



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 -> 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.

ENYSTAR®
Distribution boards

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



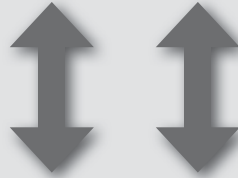
Installation and ambient conditions

- 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

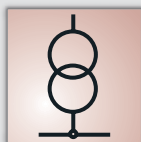
ENYSTAR Distribution Board



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.

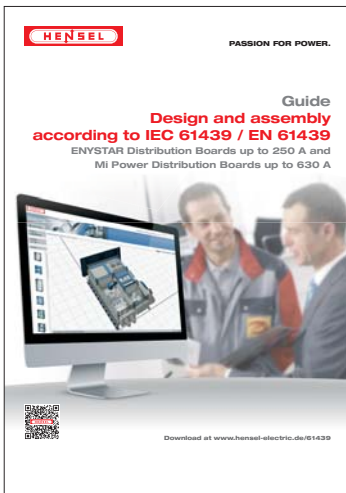
BLACK BOX Specification

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

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.

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

ENYGUIDE

Planning tool Configurator ENYGUIDE at 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

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

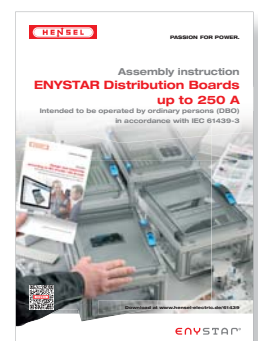
- closed or open enclosure walls, which can fast and easily be closed with closing plate sets
- integrated gaskets
- safe connectors

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 -> 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



Impact strength

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



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.




Protection against foreign solid objects and direct contact

dust-proof
 degree of protection IP 66



Insulation

insulated enclosures (protection class II) 



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



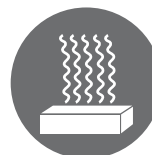
Chemical resistance

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



UV resistance

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



Toxic behaviour

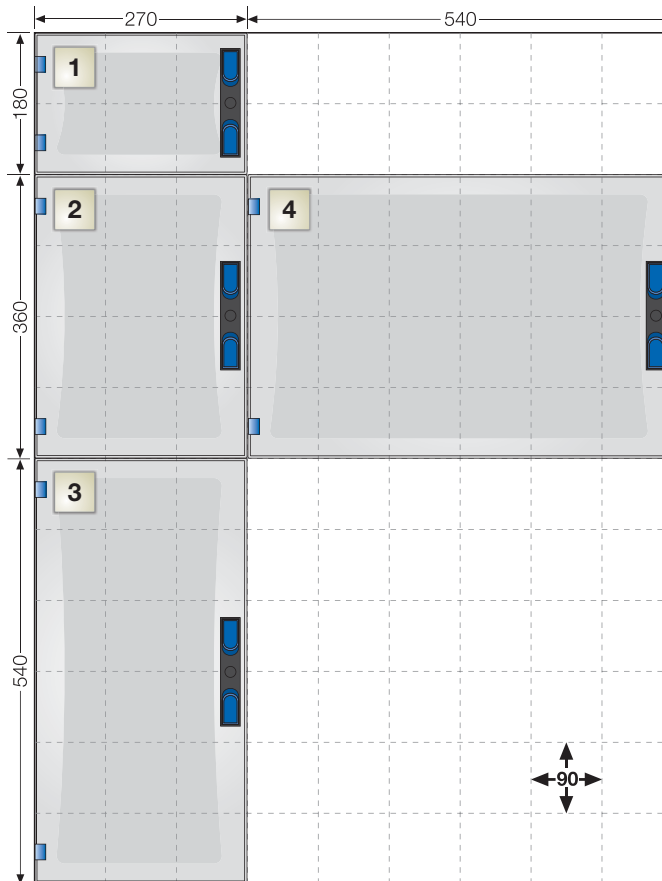
silicone- and halogen-free

Distribution board with door

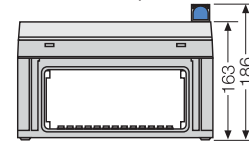
- combinable
- modular structure of enclosures in grid of 90 mm
- 4 enclosure sizes: 270 x 180 mm, 270 x 360 mm, 270 x 540 mm and 540 x 360 mm
- for the assembly of distribution boards up to 250 A
- all enclosures can also be used as single enclosures

Combinable enclosures with door and closing plates

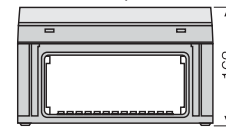
- 4 box sizes: 276 x 186 mm, 276 x 366 mm, 276 x 546 mm and 546 x 366 mm



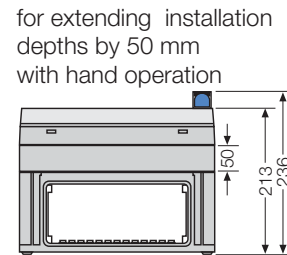
Enclosure depth with hand operation



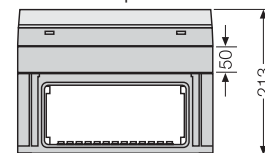
with tool operation



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



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



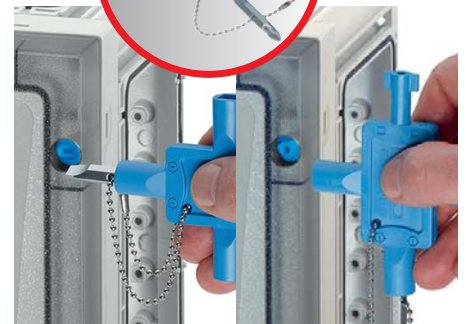
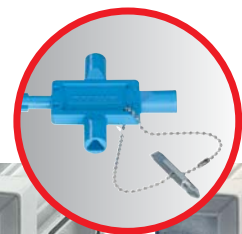
- Hand-operated locking facilities in areas, where electrotechnical unskilled persons operate equipment

