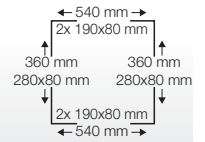
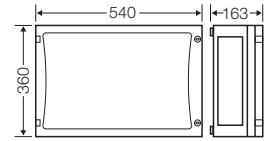




**FP 0420**

**Built-in dimensions W 486 x H 306 x D 140 mm**  
**door fastener with tool operation**

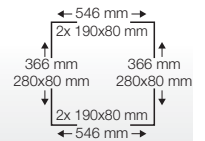
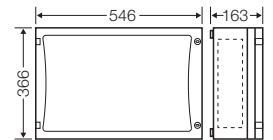
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 0421**

**Built-in dimensions W 486 x H 306 x D 140 mm**  
**door fastener with tool operation**  
**with closing plates for box walls**

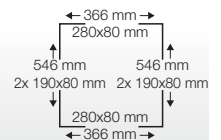
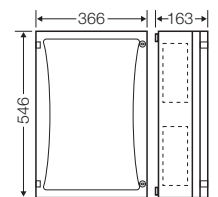
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



**FP 0431**

**Built-in dimensions W 306 x H 486 x D 140 mm**  
**door fastener with tool operation**  
**with closing plates for box walls**

- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately






**ENYSTAR**

**Circuit breaker box**

for the assembly of distribution boards up to 250 A intended to be operated by ordinary persons in accordance with IEC 61439-3

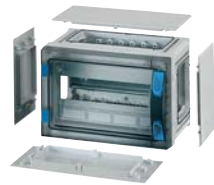
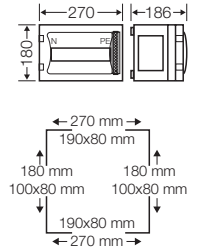
- Transparent doors
- door locking with hand operation, lockable with tool or key
- Circuit breaker boxes with or without PE and N terminals
- Protection against direct contact with hazardous live parts for operable installation devices
- Blanking strips for unused DIN rail openings
- Attached labelling strips for circuit identification
- Enclosures can also be used as single boxes when enclosure walls are covered with closing plates
- Protection class II, 
- Degree of protection: IP 66
- Material: PC (polycarbonate)
- Colour: grey, RAL 7035



**FP 1109**

**9 modules: 1 x 9 x 18 mm**

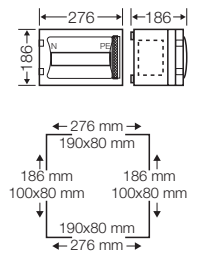
- 1-row
- box size 1
- FIXCONNECT® plug-in terminal technology for PE and N
- PE/N 2 x 25 mm<sup>2</sup>, 8 x 4 mm<sup>2</sup>, Cu each
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1108**

**9 modules: 1 x 9 x 18 mm**  
**with closing plates for box walls**

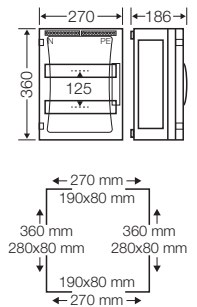
- 1-row
- box size 1
- FIXCONNECT® plug-in terminal technology for PE and N
- PE/N 2 x 25 mm<sup>2</sup>, 8 x 4 mm<sup>2</sup>, Cu each
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order flanges separately



**FP 1219**

**24 modules: 2 x 12 x 18 mm**

- 2-row
- box size 2
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm<sup>2</sup>, 12 x 4 mm<sup>2</sup>, Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking sealable
- door locking with hand operation
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately

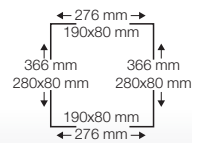
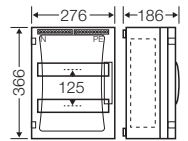




**FP 1218**

**24 modules: 2 x 12 x 18 mm**  
**with closing plates for box walls**

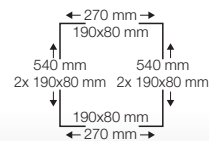
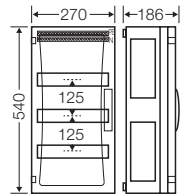
- 2-row
- box size 2
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm<sup>2</sup>, 12 x 4 mm<sup>2</sup>, Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order flanges separately



**FP 1319**

**36 modules: 3 x 12 x 18 mm**

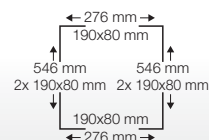
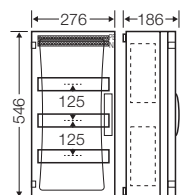
- 3-row
- box size 3
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm<sup>2</sup>, 24 x 4 mm<sup>2</sup>, Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1318**

**36 modules: 3 x 12 x 18 mm**  
**with closing plates for box walls**

- 3-row
- box size 3
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm<sup>2</sup>, 24 x 4 mm<sup>2</sup>, Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order flanges separately



Please note:



Connection box for plug devices, push buttons or switches under accessories



Cover cutouts against direct contact with hazardous live parts



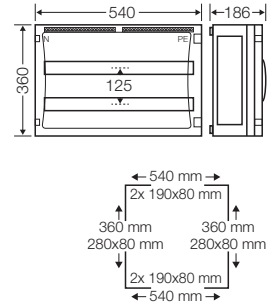
Editable labelling strips



**FP 1409**

**54 modules: 2 x 27 x 18 mm**

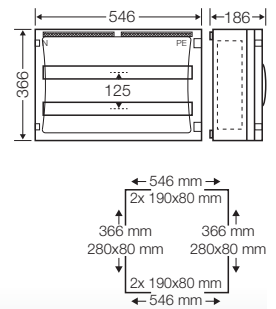
- 2-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm<sup>2</sup>, 24 x 4 mm<sup>2</sup>, Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1408**

**54 modules: 2 x 27 x 18 mm**  
**with closing plates for box walls**

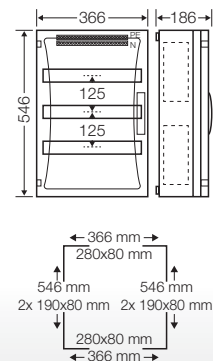
- 2-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm<sup>2</sup>, 24 x 4 mm<sup>2</sup>, Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order flanges separately



**FP 1418**

**51 modules: 3 x 17 x 18 mm**  
**with closing plates for box walls**

- 3-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 8 x 25 mm<sup>2</sup>, 32 x 4 mm<sup>2</sup>, Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order flanges separately

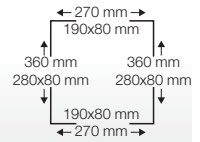
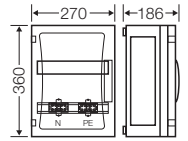




**FP 1211**

**12 modules: 1 x 12 x 18 mm**  
**for miniature circuit breakers (MCB)**

- 1-row
- box size 2
- with 1 DIN rail 216 mm wide (for installation depth of 72 mm)
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- per PE/N 2 x 25 mm<sup>2</sup>, 4 x 16 mm<sup>2</sup>, Cu
- cover can be sealed
- with lockable blanking strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



Please note:



Connection box for plug devices, push buttons or switches under accessories



Cover cutouts against direct contact with hazardous live parts



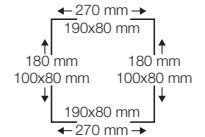
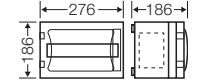
Editable labelling strips



**FP 1105**

**12 modules: 1 x 12 x 18 mm**  
**without PE and N terminal**  
**with closing plates for box walls**

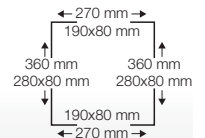
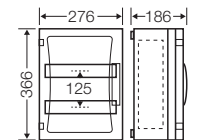
- 1-row
- box size 1
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- order PE/N terminals separately
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately



**FP 1215**

**24 modules: 2 x 12 x 18 mm**  
**without PE and N terminal**  
**with closing plates for box walls**

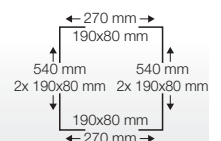
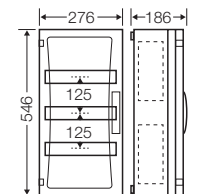
- 2-row
- box size 2
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately



**FP 1315**

**36 modules: 3 x 12 x 18 mm**  
**without PE and N terminal**  
**with closing plates for box walls**

- 3-row
- box size 3
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- walls closed with closing plates, closing plate set included
- order flanges separately

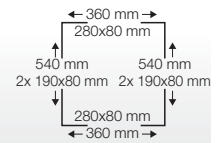
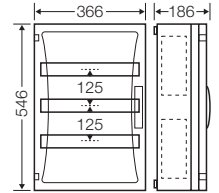




