

FDCP DISTRIBUTION AND METERING ENCLOSURES

The measuring and protection blocks with 1-4 measuring points ensure:

- the connection between the collective and individual supply networks;
- the protection at overload, shortcircuit and overvoltage for the individual networks;
- the electric energy consumption measuring.

The distribution and metering enclosures are part of electric branchings for electrical installations with 400V rated voltage between phases in residential, commercial, social-cultural and administrative buildings, having mainly the role of "secondary enclosure".

They ensure the protection of the inside equipments against undesirable external actions, as well as the persons protection against electrical shocks, in accordance with electrical safety provisions for low voltage electrical installations, under exquisite operating and esthetical conditions.

The distribution and metering enclosures have been designed for:

- electrical energy supply;
- protection;
- measuring electrical energy consumption in residential areas flats and assemblies.

The distribution and metering enclosures are designed for a number of subscribers ranging between 1 and 20. Provisions for a larger number of subscribers are also available.

The distribution and metering enclosures for 4 subscribers, 2 subscribers and one subscriber are executed in separate boxes, being basic enclosures.

The distribution and metering enclosures for more than 4 subscribers are executed of a modular group of basic enclosures.

The box of the basic enclosure can also be used as "distribution module" used as "input-output" for electrical energy distribution columns, besides its use for the distribution and metering enclosure proper.

The enclosures comply with the technical requirements provided by IEC/EN 60439-1, IEC/EN 60439-3 standards.

TECHNICAL CHARACTERISTICS

Main technical characteristics

Operating rated voltage:	3 x 230/400 V
Rated frequency:	50, 60 Hz
Rated current:	standardized values from (10...40) A range
Fireproofness:	960/750/650°C
Operating temperature range:	(-40...70)°C
Normal protection degree:	IP65



The protection degree ensured by the box against blows: code IK08
Insulation class: II

The inputs (into automatic circuit breakers) are made by means of cables of 25 mm² max. cross section; the outputs to the subscribers are made by means of 10 mm² clamps.

Construction

The distribution and metering enclosures are executed of high quality materials by means of performant technologies. A good anticorrosive protection is ensured for the whole product.

A basic distribution and metering enclosure is made up of the following:

- a box of fireproofed electroinsulating plastic material made up of the base (polycarbonate with glass fibre), the cover (transparent polycarbonate, UV resistant), and closing elements;
- accessories for:

- mounting the internal electrical equipment (electric meters, automatic circuit-breakers/fuses, devices for protection at overvoltage, row of clamps),
- access to driving and control elements,
- their fixing in position.

The cover of the distribution and metering enclosure is provided with one or two access doors to the protection elements, which allow lock closing or sealing. The cover is provided with closing elements that can be accessed from the front side.

The enclosure is mounted in 4 - 6 points on the support, the screws being no longer accessible after the cover mounting. The mounting can be made directly or with fixing hangers.

Any basic enclosure enables coupling with other basic enclosures through the side parts for obtaining the assemblies for a greater number of subscribers. Thus, the boxes are provided on their side parts with easily cutting-out areas of knock out type that allow the connecting conductors passage from one enclosure to the other. The boxes also enable the external circuits access through sealing glands (Pg 11; Pg 13.5; Pg 21; Pg 29; Pg 42), being provided with easily breakable circular areas of knock out type on their side parts.

NOTE: Each basic enclosure is separately supplied with a number of sealing glands: Pg 13,5 equal to the number of single-phase meters that can be mounted, and one piece of Pg 29 sealing gland.

CODING

The product coding has the following form: FDCP"X", where "X" is the figure corresponding to the number of subscribers. Basic distribution and metering enclosures are symbolized as follows: FDCP"X"x"x", where "X" represents the max. number of single-phase meters contained by it (1, 2, 3 or 4), and the letter "x" represent the constructive option as shown below:

FDCP4(2)(1) x x x x
(1) (2) (3) (4)

supplementary fixing element type

- 0** without supplementary fixing element
- U** hanger
- St** pole fixing
- ...

meter type

- 0** without meter
- CMA** (meter symbol)
- ENERLUX M**
- ...

protection element type

- 0** without protection element
- 00** "not-fitted enclosure"
- F** electrical fuse
- S** monopolar automatic fuse
- S2** bipolar automatic fuse
- D** differential bipolar automatic circuit breaker
- DT** differential bipolar automatic circuit breaker and overvoltage protection device
- DN** differential bipolar circuit breaker, device at overvoltage, at null breakdown protection
- ...

enclosure mounting (box) with the longer side [only for FDCP4(1)]

- H** horizontally
- V** vertically

distribution and metering enclosure for 4 single-phase consumers

NOTE: Being equipped with single-phase meter, FDCP1 shall be mounted only with the longer side vertically.

Coding example

FDCP4 V DN CMA 0; distribution metering enclosure for 4 single-phase consumers; mounted with the longer side vertically; with differential bipolar automatic circuit breakers and devices at overvoltage at null breakdown protection; with single-phase meters of CMA type; without supplementary fixing elements. The equipment electrical parameters shall be clearly specified.

Other options

Besides the "usual" options, as those mentioned above, there are other execution options available, as shown below:

1). Distribution and metering enclosure FDCP4 H(V) Sf 0 U ("distribution module")

FDCP4 H(V) Sf 0 U is used as input-output distribution and metering enclosure for electrical energy distribution columns.

The enclosure cover is executed of opaque glass fibre polycarbonate. The enclosure contains 3 fuses support parts - SIST 101 (3 phases) and 5 distribution bars (3 phases, operation null, protection null).

NOTE: Each enclosure is separately supplied with 2 pieces Pg 42 sealing glands and 5 pieces Pg 21 sealing glands.