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



- Locking option with key prevents unauthorized access

Circuit breaker boxes



- 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

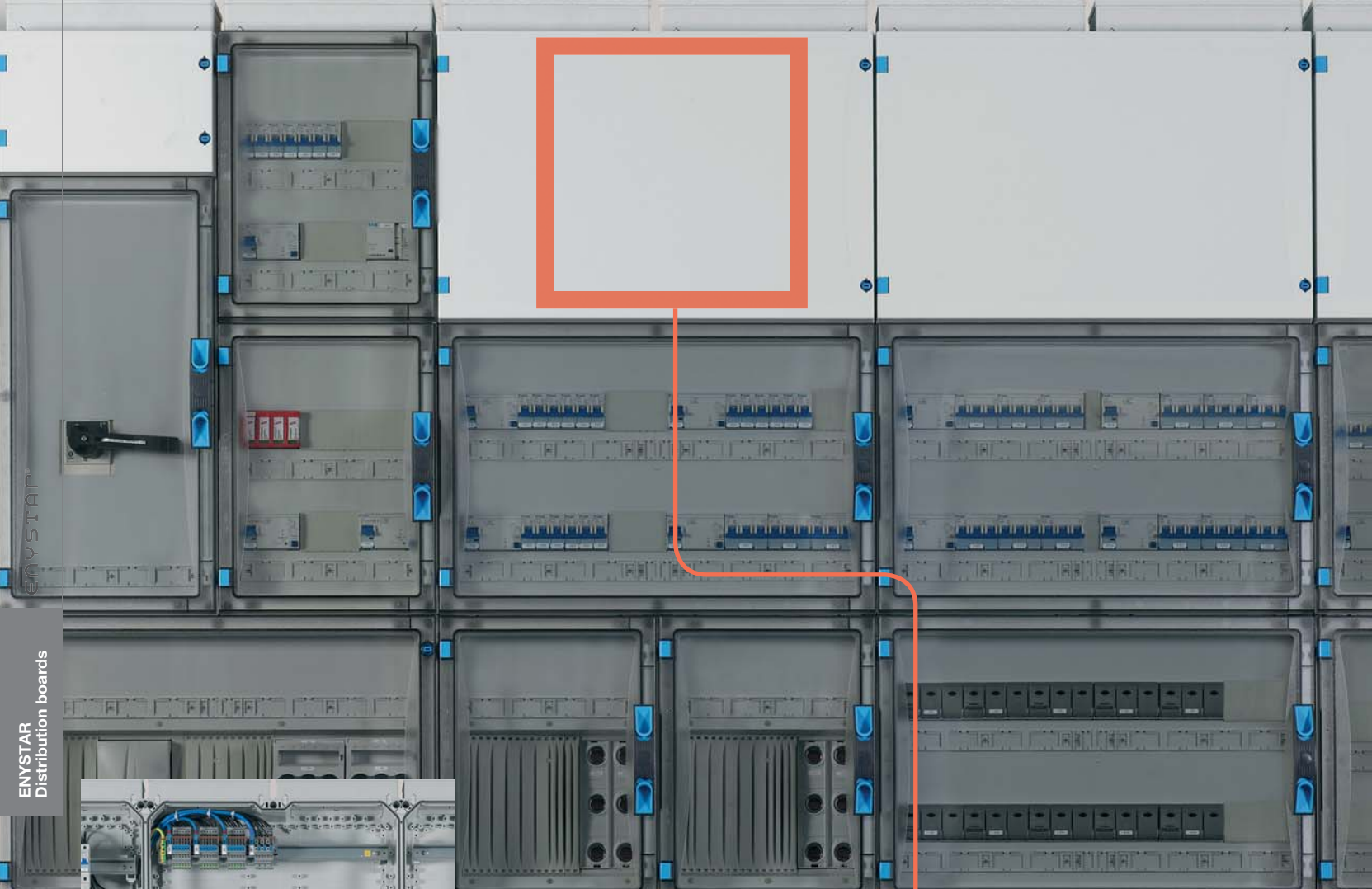
for DIN rail equipment up to 100 A

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

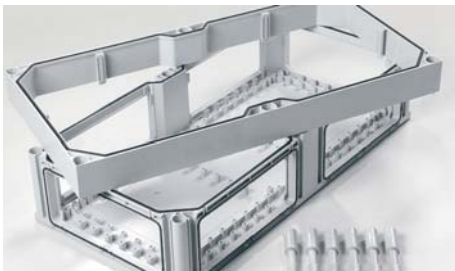
Circuit breaker boxes for the installation of DIN rail equipment in accordance with DIN 43 880 from 9 up to 54 modules.

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

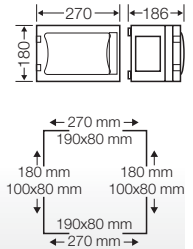
- All enclosure sizes with door
- Transparent or opaque doors
- Device installation either on mounting plates or DIN rails
- Installation depths extendable by using extension frames
- Enclosures can also be used as single boxes when enclosure walls are covered with closing plates
- Door lockings with 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**

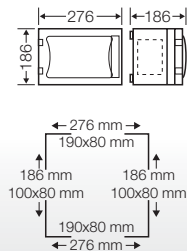
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection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

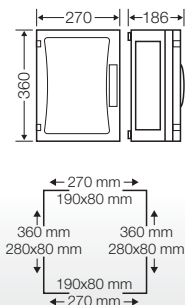
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



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



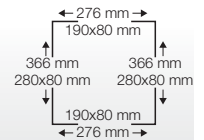
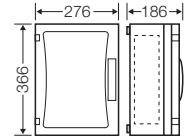
Empty enclosures with hinged lids



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

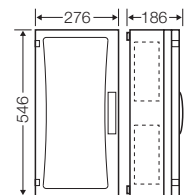
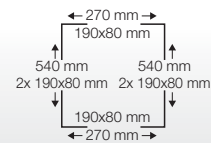
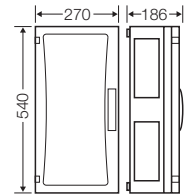
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 2
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



FP 0340

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

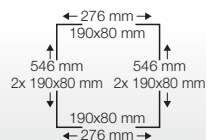
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 3
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection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

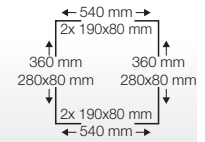
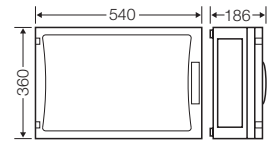




FP 0440

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

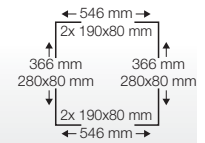
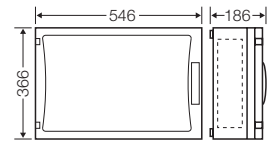
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection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

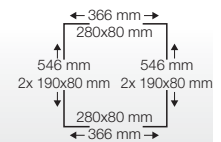
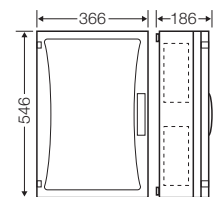
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



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



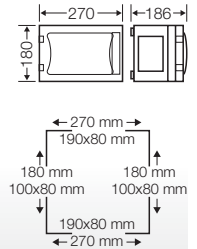
Empty enclosures with hinged lids



FP 0150

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

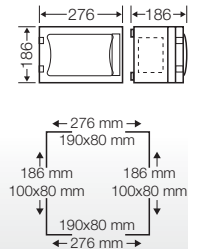
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class II and degree of protection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

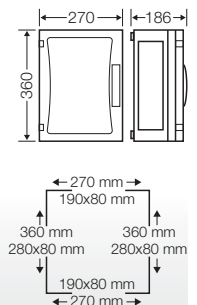
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



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

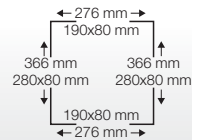
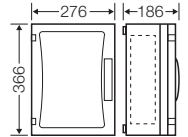




FP 0251

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

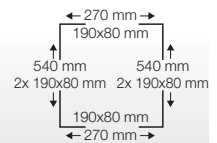
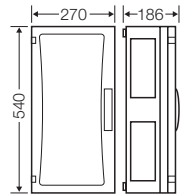
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 2
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



FP 0350

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

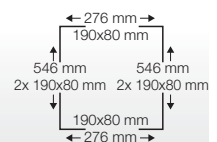
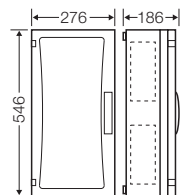
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 3
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class II and degree of protection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



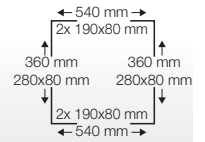
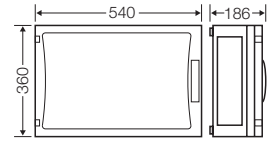
Empty enclosures with hinged lids



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



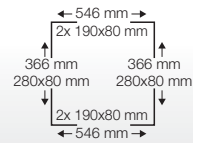
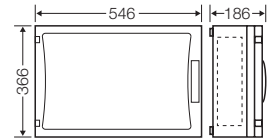
ENYSTAR®
Distribution boards



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**

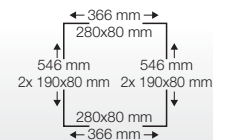
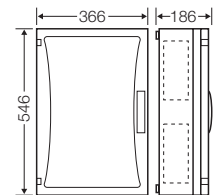
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