**FP 1415**

**51 modules: 3 x 17 x 18 mm**  
**without PE and N terminal**  
**with closing plates for box walls**

- 3-row
- box size 4
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- walls closed with closing plates, closing plate set included
- order flanges separately



Please note:



Connection box for plug devices, push buttons or switches under accessories



Cover cutouts against direct contact with hazardous live parts



Editable labelling strips

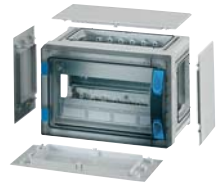
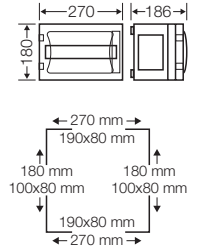




**FP 1106**

**12 modules: 1 x 12 x 18 mm**  
**without PE and N terminal**  
**with removable DIN rail rack and earth connection**

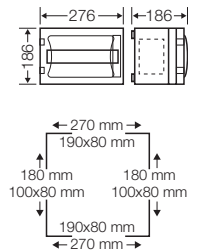
- 1-row
- box size 1
- order PE/N terminals separately
- with installation of a PE/N terminal the number of modules is reduced to 1 x 9 x 18 mm
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1107**

**12 modules: 1 x 12 x 18 mm**  
**without PE and N terminal**  
**with closing plates for box walls**  
**with removable DIN rail rack and earth connection**

- 1-row
- box size 1
- order PE/N terminals separately
- with installation of a PE/N terminal the number of modules is reduced to 1 x 9 x 18 mm
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately



Removable DIN rail rack for  
 e.g. earth connection (British standard)

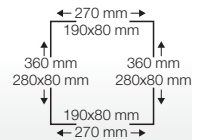
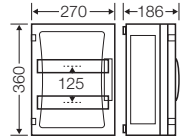




**FP 1216**

**24 modules: 2 x 12 x 18 mm**  
**without PE and N terminal**  
**with removable DIN rail rack and earth connection**

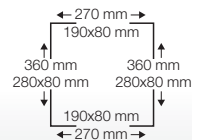
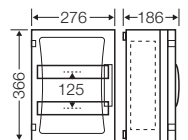
- 2-row
- box size 2
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1217**

**24 modules: 2 x 12 x 18 mm**  
**without PE and N terminal**  
**with closing plates for box walls**  
**with removable DIN rail rack and earth connection**

- 2-row
- box size 2
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately



Please note:



Connection box for plug devices, push buttons or switches under accessories



Cover cutouts against direct contact with hazardous live parts



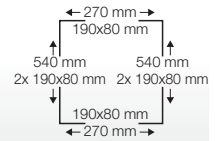
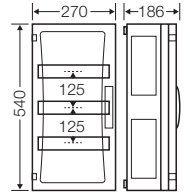
Editable labelling strips



**FP 1316**

**36 modules: 3 x 12 x 18 mm  
without PE and N terminal  
with removable DIN rail rack and earth connection**

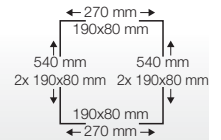
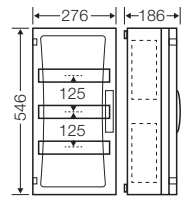
- 3-row
- box size 3
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1317**

**36 modules: 3 x 12 x 18 mm  
without PE and N terminal  
with closing plates for box walls  
with removable DIN rail rack and earth connection**

- 3-row
- box size 3
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- walls closed with closing plates, closing plate set included
- order flanges separately



Removable DIN rail rack for  
e.g. earth connection (British standard)

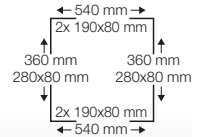
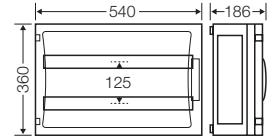




**FP 1406**

**54 modules: 2 x 27 x 18 mm  
 without PE and N terminal  
 with removable DIN rail rack and earth connection**

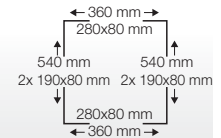
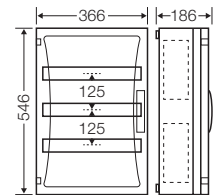
- 2-row
- box size 4
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1417**

**51 modules: 3 x 17 x 18 mm  
 without PE and N terminal  
 with closing plates for box walls  
 with removable DIN rail rack and earth connection**

- 3-row
- box size 4
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- walls closed with closing plates, closing plate set included
- order flanges separately



Please note:



Connection box for plug devices, push buttons or switches under accessories



Cover cutouts against direct contact with hazardous live parts



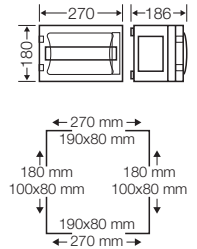
Editible labelling strips



**FP 1101**

**12 modules: 1 x 12 x 18 mm**  
**without PE and N terminal**

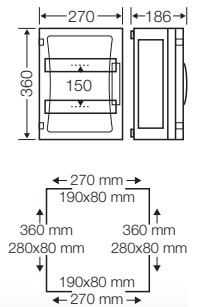
- 1-row
- box size 1
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1249**

**24 modules: 2 x 12 x 18 mm**  
**without PE and N terminal**

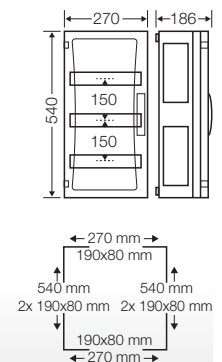
- 2-row
- box size 2
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1349**

**36 modules: 3 x 12 x 18 mm**  
**without PE and N terminal**

- 3-row
- box size 3
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately

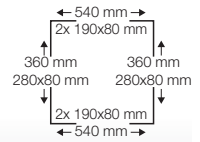
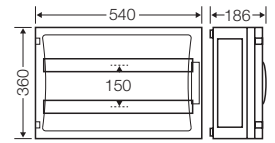




**FP 1439**

**54 modules: 2 x 27 x 18 mm**  
**without PE and N terminal**

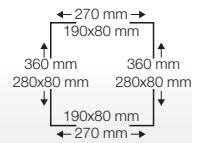
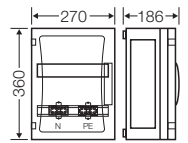
- 2-row
- box size 4
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**FP 1211**

**12 modules: 1 x 12 x 18 mm**  
**for miniature circuit breakers (MCB)**

- 1-row
- box size 2
- with 1 DIN rail 216 mm wide (for installation depth of 72 mm)
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- per PE/N 2 x 25 mm<sup>2</sup>, 4 x 16 mm<sup>2</sup>, Cu
- cover can be sealed
- with lockable blanking strips
- connector: 4 items
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



Please note:



Connection box for plug devices, push buttons or switches under accessories



Cover cutouts against direct contact with hazardous live parts



Editable labelling strips

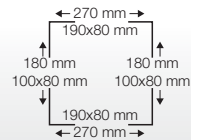
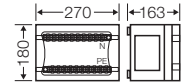


**FP 1100**

**Terminal box**

per PE/N 10 x 1.5-10 mm<sup>2</sup> sol / f,  
 11 x 2.5-16 mm<sup>2</sup> r / f, 1 x 16 mm<sup>2</sup> sol or  
 1 x 16-35 mm<sup>2</sup> f, Cu

- rated current: 125 A
- box size 1
- with opaque door
- door fastener with tool operation
- sealing device for door sealing order separately
- in order to achieve protection class II and degree of protection IP 66, please order closing plate sets, single closing plates and flanges separately



**Example: ENYSTAR distribution board**

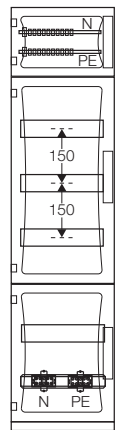
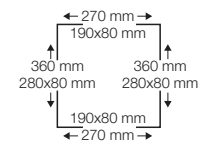
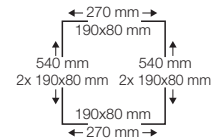
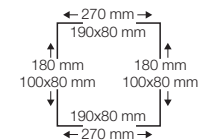
**Incoming: 100 A**  
**36 modules: 3 x 12 x 18 mm**

**Enclosure:**

- 1 x FP 1349
- 1 x FP 1211
- 1 x FP 1100

**Accessories:**

- 2 x FP VP 18
- 4 x FP VP 27
- 2 x FP VP 36
- 1 x FP FM 263
- 1 x FP FM 225





## ENYSTAR

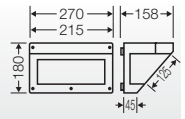
### Accessories

Connection Box	264
Extension frames, DIN rails, spacer	265
Mounting plates for the installation of devices	266
Covers, sealing device for covers	267
Partition, blanking strips, spacer for DIN rail mounted device	268
PE / N terminals, main line branch terminals	269 - 271
Wall separators, closing plates	272 - 273
Metal inserts for closing plates	274
Flanges	275 - 276
Ventilation / pressure compensation	277 - 278
Canopy	279
Connectors, facility for sealing, conversion kit for door fastener, door lock, dust protection cover, external brackets, mounting profiles	280 - 281