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

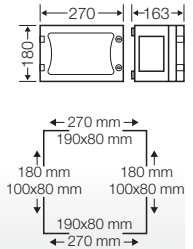




FP 0100

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

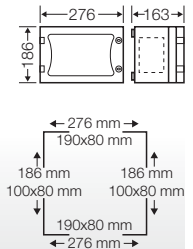
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class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

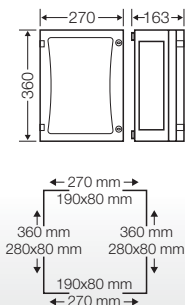
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 1
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



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



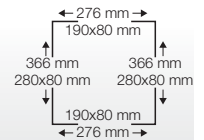
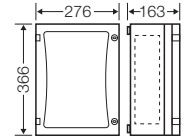
Empty enclosures with hinged lids



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®

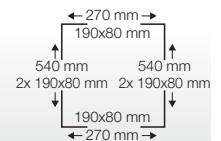
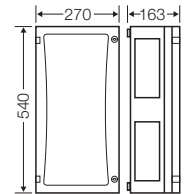
ENYSTAR
Distribution boards



FP 0310

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

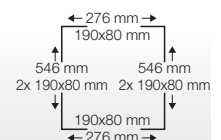
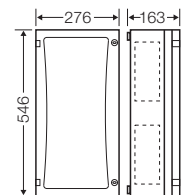
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 3
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class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

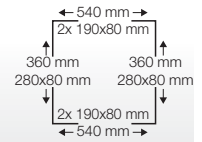
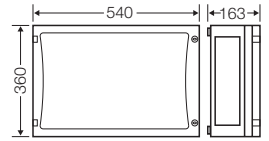




FP 0400

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

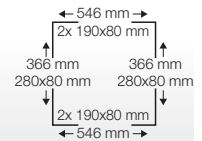
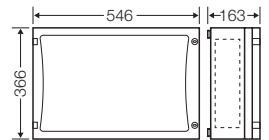
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class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

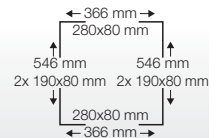
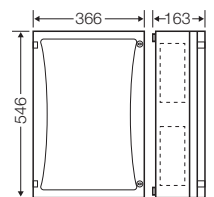
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- box size 4
- with transparent door
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately



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



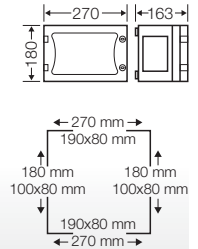
Empty enclosures with hinged lids



FP 0120

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

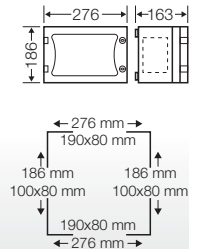
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- in order to achieve protection class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

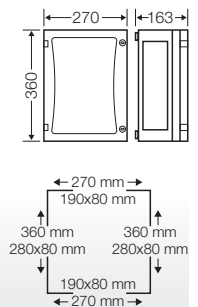
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 1
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



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

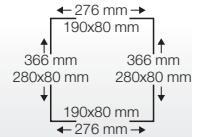
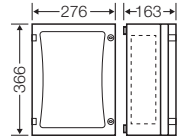




FP 0231

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

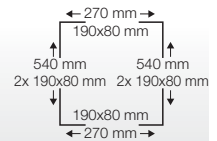
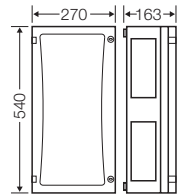
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 2
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately



FP 0330

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

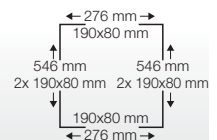
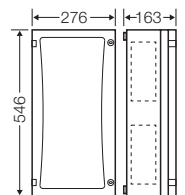
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 3
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class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



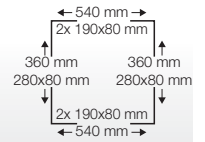
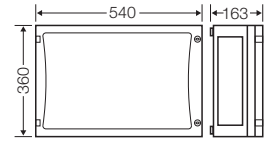
Empty enclosures with hinged lids



FP 0420

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

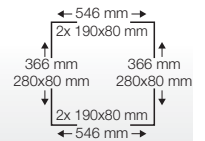
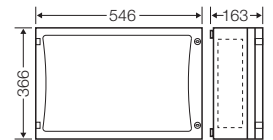
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- in order to achieve protection class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

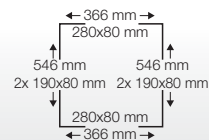
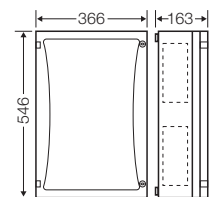
- max. installation depth with built-in mounting plate 136 mm, with built-in DIN rail 125 mm
- with opaque door
- box size 4
- sealing device for door sealing order separately
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

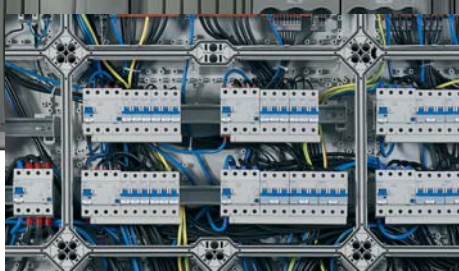


FP 0431

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

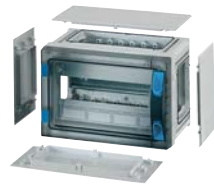
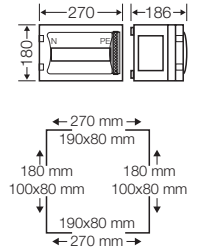
- Transparent doors
- door locking with hand operation, lockable with tool or key
- Circuit breaker boxes with or without PE and N terminals
- Protection against direct contact with hazardous live parts for operable installation devices
- Blanking strips for unused DIN rail openings
- Attached labelling 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

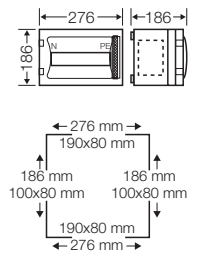
- 1-row
- box size 1
- FIXCONNECT® plug-in terminal technology for PE and N
- PE/N 2 x 25 mm², 8 x 4 mm², Cu each
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking 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

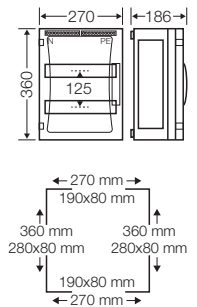
- 1-row
- box size 1
- FIXCONNECT® plug-in terminal technology for PE and N
- PE/N 2 x 25 mm², 8 x 4 mm², Cu each
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking 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 mm², 12 x 4 mm², 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

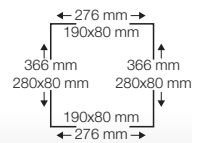
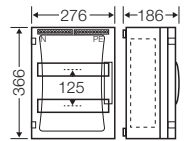




FP 1218

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

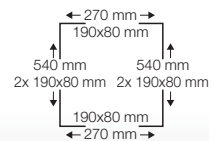
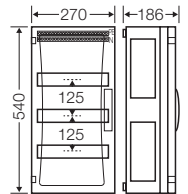
- 2-row
- box size 2
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm², 12 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking 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

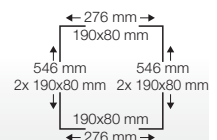
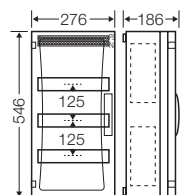
- 3-row
- box size 3
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking 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 mm², 24 x 4 mm², 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



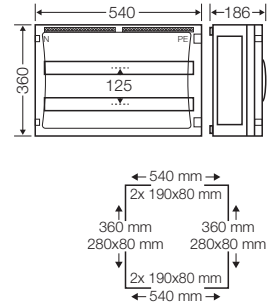
Editable labelling strips



FP 1409

54 modules: 2 x 27 x 18 mm

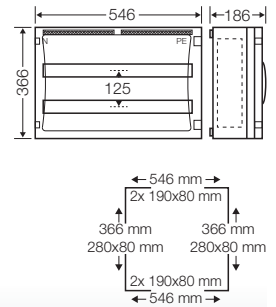
- 2-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking 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

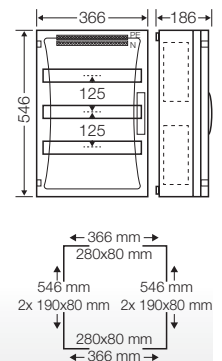
- 2-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking 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 mm², 32 x 4 mm², 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

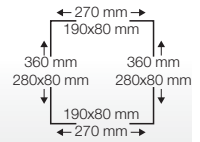
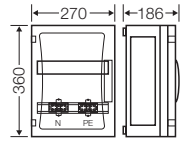




FP 1211

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 mm², 4 x 16 mm², 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



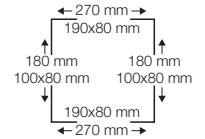
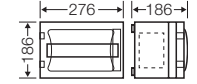
Editable labelling strips



FP 1105

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

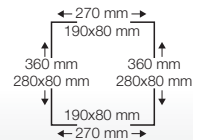
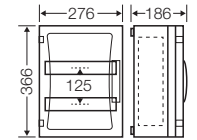
- 1-row
- box size 1
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- order PE/N terminals separately
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 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

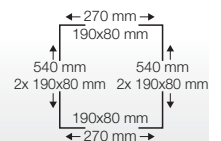
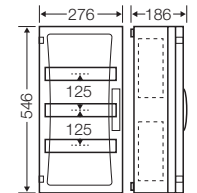
- 2-row
- box size 2
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 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

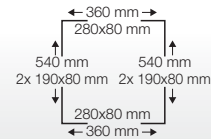
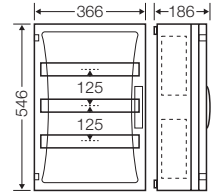




FP 1415

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



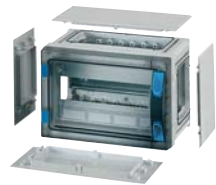
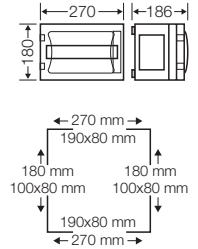
Editable labelling strips



FP 1106

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

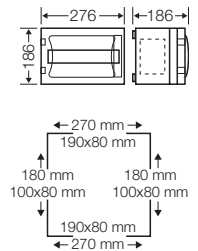
- 1-row
- box size 1
- order PE/N terminals separately
- with installation of a PE/N terminal the number of modules is reduced to 1 x 9 x 18 mm
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- 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)

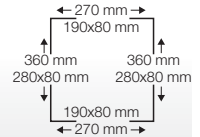
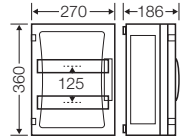




FP 1216

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

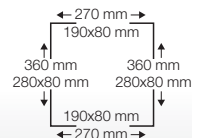
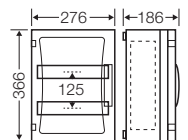
- 2-row
- box size 2
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 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



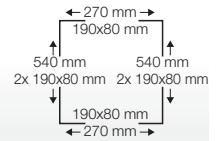
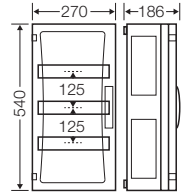
Editable labelling strips



FP 1316

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

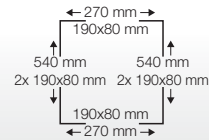
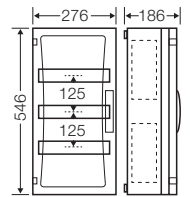
- 3-row
- box size 3
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 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)

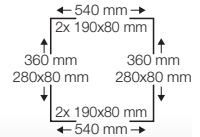
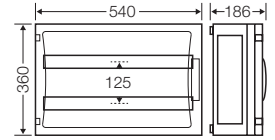




FP 1406

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

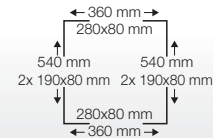
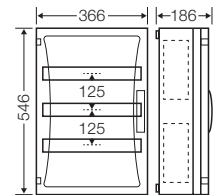
- 2-row
- box size 4
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 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



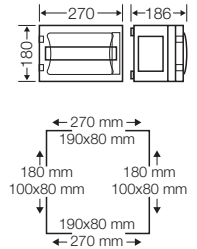
Editable labelling strips



FP 1101

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

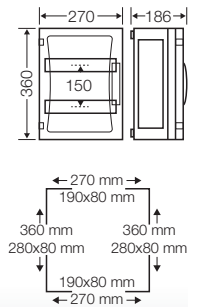
- 1-row
- box size 1
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- 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

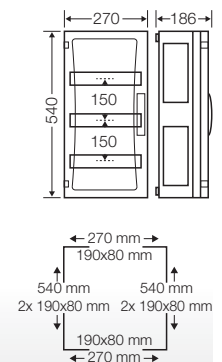
- 2-row
- box size 2
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- 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

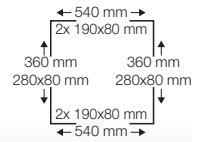
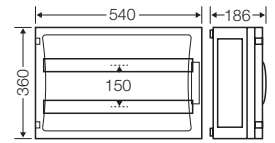




FP 1439

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

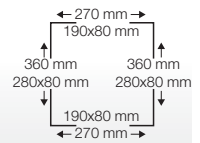
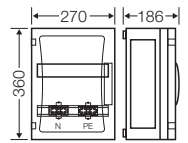
- 2-row
- box size 4
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- 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 mm², 4 x 16 mm², 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



Editible labelling strips

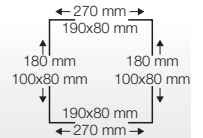
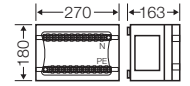


FP 1100

Terminal box

per PE/N 10 x 1.5-10 mm² sol / f,
 11 x 2.5-16 mm² r / f, 1 x 16 mm² sol or
 1 x 16-35 mm² 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

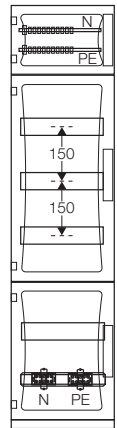
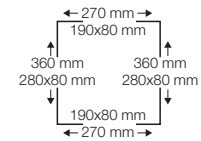
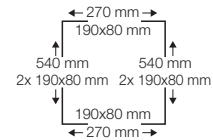
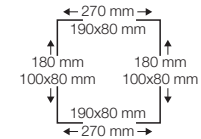
Incoming: 100 A
36 modules: 3 x 12 x 18 mm

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





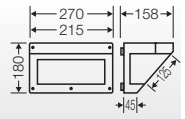
ENYSTAR

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:

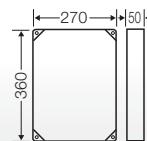


Connection box for plug devices, push buttons or switches under accessories



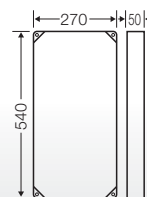
FP ZR 20
Extension frame
for enclosure size 2