**FP CB 210****Connection Box**

- for mounting on box walls (270 mm)
- hinged mounting area
- for the installation of devices that must be operated externally, such as plug devices, push buttons and switches



## Application:

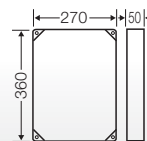


Connection box for plug devices, push buttons or switches under accessories



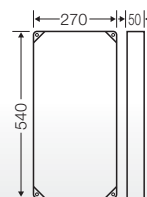
**FP ZR 20**  
**Extension frame**  
**for enclosure size 2**

- for extension of the installation depth by 50 mm
- inclusive fixing material
- suitable for fixing the cover FP AP 20 in different installation depths



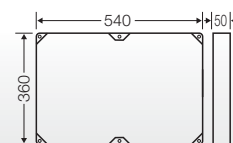
**FP ZR 30**  
**Extension frame**  
**for enclosures size 3**

- for extension of the installation depth by 50 mm
- inclusive fixing material
- suitable for the admission of cover FP AP 30 in different installation depths



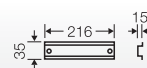
**FP ZR 40**  
**Extension frame**  
**for enclosure size 4**

- for extension of the installation depth by 50 mm
- inclusive fixing material
- suitable for the admission of cover FP AP 40 in different installation depths



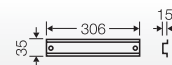
**FP TS 27**  
**DIN rail, length 216 mm**

- in accordance with DIN EN 60715
- for ENYSTAR empty boxes sizes 1, 2 and 3
- for equipment or terminals with clip-on mounting
- with fixing screws



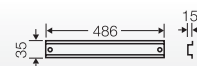
**FP TS 36**  
**DIN rail, length 306 mm**

- in accordance with DIN EN 60715
- for ENYSTAR empty boxes sizes 2 and 4
- for equipment or terminals with clip-on mounting
- with fixing screws



**FP TS 54**  
**DIN rail, length 486 mm**

- in accordance with DIN EN 60715
- for ENYSTAR empty boxes sizes 3 and 4
- for equipment or terminals with clip-on mounting
- with fixing screws



**FP DS 02**  
**Spacer**  
**height: 29.5 mm or 53.5 mm**

- for spacing DIN rails ENYSTAR
- 2 pieces
- with fixing screws for fixing on bottoms
- To change height turn spacer by 90°.



**FP MP 10**

**Mounting plate**  
**W 216 x H 126 mm**

- for ENYSTAR empty boxes sizes 1, 2 and 3
- material thickness 4 mm
- with fixing screws



**FP MP 20**

**Mounting plate**  
**W 216 x H 306 mm**

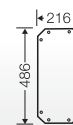
- for ENYSTAR empty boxes sizes 2, 3 and 4
- material thickness 4 mm
- with fixing screws



**FP MP 30**

**Mounting plate**  
**W 216 x H 486 mm**

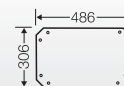
- for ENYSTAR empty boxes sizes 3 and 4
- material thickness 4 mm
- with fixing screws



**FP MP 40**

**Mounting plate**  
**W 486 x H 306 mm**

- for ENYSTAR empty boxes size 4
- material thickness 4 mm
- with fixing screws



**FP BZ 13**

**Fixing screw**  
**length 13 mm**

- for assembling DIN rails or mounting plates at the base of the box
- for material thicknesses of 2.5 to 4 mm
- self-tapping
- galvanised

Application:



Device installation on mounting plates



**FP AP 10**

**Cover without cut-outs**  
**W 220 x H 130 mm**

- for ENYSTAR enclosure size 1
- for retrofitting
- as protection cover or for installation of equipment



**FP AP 20**

**Cover without cut-outs**  
**W 220 x H 310 mm**

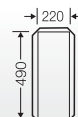
- for ENYSTAR enclosure size 2
- for retrofitting
- as protection cover or for installation of equipment



**FP AP 30**

**Cover without cut-outs**  
**W 220 x H 490 mm**

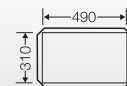
- for ENYSTAR enclosure size 3
- for retrofitting
- as protection cover or for installation of equipment



**FP AP 40**

**Cover without cut-outs**  
**W 490 x H 310 mm**

- for ENYSTAR enclosure size 4
- for retrofitting
- as protection cover or for installation of equipment



**FP PL 2**

**Sealing device for covers**  
**not suitable for circuit-breaker boxes**

- can be retrofitted
- 2 pieces
- with fixing screws

Application:



Device installation in covers

**FP TW 18****Partition  
180 mm**

- to push-in between enclosures

**FP TW 27****Partition  
270 mm**

- to push-in between enclosures

**FP TW 36****Partition  
360 mm**

- to push-in between enclosures
- except between two busbar boxes

**AS 12****Blanking strip  
12 modules**

- 12 x 18 mm, divisible every 9 mm
- for the covering of spare equipment openings, for material thickness up to 3 mm

**AS 18****Blanking strip  
18 modules**

- 18 X 18 mm, divisible every 9 mm
- for the covering of spare equipment openings, for material thickness up to 3 mm

**DAE 12****Spacer**

- for improvement in the heat dissipation of DIN rail mounted devices
- consisting of 12 items



**FC PN 20**

**PE and N terminal**  
**PE/N 2 x 25 mm<sup>2</sup>, 8 x 4 mm<sup>2</sup>, Cu each**

- for installation on DIN rails in accordance with IEC 60715, top hat profile 35 mm
- for boxes with 1 x 12 modules (through terminal reduction to 9 modules)
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- current carrying capacity: 101 A

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



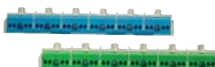
**FP FC 24**

**PE and N terminal**  
**per PE/N 3 x 25 mm<sup>2</sup>, 12 x 4 mm<sup>2</sup>, Cu**

- for enclosures with 2 x 12 modules
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- N separable, for up to 2 different potentials
- with fastening material
- current carrying capacity: 75 A

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



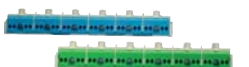
**FP FC 36**

**PE and N terminal**  
**per PE/N 6 x 25 mm<sup>2</sup>, 24 x 4 mm<sup>2</sup>, Cu**

- for enclosures with 3 x 12 modules
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- N separable, up to 4 different potentials
- with fastening material
- current carrying capacity: 75 A

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



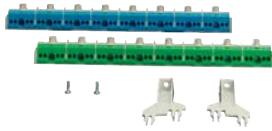
**FP FC 54**

**PE and N terminal**  
**per PE/N 6 x 25 mm<sup>2</sup>, 24 x 4 mm<sup>2</sup>, Cu**

- for enclosures with 2 x 27 modules
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- N separable, up to 4 different potentials
- with fastening material
- current carrying capacity: 75 A

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



**FP FC 51**

**PE and N terminal  
per PE/N 8 x 25 mm<sup>2</sup>, 32 x 4 mm<sup>2</sup>, Cu**

- for enclosures with 3 x 17 modules
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- N separable, up to 4 different potentials
- with fastening material
- current carrying capacity: 75 A

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



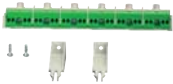
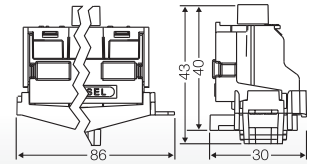
**FC PE 10**

**PE terminal  
2 x 25 mm<sup>2</sup>, 8 x 4 mm<sup>2</sup>, Cu**

- for installation on DIN rails in accordance with IEC 60715, top hat profile 35 mm
- for boxes with 1 x 12 modules (through terminal reduction to 9 modules)
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



**FP FC 054**

**PE terminal  
6 x 25 mm<sup>2</sup>, 24 x 4 mm<sup>2</sup>, Cu**

- for enclosures with 2 x 12 modules, 3 x 12 modules, 2 x 27 modules
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- with fastening material

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



**FP FC 051**

**PE terminal  
8 x 25 mm<sup>2</sup>, 32 x 4 mm<sup>2</sup>, Cu**

- for enclosures with 3 x 17 modules
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- with fastening material

rated insulation voltage

U<sub>i</sub> = 690 V a.c.



**FC BS 5**

**FIXCONNECT labelling system  
set with 5 pieces**

- labelling system for FIXCONNECT® plug-in terminals, not for terminals 2x25 / 4x4 mm<sup>2</sup>
- for attaching of labelling strips or marking with felt tip pen



**KKL 34**

**Main line branch terminal**  
**Rated connecting capacity: 1.5-25 mm<sup>2</sup>, Cu**

- as a connecting terminal
- for installation on DIN rails in accordance with IEC 60715, top hat profile 35 mm
- connections per terminal L1-L3: 4x
- connection: 1.5-16 mm<sup>2</sup> f\* or 2.5-25mm<sup>2</sup>, Cu, round conductor  
f\* = with gas-tight end ferrule
- current carrying capacity: 80 A
- width: 61 mm



dismantling length	19 mm
tightening torque for terminal	2.5 Nm



**KKL 48**

**Main line branch terminal**  
**Rated connecting capacity: 1.5-25 mm<sup>2</sup>, Cu**

- as a connecting terminal
- for installation on DIN rails in accordance with IEC 60715, top hat profile 35 mm
- connections per terminal L1-L3, 4x  
connections per terminal N: 8x
- connection: 1.5-16 mm<sup>2</sup> f\* or 2.5-25mm<sup>2</sup>, Cu, round conductor  
f\* = with gas-tight end ferrule
- current carrying capacity: 80 A
- width: 100 mm



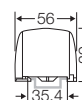
dismantling length	19 mm
tightening torque for terminal	2.5 Nm



**KKL 54**

**Main line branch terminal**  
**Rated connecting capacity: 1.5-25 mm<sup>2</sup>, Cu**

- as a connecting terminal
- for installation on DIN rails in accordance with IEC 60715, top hat profile 35 mm
- connections per terminal L1-L3: 4x  
connections per terminal N: 4x  
connections per terminal PE: 4x
- connection: 1.5-16 mm<sup>2</sup> f\* or 2.5-25mm<sup>2</sup>, Cu, round conductor  
f\* = with gas-tight end ferrule
- current carrying capacity: 80 A
- width: 100 mm



dismantling length	19 mm
tightening torque for terminal	2.5 Nm

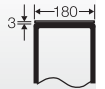


**FP WT 1****Wall separator**

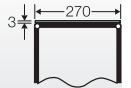
- for connecting enclosure walls of different sizes (refer to technical data)
- for insertion in bases of enclosures
- with 2 fixing elements

**FP VP 18****Closing plate  
180 mm**

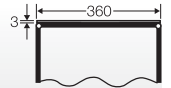
- with 2 fixing elements
- without knockouts

**FP VP 27****Closing plate  
270 mm**

- with 2 fixing elements
- without knockouts

**FP VP 36****Closing plate  
360 mm**

- with 2 fixing elements
- without knockouts



Application:



Closing of enclosure walls



**FP VS 10**  
**Closing plate set**  
**box size 1**

- 2 x for box wall 1 (180 mm) and 2 x for box wall 2 (270 mm)
- with 8 fixing elements
- without knockouts



**FP VS 20**  
**Closing plate set**  
**box size 2**

- 2 x for box wall 2 (270 mm) and 2 x for box wall 3 (360 mm)
- with 8 fixing elements
- without knockouts



**FP VS 30**  
**Closing plate set**  
**box size 3**

- 6x for box wall 2 (270 mm)
- with 12 fixing elements
- without knockouts



**FP VS 40**  
**Closing plate set**  
**box size 4**

- 4 x for box wall 2 (270 mm) and 2 x for box wall 3 (360 mm)
- with 12 fixing elements
- without knockouts

Application:



Closing of enclosure walls

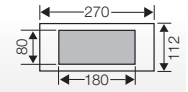


**FP VM 27**

**Metal insert for closing plates**

- box size 2 (270 mm)
- for earthing of metal armoured cables
- without knockouts

mounting width	180 mm
mounting height	80 mm

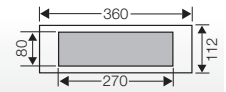


**FP VM 36**

**Metal insert for closing plates**

- for box wall 3 (360 mm)
- for earthing of metal armoured cables
- without knockouts

mounting width	270 mm
mounting height	80 mm



Application:



Metal insert for earthing of metal armoured cables



Earth connection according to British Standard installation via built-in metal insert.

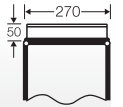


**FP FG 200**

**Flange  
without knockouts**

- box size 2 (270 mm)
- attached enclosure connectors: 2 items

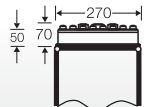
mounting width	240 mm
mounting height	92 mm



**FP FG 222**

**Flange  
sealing range Ø 6-30 mm**

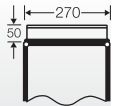
- sealing range: 17 x Ø 6-13 mm, 2 x Ø 9-17 mm, 2 x Ø 8-23 mm, 1 x Ø 11-30 mm
- box size 2 (270 mm)
- attached enclosure connectors: 2 items
- with integrated grommets for cable entry



**FP FM 225**

**Flange  
knockouts: 7 x M 16/25, 13 x M 20/25**

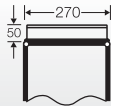
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



**FP FM 232**

**Flange  
knockouts: 8 x M 25/32, 2 x M 25/32/40**

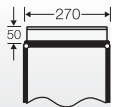
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



**FP FM 240**

**Flange  
knockouts: 2 x M 25/32, 5 x M 25/32/40**

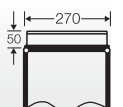
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



**FP FM 263**

**Flange  
knockouts: 2 x M 20, 2 x M 25/32,  
2 x M 32/40/50, 1 x M 40/50/63**

- box size 2 (270 mm)
- attached enclosure connectors: 2 items

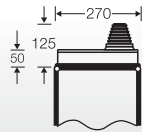




**FP FG 272**

**Flange**  
**sealing range: 1 x Ø 30-72 mm**

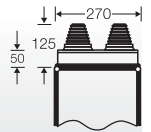
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



**FP FG 273**

**Flange**  
**sealing range: 2 x each Ø 30-72 mm**

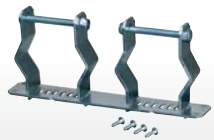
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



**FP FG 282**

**Cable insert**  
**sealing range: 2 x each Ø 30-72 mm**

- divisible for cable insertion from the front
- box size 2 (270 mm)
- attached enclosure connectors: 2 items
- degree of protection IP 65 only with additional strain and pressure relief (e.g. FP ZE 272)



**FP ZE 272**

**Cable strain relief**  
**for 2 cables with max. 60 mm external diameter**

- box size 2 (270 mm)
- with fixing screws



**FP GS 27**

**Box fin**  
**for inserting cables across 2 boxes**

- removable
- for box walls 270 mm
- can be retrofitted

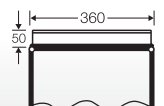


**FP FG 300**

**Flange**  
**without knockouts**

- for box wall 3 (360 mm)
- attached enclosure connectors: 2 items

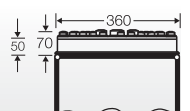
mounting width	330 mm
mounting height	92 mm



**FP FG 331**

**Flange**  
**sealing range Ø 6-30 mm**

- sealing range: 22 x Ø 6-13 mm, 6 x Ø 9-17 mm, 2 x Ø 8-23 mm, 1 x Ø 11-30 mm
- for box wall 3 (360 mm)
- attached enclosure connectors: 2 items
- with integrated grommets for cable entry





**FP BF 18**

**Ventilation flange  
180 mm**

IP  
44

- for ventilation of ENYSTAR Distribution boards in the event of extremely high internal temperatures or a risk of water condensation
- for vertical installation on box walls
- with 2 fixing elements



**FP BF 27**

**Ventilation flange  
270 mm**

IP  
44

- for ventilation of ENYSTAR Distribution boards in the event of extremely high internal temperatures or a risk of water condensation
- for vertical installation on box walls
- with 2 fixing elements



**FP BF 36**

**Ventilation flange  
360 mm**

IP  
44

- for ventilation of ENYSTAR Distribution boards in the event of extremely high internal temperatures or a risk of water condensation
- for vertical installation on box walls
- with 2 fixing elements



**BE 44**

**Ventilation insert**

IP  
44

Application



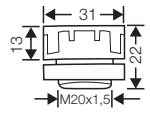
Ventilation via ventilation insert



**BM 20G**

**Pressure compensation element for M 20 knockouts**

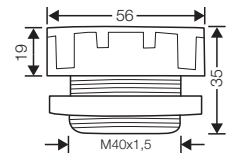
- for the reduction of condensation by pressure compensation in power distribution systems
- ISO thread M 20 x 1.5
- bore-hole: Ø 20.3 mm
- wall thickness up to 4 mm
- with counter nut
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- ambient temperature - 25 °C to + 55 °C
- In order not to exceed leakage limit of 0.07 bar with pressure compensation, one pressure compensation element BM 20G must be used per 28 litres (28000 cm³) of enclosure volume.
- Example: enclosure size 30 cm x 60 cm x 17 cm = 30600 cm³ = 30,6 litres. Number of necessary BM 20G (M32) = 2 piece.
- technical changes reserved
- Colour: grey, RAL 7035