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



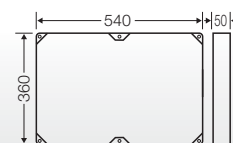
FP ZR 30
Extension frame
for enclosures size 3

- 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



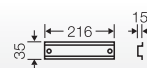
FP ZR 40
Extension frame
for enclosure size 4

- 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



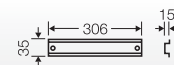
FP TS 27
DIN rail, length 216 mm

- 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

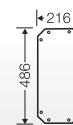
- for ENYSTAR empty boxes sizes 2, 3 and 4
- material thickness 4 mm
- with fixing screws



FP MP 30

Mounting plate
W 216 x H 486 mm

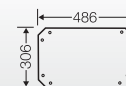
- for ENYSTAR empty boxes sizes 3 and 4
- material thickness 4 mm
- with fixing screws



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

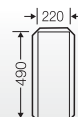
- for ENYSTAR enclosure size 2
- for retrofitting
- as protection cover or for installation of equipment



FP AP 30

Cover without cut-outs
W 220 x H 490 mm

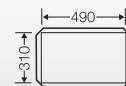
- for ENYSTAR enclosure size 3
- for retrofitting
- as protection cover or for installation of equipment



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 mm², 8 x 4 mm², 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_i = 690 V a.c.



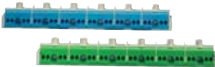
FP FC 24

PE and N terminal
per PE/N 3 x 25 mm², 12 x 4 mm², 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_i = 690 V a.c.



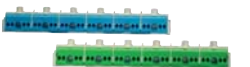
FP FC 36

PE and N terminal
per PE/N 6 x 25 mm², 24 x 4 mm², 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_i = 690 V a.c.



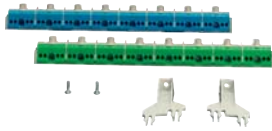
FP FC 54

PE and N terminal
per PE/N 6 x 25 mm², 24 x 4 mm², 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_i = 690 V a.c.



FP FC 51

**PE and N terminal
per PE/N 8 x 25 mm², 32 x 4 mm², 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_i = 690 V a.c.



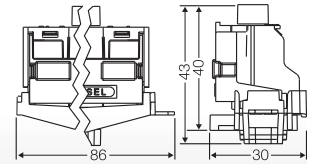
FC PE 10

**PE terminal
2 x 25 mm², 8 x 4 mm², 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_i = 690 V a.c.



FP FC 054

**PE terminal
6 x 25 mm², 24 x 4 mm², 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_i = 690 V a.c.



FP FC 051

**PE terminal
8 x 25 mm², 32 x 4 mm², 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_i = 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 mm²
- for attaching of labelling strips or marking with felt tip pen



KKL 34

Main line branch terminal
Rated connecting capacity: 1.5-25 mm², 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 mm² f* or 2.5-25mm², 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 mm², 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 mm² f* or 2.5-25mm², Cu, round conductor
f* = with gas-tight end ferrule
- current carrying capacity: 80 A
- width: 100 mm



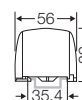
dismantling length	19 mm
tightening torque for terminal	2.5 Nm



KKL 54

Main line branch terminal
Rated connecting capacity: 1.5-25 mm², 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 mm² f* or 2.5-25mm², 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

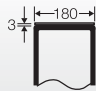
- for connecting enclosure walls of different sizes (refer to technical data)
- for insertion in bases of enclosures
- with 2 fixing elements



FP VP 18

**Closing plate
180 mm**

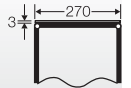
- with 2 fixing elements
- without knockouts



FP VP 27

**Closing plate
270 mm**

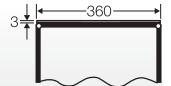
- with 2 fixing elements
- without knockouts



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

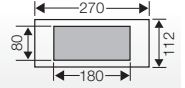


FP VM 27

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

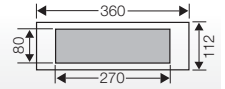


FP VM 36

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.

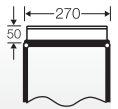


FP FG 200

**Flange
without knockouts**

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

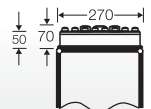
mounting width	240 mm
mounting height	92 mm



FP FG 222

**Flange
sealing range Ø 6-30 mm**

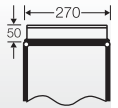
- sealing range: 17 x Ø 6-13 mm, 2 x Ø 9-17 mm, 2 x Ø 8-23 mm, 1 x Ø 11-30 mm
- box size 2 (270 mm)
- attached enclosure connectors: 2 items
- with integrated grommets for cable entry



FP FM 225

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

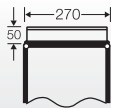
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



FP FM 232

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

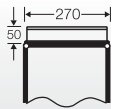
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



FP FM 240

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

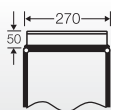
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



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

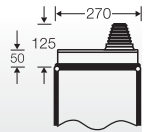




FP FG 272

Flange
sealing range: 1 x Ø 30-72 mm

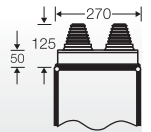
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



FP FG 273

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

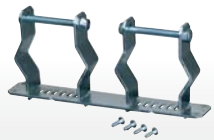
- box size 2 (270 mm)
- attached enclosure connectors: 2 items



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

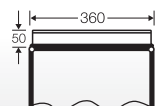


FP FG 300

Flange
without knockouts

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

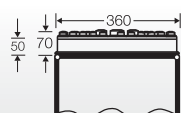
mounting width	330 mm
mounting height	92 mm



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



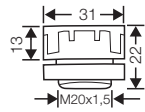
Ventilation via ventilation insert



BM 20G

Pressure compensation element for M 20 knockouts

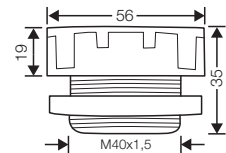
- for the reduction of condensation by pressure compensation in power distribution systems
- ISO thread M 20 x 1.5
- bore-hole: Ø 20.3 mm
- wall thickness up to 4 mm
- with counter nut
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- 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



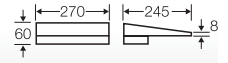
Pressure compensation element





FP DB 27
Canopy
for box wall 270 mm

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

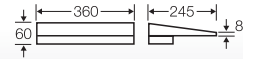


material	stainless steel powder-coated
----------	-------------------------------

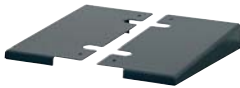


FP DB 36
Canopy
for box wall 300 mm

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

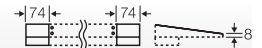


material	stainless steel powder-coated
----------	-------------------------------



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

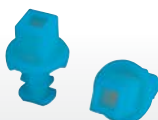
- can be retrofitted



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

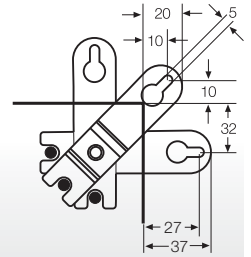
- triangular 8 mm, square 8 mm, double-bit and slot