**BM 40G**

**Pressure compensation element for M 40 knockouts**

- for the reduction of condensation by pressure compensation in power distribution systems
- ISO thread M 40 x 1.5
- bore-hole: Ø 40.3 mm
- wall thickness of up to 8 mm
- with counter nut
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- ambient temperature - 25 °C to + 55 °C
- In order not to exceed leakage limit of 0.07 bar with pressure compensation, one pressure compensation element BM 40G must be used per 122 litres (122000 cm³) of enclosure volume.
- Example: enclosure size 60 cm x 60 cm x 17 cm = 61200 cm³ = 61,2 litres. Number of necessary BM 40G (M40) = 1 piece.
- technical changes reserved
- Colour: grey, RAL 7035



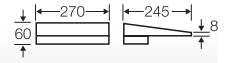
Pressure compensation element





**FP DB 27**  
**Canopy**  
**for box wall 270 mm**

- W 270 x D 245 mm
- attached enclosure connectors: 2 items

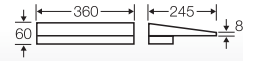


material	stainless steel powder-coated
----------	-------------------------------

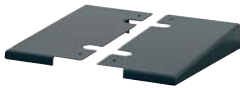


**FP DB 36**  
**Canopy**  
**for box wall 300 mm**

- W 360 x D 245 mm
- attached enclosure connectors: 2 items

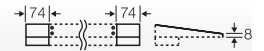


material	stainless steel powder-coated
----------	-------------------------------



**Mi DB 01**  
**Canopy end plate**

- for canopies FP DB xx and Mi DB xx



material	stainless steel powder-coated
----------	-------------------------------

Application:



Canopy





**FP GV 10**

**Connector**

- when converting existing installations
- for connection of enclosures or fixation of flanges
- set with 10 pieces



**FP PL 3**

**Facility for sealing**

- for door sealing
- can be retrofitted
- 2 pieces



**FP TW 1**

**Tool operation conversion kit from hand to tool operation**

- can be retrofitted



**FP TS 1**

**Door lock converting kit to key operation**

- for subsequent installation in hand operated door locking system



**FP TS 2**

**Spare key**

- for door lock FP TS 1
- 2 pieces



**FP TW 2**

**Tool key for double-bit conversion kit to tool operation**

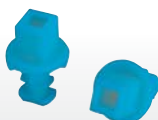
- can be retrofitted



**FP TW 3**

**Tool key for triangular lock, 8 mm conversion kit to tool operation**

- can be retrofitted



**FP TW 4**

**Tool key for square lock, 8 mm conversion kit to tool operation**

- can be retrofitted



**US 1**

**Multikey**

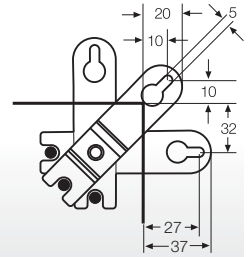
- triangular 8 mm, square 8 mm, double-bit and slot



**FP AL 40**

**4 stainless steel external brackets**

- for external fixing of enclosures

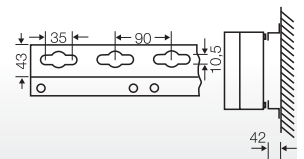


**FP MS 1**

**Profile for wall mounting**

- for ENYSTAR distribution board assemblies up to 810 x 1260 mm
- with 8 screws, washers and nuts for fastening of enclosures

length	1980 mm
material	sendzimir galvanised steel profile with structured powder coating



**Varnishing pen RAL 7016**

**12 ml**




ENYSTAR  
Distribution boards

## ENYSTAR

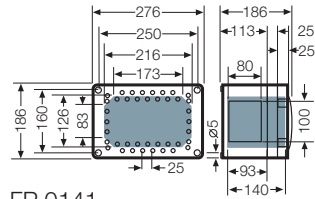
### Technical details

Operating and ambient conditions	283
Detail dimensions in mm	284 - 285
Rated power dissipation of empty boxes	286 - 287
Standards and regulations	288
Assembly	289 - 293
Wall mounting	294
Device installation, wiring	295 - 297

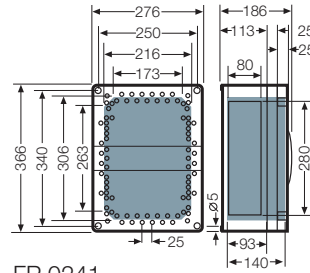
	Enclosures with door and closing plates Empty enclosures FP 0...	Circuit breaker boxes FP 1...
<b>Application area</b>	<b>Suitable for indoor installation and outdoor installation, protected against weather influences</b> However, pay attention to the climatic effects on the installed equipment, for example, high or low ambient temperatures or formation of condensed water see technical information	
<b>Ambient temperature</b> - Average value over 24 hours - Maximum value - Minimum value	- + 70 °C - 25 °C	+ 35 °C The ambient temperature for enclosures with electrical functions (distribution boards) is reduced by the installed equipment technology! + 40 °C - 5 °C
<b>Relative humidity</b> - short-time	Adhere to the assembly instructions issued by the manufacturer.	50% at 40 °C 100% at 25 °C
<b>Fire protection</b> in the event of internal faults	Demands placed on electrical devices from standards and laws:  Minimum requirements - Glow wire test in accordance with IEC 60 695-2-11: - 650 °C for boxes and cable glands - 850 °C for conducting components	
<b>Burning behaviour</b> - Glow wire test IEC 60 695-2-11 - UL Subject 94	960 °C V-2 flame-retardant self-extinguishing	960 °C V-2 flame-retardant self-extinguishing
<b>Degree of protection against mechanical load</b>	IK 08 (5 Joule)	IK 08 (5 Joule)
<b>Toxic behaviour</b>	halogen-free <sup>1)</sup> silicone-free	halogen-free <sup>1)</sup> silicone-free
<p><sup>1)</sup> "Halogen-free" in accordance with IEC 60754-2 "Common test methods for cables - Determination of the amount of halogen acid gas".</p> <p><b>For material properties see technical data.</b></p>		

 = usable installation space with mounted cable glands

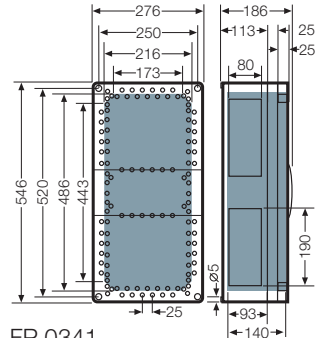
ENYSTAR distribution boards with door lockings for hand operation and closing plates



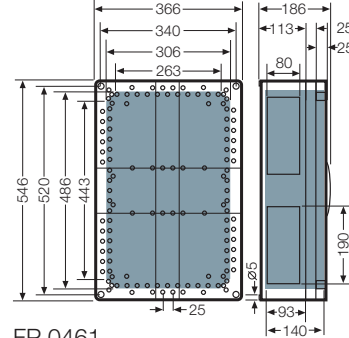
FP 0141  
FP 0151



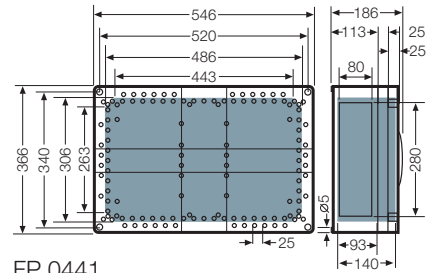
FP 0241  
FP 0251



FP 0341  
FP 0351

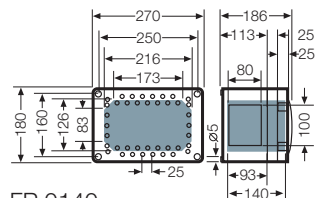


FP 0461  
FP 0471

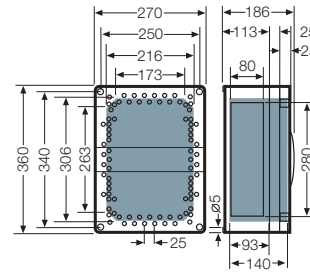


FP 0441  
FP 0451

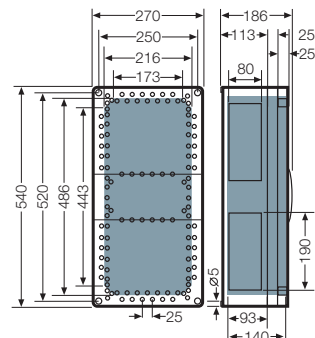
ENYSTAR distribution boards with door lockings for hand operation



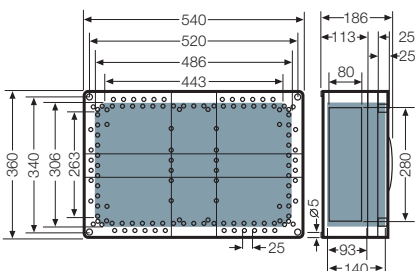
FP 0140  
FP 0150



FP 0240  
FP 0250

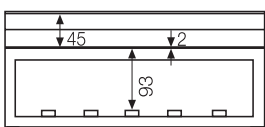


FP 0340  
FP 0350




FP 0440  
FP 0450

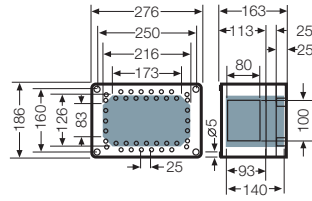
Mounting depth for device installation in covers



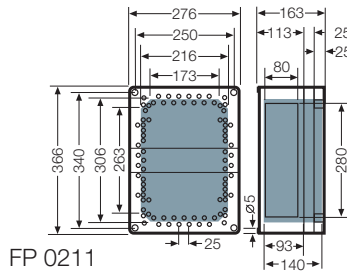
Technical details  
Detail dimensions in mm

 = usable installation space with mounted cable glands

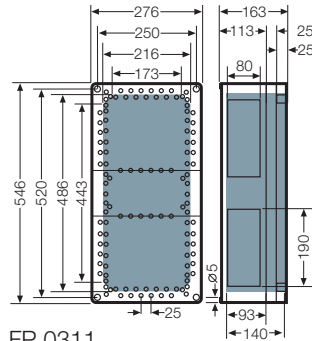
ENYSTAR distribution boards with door lockings for tool-operation and closing plates



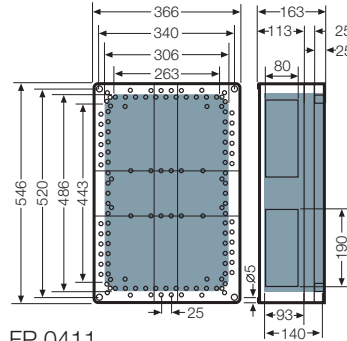
FP 0101  
FP 0121



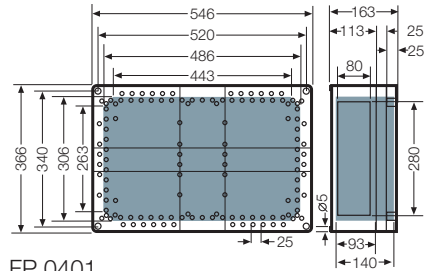
FP 0211  
FP 0231



FP 0311  
FP 0331

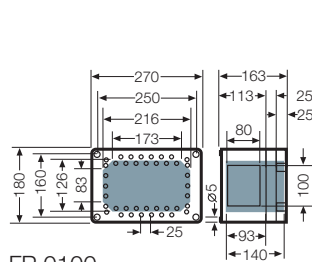


FP 0411  
FP 0431

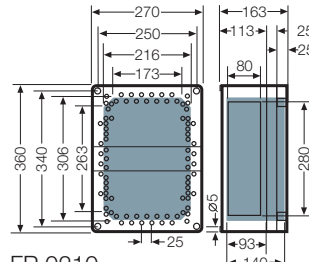


FP 0401  
FP 0421

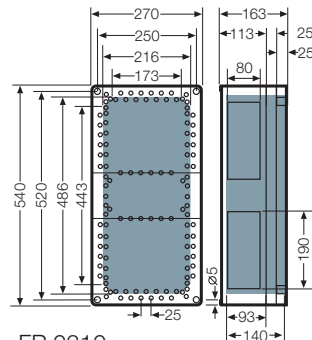
ENYSTAR distribution boards with door lockings for tool-operation



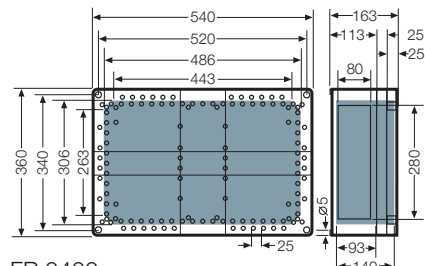
FP 0100  
FP 0120



FP 0210  
FP 0230

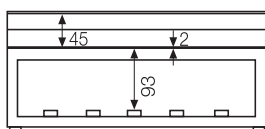


FP 0310  
FP 0330

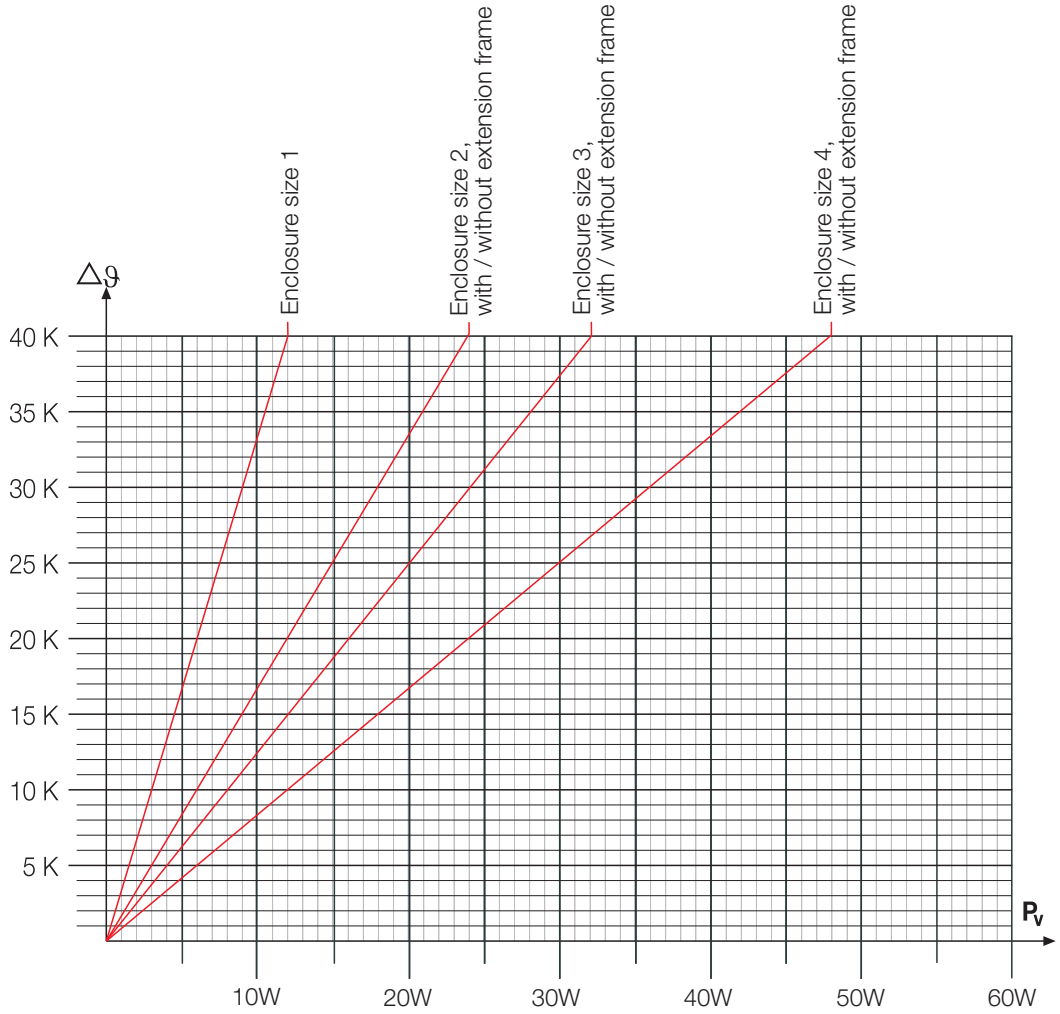


FP 0400  
FP 0420

Mounting depth for device installation in covers



Temperature rise ( $\Delta\theta$ ) with ENYSTAR enclosures by power dissipation of electrical devices



ENYSTAR distribution boards	Dimensions (WxH) in mm	Rated power dissipation $P_{ab}$ in watts per kelvin assembled enclosures
Enclosure size 1	270 x 180	0.3
Enclosure size 2 with / without extension frame	270 x 360	0.6
Enclosure size 3 with / without extension frame	270 x 540	0.8
Enclosure size 4 with / without extension frame	540 x 360	1.2

**Note!**

**The maximally permissible operating temperature inside the enclosures ( $\vartheta_{i\max}$ ) is determined by:**

- 1<sup>st</sup> Maximally permissible ambient temperature of the installed electrical devices (please consider data of the equipment manufacturers)
- 2<sup>nd</sup> Category temperature of the internal wiring and the inserted cables
- 3<sup>rd</sup> Temperatur resistance of the enclosure materials and the cable entries etc.