FP AL 40

4 stainless steel external brackets

- for external fixing of enclosures

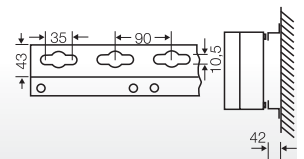


FP MS 1

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

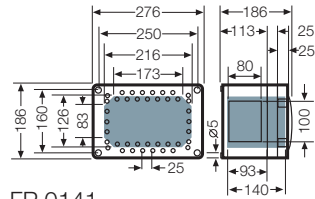
Technical details

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

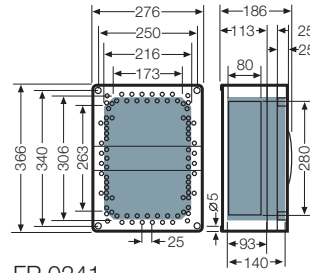
	Enclosures with door and closing plates Empty enclosures FP 0...	Circuit breaker boxes FP 1...
Application area	Suitable for indoor installation and outdoor installation, protected against weather influences However, pay attention to the climatic effects on the installed equipment, for example, high or low ambient temperatures or formation of condensed water see technical information	
Ambient temperature - 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
Relative humidity - short-time	Adhere to the assembly instructions issued by the manufacturer.	50% at 40 °C 100% at 25 °C
Fire protection 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	
Burning behaviour - 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
Degree of protection against mechanical load	IK 08 (5 Joule)	IK 08 (5 Joule)
Toxic behaviour	halogen-free ¹⁾ silicone-free	halogen-free ¹⁾ silicone-free
<p>¹⁾ "Halogen-free" in accordance with IEC 60754-2 "Common test methods for cables - Determination of the amount of halogen acid gas".</p> <p>For material properties see technical data.</p>		

 = usable installation space with mounted cable glands

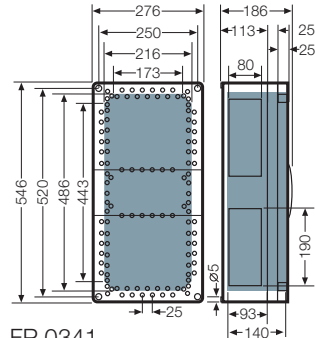
ENYSTAR distribution boards with door lockings for hand operation and closing plates



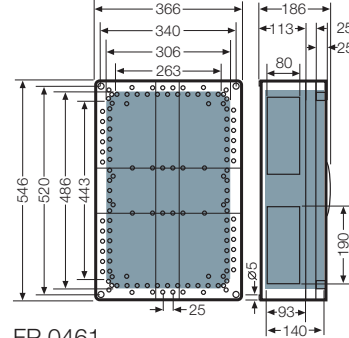
FP 0141
FP 0151



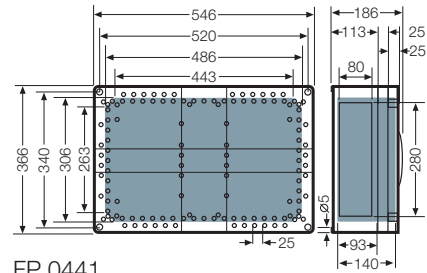
FP 0241
FP 0251



FP 0341
FP 0351

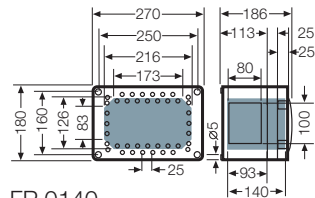


FP 0461
FP 0471

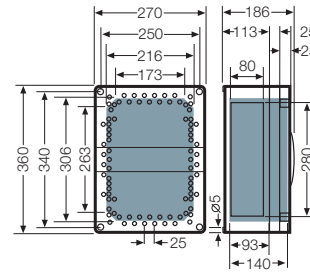


FP 0441
FP 0451

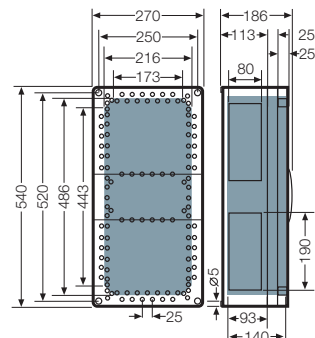
ENYSTAR distribution boards with door lockings for hand operation



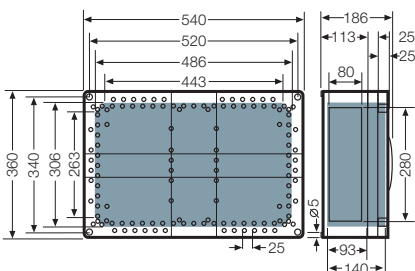
FP 0140
FP 0150



FP 0240
FP 0250

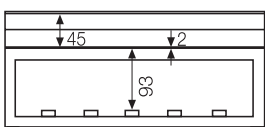


FP 0340
FP 0350




FP 0440
FP 0450

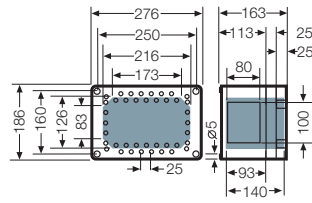
Mounting depth for device installation in covers



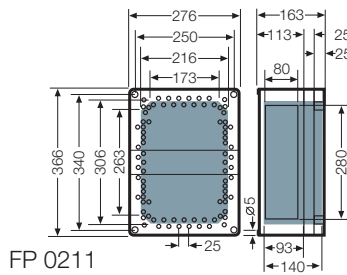
Technical details
Detail dimensions in mm

 = usable installation space with mounted cable glands

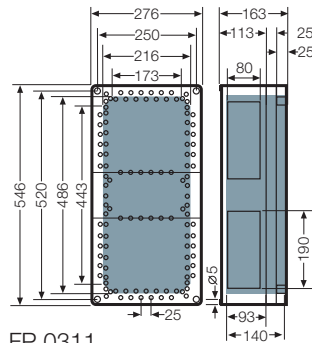
ENYSTAR distribution boards with door lockings for tool-operation and closing plates



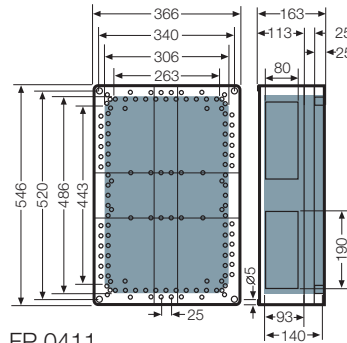
FP 0101
FP 0121



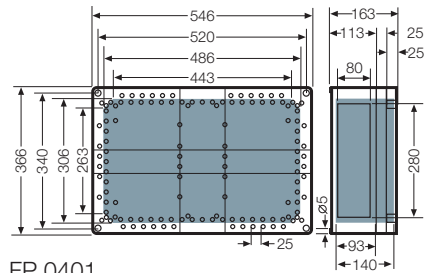
FP 0211
FP 0231



FP 0311
FP 0331

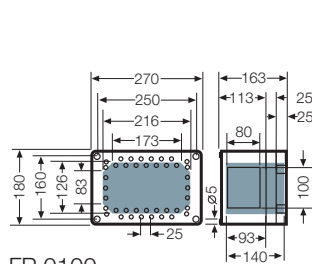


FP 0411
FP 0431

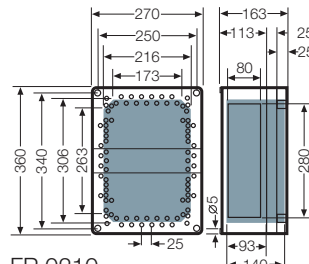


FP 0401
FP 0421

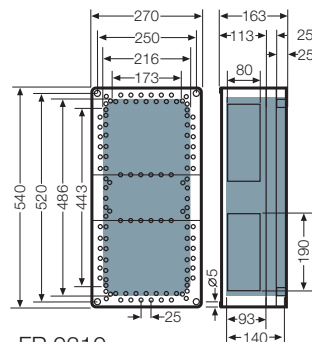
ENYSTAR distribution boards with door lockings for tool-operation