<b>Example: calculation of the maximum rated power dissipation (<math>P_V</math>)</b>	
maximally permissible operating temperature inside the enclosure(s) ( $\vartheta_{i\max}$ ):	e.g. 55 °C
ambient temperature of the enclosure(s) ( $\vartheta_U$ ):	25 °C
maximally permissible heating up inside the enclosure:	$\Delta\vartheta = \vartheta_{i\max} - \vartheta_U = 55\text{ °C} - 25\text{ °C} = 30\text{ K}$
maximum permissible power dissipation of the installed equipment inclusive wiring ( $P_V$ ) in accordance with diagram: enclosure size 3 (540 x 270 x 163 mm):	
enclosures in assemblies:	$P_V = 24\text{ W}$

<b>Example: calculation of the operating temperature inside the enclosure (<math>\vartheta_i</math>)</b>	
ambient temperature of the enclosure(s) ( $\vartheta_U$ ):	25 °C
rated power dissipation of the installed electrical equipment ( $P_V$ ):	24 W
heating up inside the enclosures in accordance with diagram over:	$\Delta\vartheta$
enclosure size 3 (540 x 270 x 163 mm): assembled enclosures:	$\Delta\vartheta = 30\text{ K}; \vartheta_i = \vartheta_U + \Delta\vartheta = 25\text{ °C} + 30\text{ K} = 55\text{ °C}$



**ENYSTAR distribution boards comply with the requirements of the IEC 61439-3**

Distribution boards assembled and wired according to manufacturer data without essential deviations from the original type or system.

To meet these requirements for Hensel ENYSTAR Distribution boards, the following must be noted:

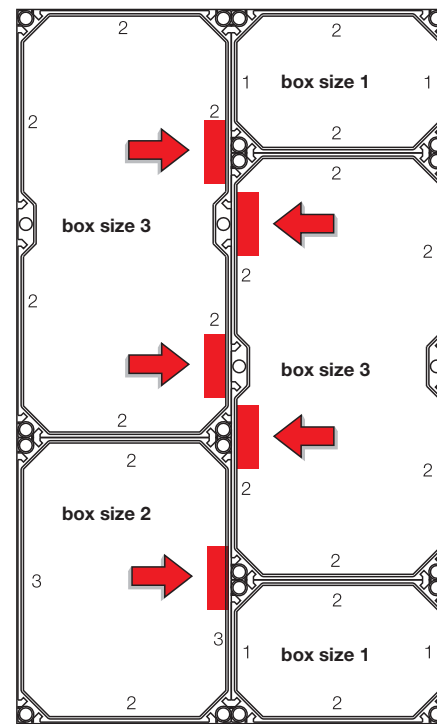
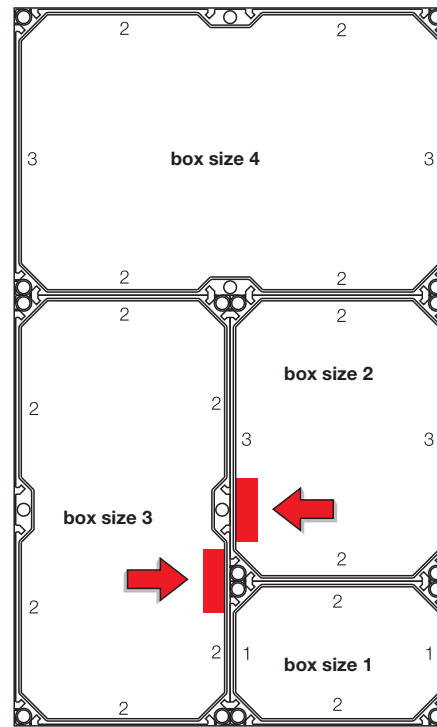
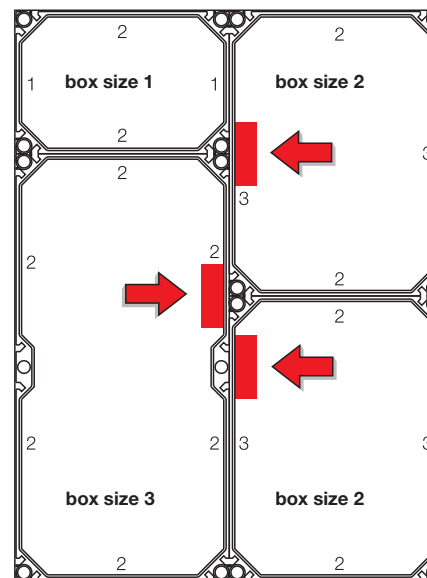
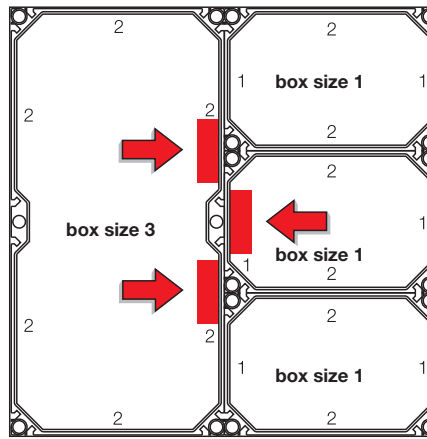
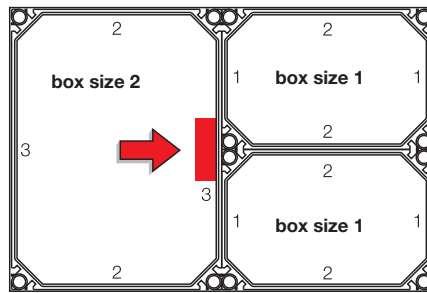
1. The distribution boards must consist of the verified enclosures documented in this list.
2. The wiring of the equipment must be carried out with the cross-sections and conductor types indicated in Table "Rating of insulated conductors in switchgear assemblies", Index Technics.
3. Once the distribution board is completed, a routine test must be carried out in accordance with this standard.
4. The test must be certified with a test report.
5. The assembly must be provided with a manufacturer's identification mark.  
Compliance with important data such as
  - limit of temperature rise
  - dielectric strength
  - IP degrees of protection
  - creepage distances and clearances
 is verified for this system.

**Standards and regulations**

- IEC 61439-3  
... low-voltage switchgear and controlgear assemblies intended to be in places where unskilled persons have access to their use - distribution boards
- IEC 60999, connecting devices  
Safety requirements for screw-type and screwless-type clamping units for electrical copper conductors
- DIN EN 50262  
Metric threaded cable glands for electrical installations
- DIN 43880  
Built-in equipment for electrical installations; overall dimensions and related mounting dimensions
- IEC 60529 / DIN VDE 0470 Part 1  
Degrees of protection provided by enclosures (IP-Code)

Combination of enclosures  
with connectors and wall  
separators

At this point a wall separator is necessary for the enclosure combination.



Fast assembly and mounting

All necessary gaskets are integral part of the enclosures. The enclosures are interconnected among themselves by easily pushing-in of connectors. No tools are necessary.

Connectors are attached to the enclosures in sufficient number. For reconstruction or extensions of existing distribution boards connectors FP GV 10 (set consists of 10 pieces) can be supplemented.

The connection of enclosures is not only co-ordinated with enclosures of the same size. By means of wall separators also different sized enclosures can be combined.

Wall separators provide for high rigidity and tightness at the connection points of the enclosures, degree of protection IP 66.

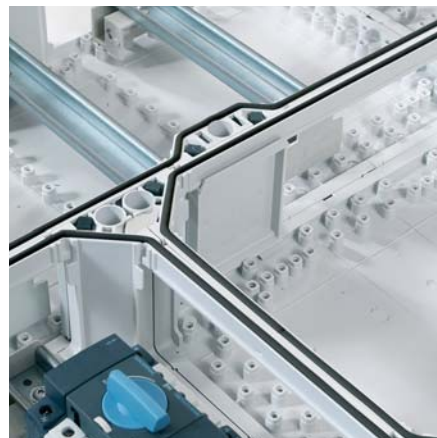
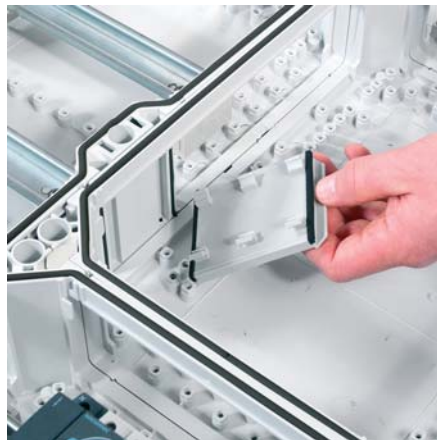
**Connection of enclosures**

Assemble enclosures by pushing-in enclosed connectors.