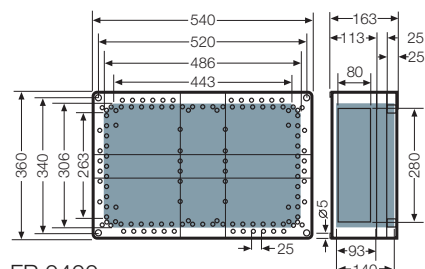
FP 0100
FP 0120



FP 0210
FP 0230

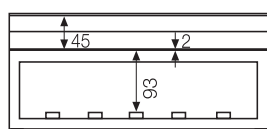


FP 0310
FP 0330

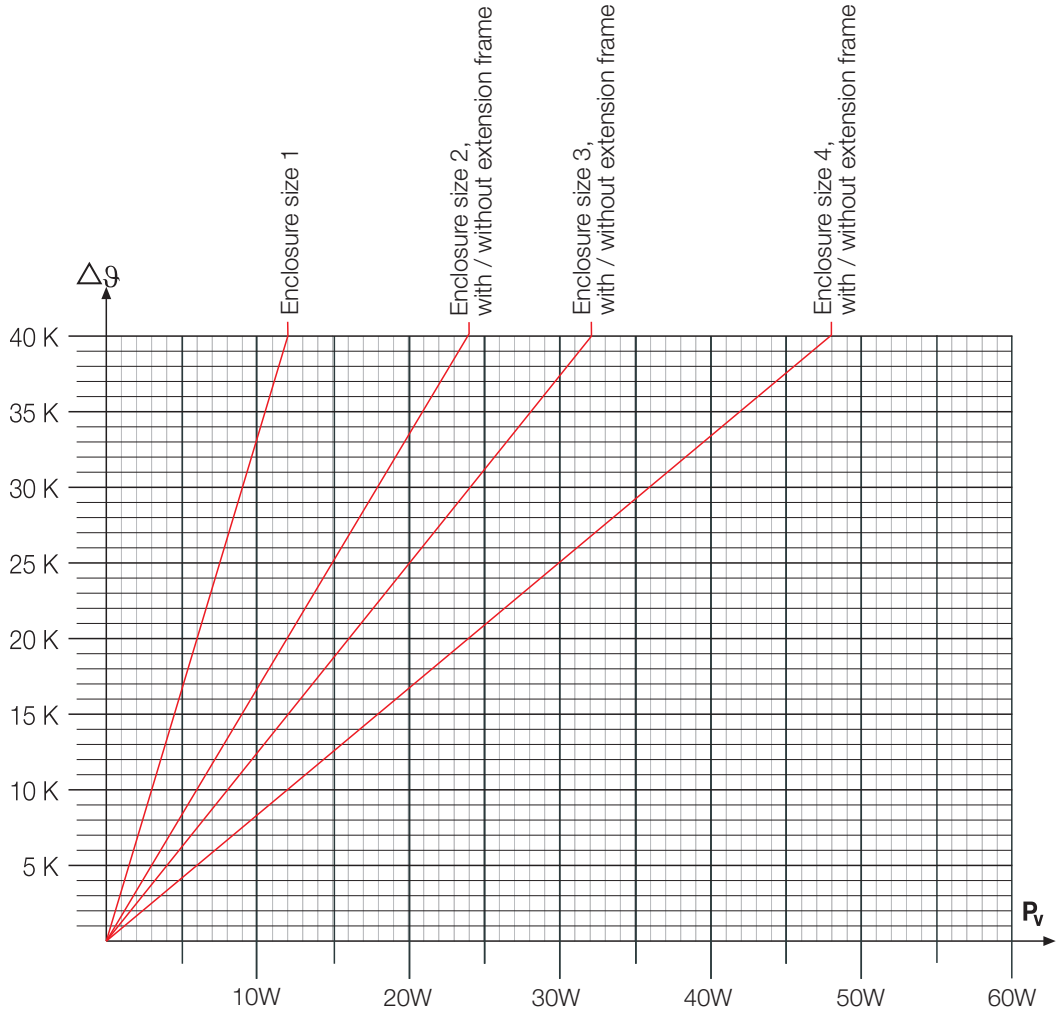


FP 0400
FP 0420

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:

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

Example: calculation of the maximum rated power dissipation (P_V)	
maximally permissible operating temperature inside the enclosure(s) ($\vartheta_{i\max}$):	e.g. 55 °C
ambient temperature of the enclosure(s) (ϑ_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:	$P_V = 24\text{ W}$

Example: calculation of the operating temperature inside the enclosure (ϑ_i)	
ambient temperature of the enclosure(s) (ϑ_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:

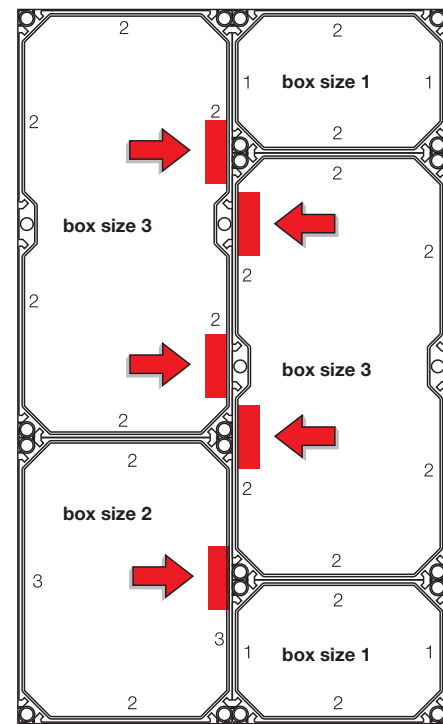
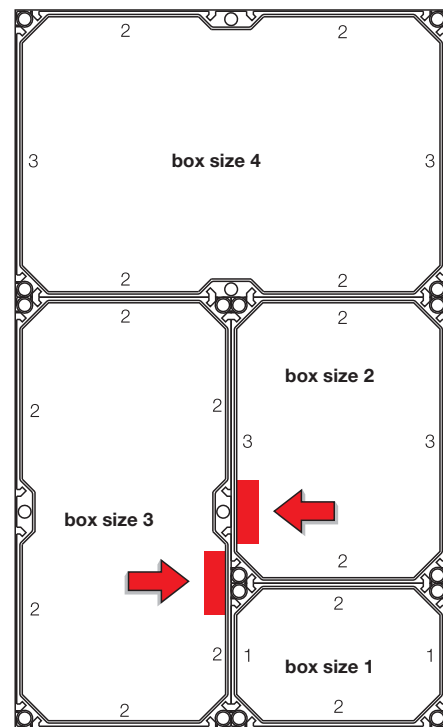
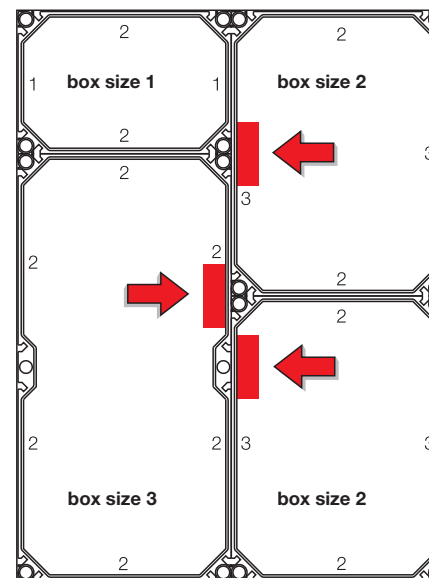
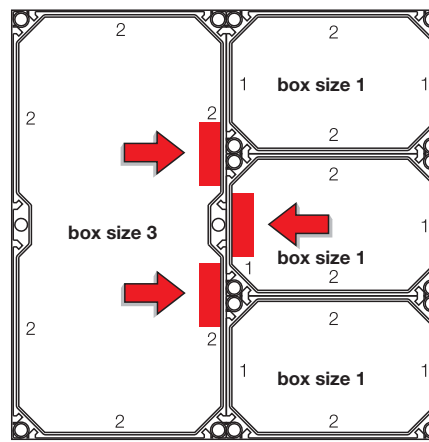
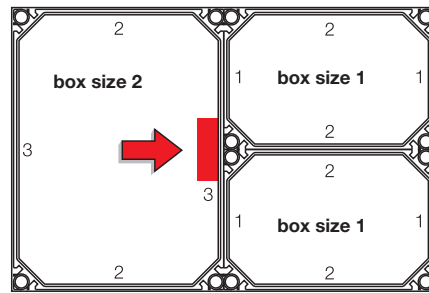
1. The distribution boards must consist of the verified enclosures documented in this list.
2. The wiring of the equipment must be carried out with the cross-sections and conductor types indicated in Table "Rating of insulated conductors in switchgear assemblies", Index Technics.
3. Once the distribution 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.

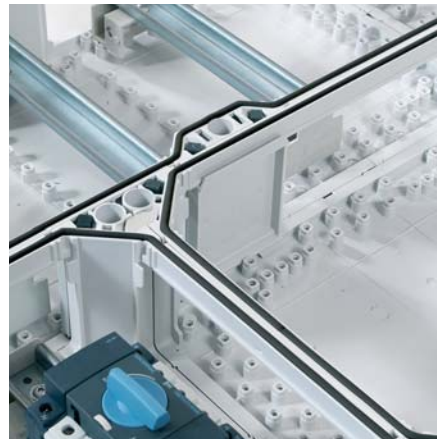
Connection of enclosures

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.

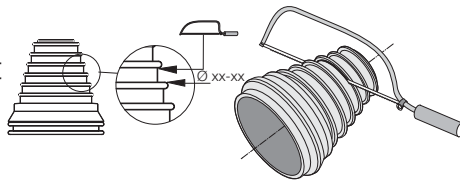


Installation of cable inserts

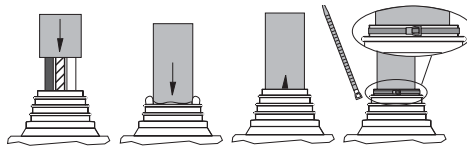
Saw the box fin.
 Afterwards the cable insert is mounted and fixed via enclosure connectors and the rubber entries can be inserted.



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).



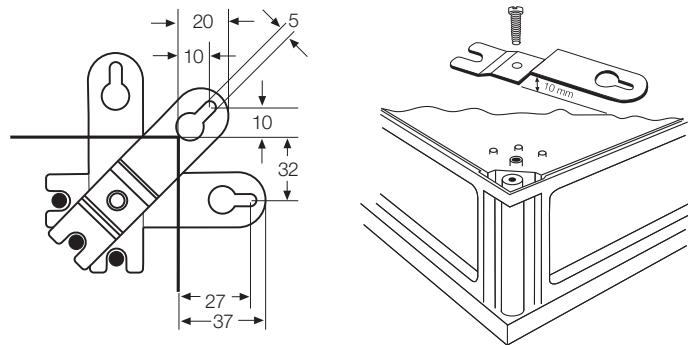
FP ZR ..

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)

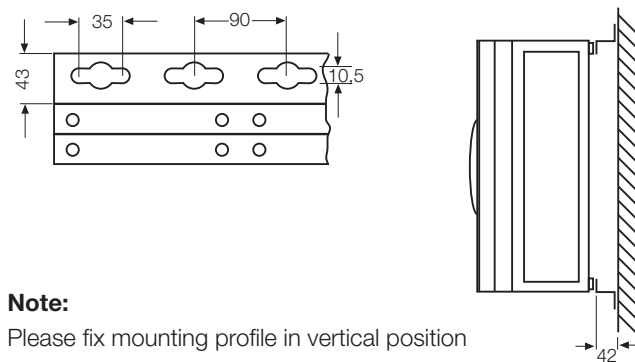


ENYSTAR® Distribution boards

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

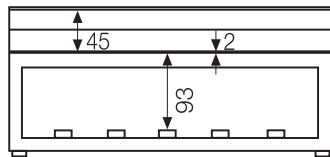
Pre-drill the cut-outs at the corners and saw them out of the cover.

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.

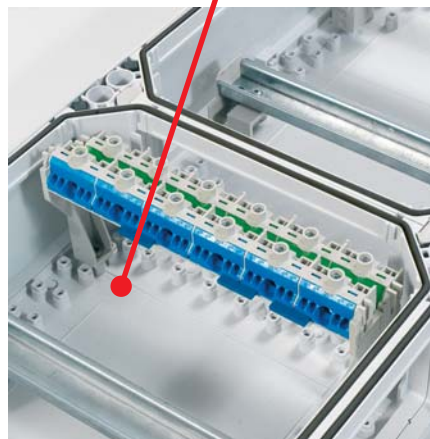
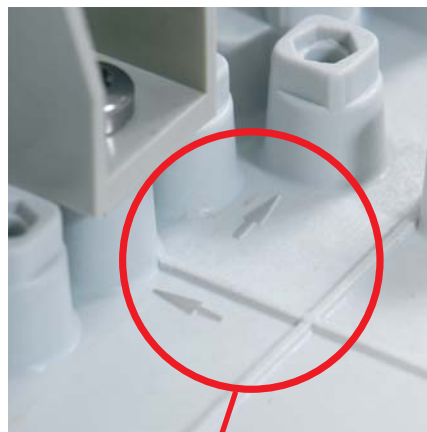
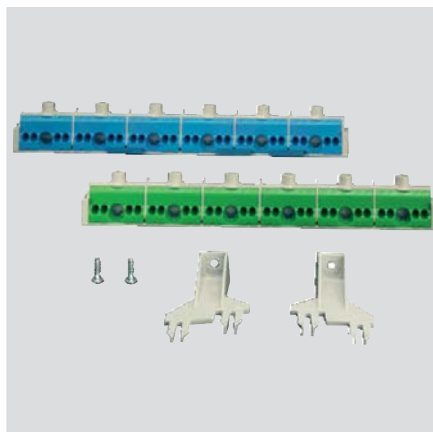
Open pre-moulded opening for sealing device (drill Ø 5 mm) and screw the cover with frame.

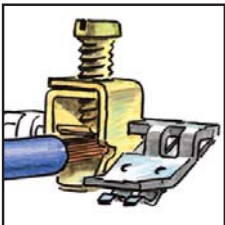



Then screw the frame with door and cover onto base of enclosure.

Seal the cover.





Clamping unit	Corresponding cross-sections/copper			
	max. number	from - to max.	max. number	from - to max.
Screw-type terminal 25 mm ²				
	1	25 mm ² , s	1	25 mm ² , f
	1	16 mm ² , s	1	16 mm ² , f
	1	10 mm ² , sol	1	10 mm ² , f
	3	6 mm ² , sol	1	6 mm ² , f
	3	4 mm ² , sol	1	4 mm ² , f
	4	2.5 mm ² , sol	1	2.5 mm ² , f
	4	1.5 mm ² , sol	1	1.5 mm ² , f
		} Tested as connecting terminal for several conductors of the same cross-sections for using in one circuit		
Plug-in terminal 4 mm ²				
	1	1.5 - 4 mm ² , sol	1	1.5 - 4 mm ² , 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.