**Inserting wall separators**

Use wall separators to connect different sized enclosure walls.



**Closing walls via closing plates**

Insert closing plates into openings of outer walls of the distribution board and fix them with enclosure connectors.



**Cable entry - opening knockouts in flanges**

Knock out the appropriate cable entries within flanges with screwdriver.



**Cable glands**

Insert cable gland into the appropriate knockout and fasten with lock nut.



**Closing of enclosure walls with flanges for cable entry**

Insert flanges for cable entry into open outer walls of the distribution board and fix them with enclosure connectors.

A wide range of flanges for the cable entry is available.

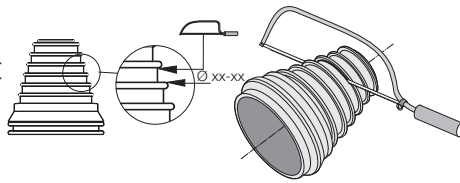


**Installation of cable inserts**

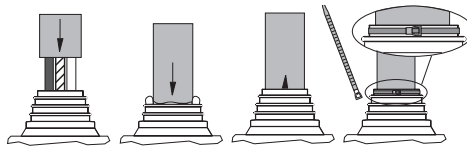
Saw the box fin.  
 Afterwards the cable insert is mounted and fixed via enclosure connectors and the rubber entries can be inserted.



Adjust stepped grommet on the cable diameter.



Insert cable and fix it with the cable ties.



Insert the cable into the box from the front.

**Box fin**

provides an easier wiring across two boxes.

Saw out fin in box wall.

Insert box fin and fix via fixing wedges.



**Installation of extension frame**

Fix attachments for extension frame in base of enclosure. Place extension frame on base of enclosure and screw it.



Support for protection cover is adjustable in height.



Click protection cover into place depending on the height of the electric devices (height adjustable).



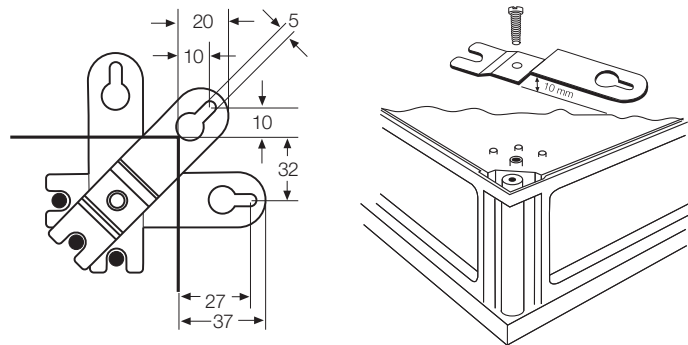
**FP ZR ..**

Extension frame for extension of the installation depth by 50 mm

**External brackets made from stainless steel**  
 for external box fixing



**FP AL 40** (4 pieces)

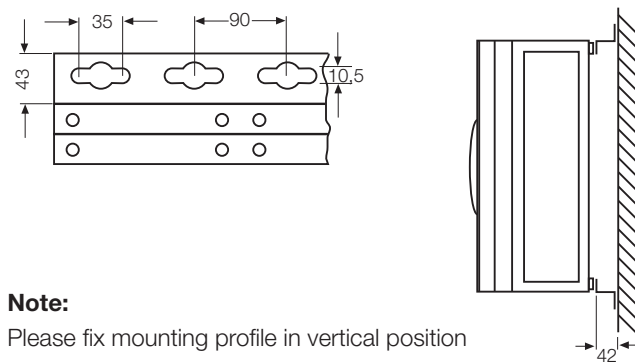


ENYSTAR®  
Distribution boards

**Mounting profile**  
 for wall-mounting of  
 ENYSTAR distribution boards,  
 steel profile,  
 length 1980 mm  
**FP MS 1**



**Fixing matrix of mounting profile**



**Note:**  
 Please fix mounting profile in vertical position as possible in order to give occasion to cable routing behind the assembly.

For cutting to the required length fix mounting profile for example with a clamp to a desk.

**Transport**  
 Regarding transportation it is recommendable to protect the assembly against deflection. For that please screw the assembly to a solid timber.

**Device installation on mounting plates or DIN rails**

Fix installation devices on mounting plate via self-threading screws.

Using screws for fixing mounting plates onto bottom of boxes.



Mount DIN-rails right away on the bottom of bases or via spacers in heights of 29.5 mm or 53.5 mm.





**Device installation into covers**

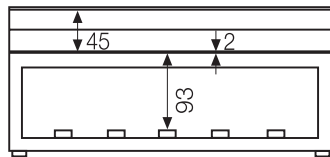
Pre-drill the cut-outs at the corners and saw them out of the cover.

Use a piercing saw with coarse toothed saw blade for plastics. Install device.



Snap cover into door frame from the rear.

Afterwards, screw door-frame with door and cover onto base of enclosure.



Installation depth for equipment installation in covers

**Sealing**

For installation in all enclosures except circuit breaker boxes.

Sealing device is screwed on enclosure bottom.

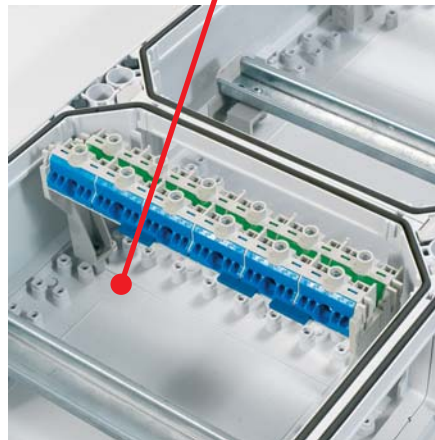
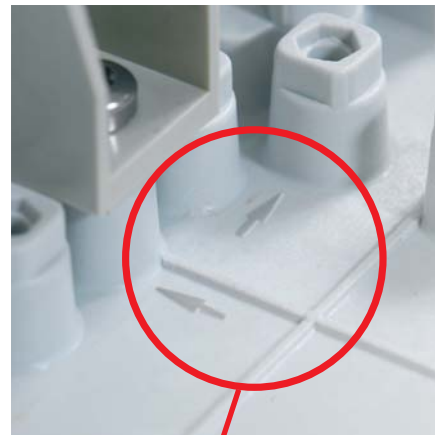
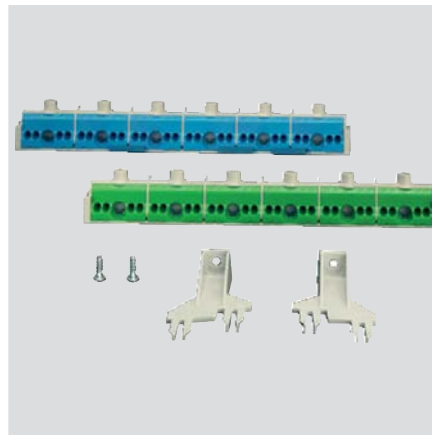
Open pre-moulded opening for sealing device (drill Ø 5 mm) and screw the cover with frame.

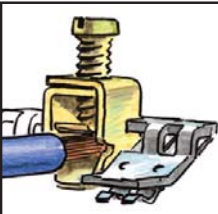



Then screw the frame with door and cover onto base of enclosure.

Seal the cover.





Clamping unit	Corresponding cross-sections/copper			
	max. number	from - to max.	max. number	from - to max.
Screw-type terminal 25 mm <sup>2</sup>				
	1	25 mm <sup>2</sup> , s	1	25 mm <sup>2</sup> , f
	1	16 mm <sup>2</sup> , s	1	16 mm <sup>2</sup> , f
	1	10 mm <sup>2</sup> , sol	1	10 mm <sup>2</sup> , f
	3	6 mm <sup>2</sup> , sol	1	6 mm <sup>2</sup> , f
	3	4 mm <sup>2</sup> , sol	1	4 mm <sup>2</sup> , f
	4	2.5 mm <sup>2</sup> , sol	1	2.5 mm <sup>2</sup> , f
	4	1.5 mm <sup>2</sup> , sol	1	1.5 mm <sup>2</sup> , f
		} Tested as connecting terminal for several conductors of the same cross-sections for using in one circuit		
Plug-in terminal 4 mm <sup>2</sup>				
	1	1.5 - 4 mm <sup>2</sup> , sol	1	1.5 - 4 mm <sup>2</sup> , f
			Without end ferrule; clamping unit has to be opened with a tool when conductor is inserted	

**Current carrying capacity of the connecting device: 75 A**  
All terminals are secured against self loosening.