2). Distribution and metering enclosure FDCP4 H 1S 2CM4UD U ("force compartment with meter for stairs lighting")

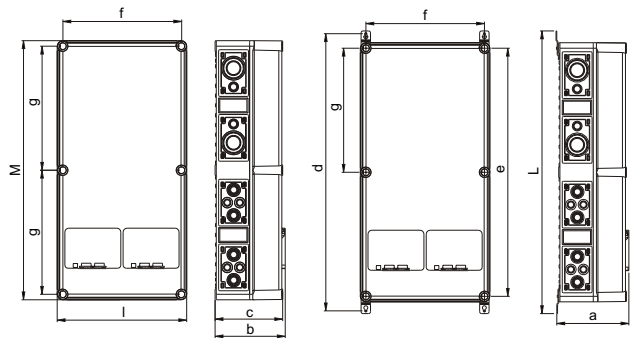
FDCP4 H 1S 2CM4UD U distribution and metering enclosure is identical with FDCP4 H Sf 0 U enclosure, with the difference that instead of SIST fuses supports there are a single-phase electric meter and a monopolar automatic circuit breaker (monopolar automatic fuse). It has been designed for block of flats halls.

3). Distribution and metering enclosure FDCP4 V S 0 St(A) (for 4 single-phase meters) with pole and roof fixing elements for supplementary weather protection (option A is provided with aeration).

Other customized options are also available.

NOTE: As far as FDCP distribution and metering enclosures provided with device at overvoltage at null breakdown protection are concerned, AEM also offers the earth grounding PTP3, according to ELECTRICA Romania - ST3 technical specification. The earth grounding shall be ordered separately.

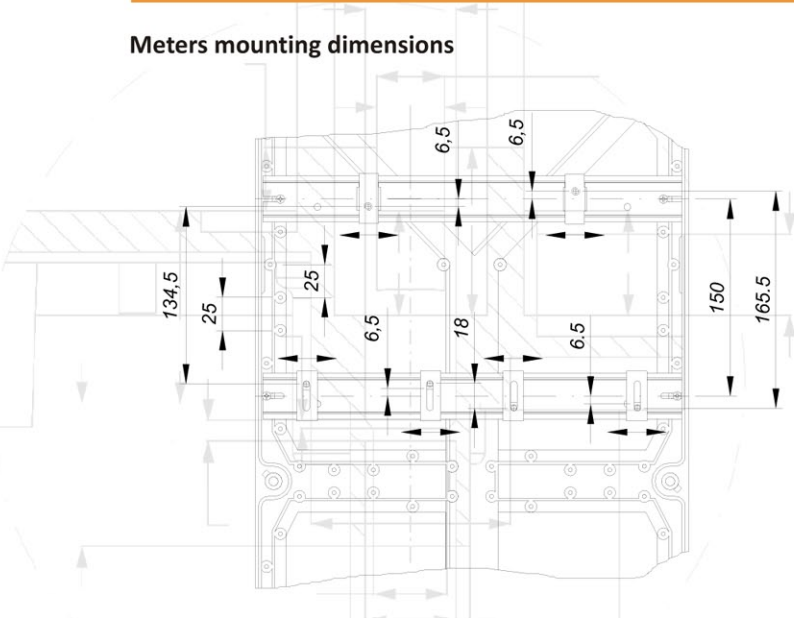
OVERALL AND MOUNTING DIMENSIONS:



	L (mm)	M (mm)	I (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	g2 (mm)
FDCP4	720	660					706	632		316	
FDCP2	390	330	330	184	179	172	376	302	302	-	
FDCP1	225	165					211	137		-	

NOTE: FDCP4 distribution and metering enclosure has the following dimensions: M x I: 660 x 330 mm, FDCP2 enclosure has the following dimensions: 1/2M x I, FDCP1 enclosure has the following dimensions: 1/4M x I. These dimensions enable the easy execution of the enclosures for a large numbers of subscribers.

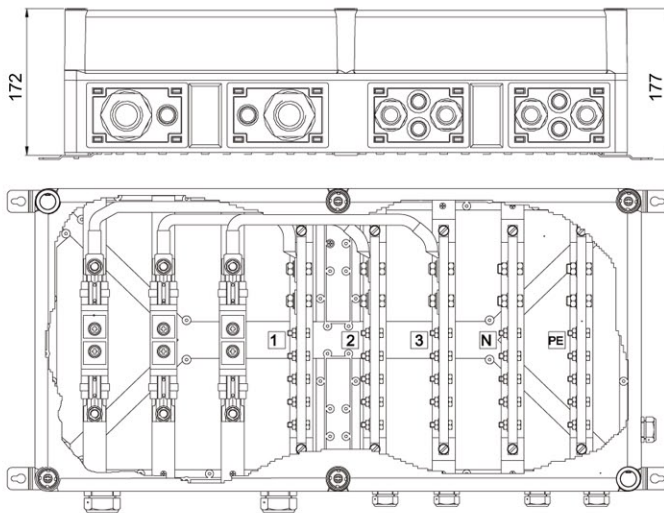
Meters mounting dimensions



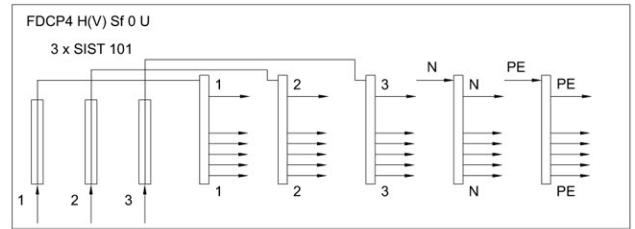
The meters are mounted on the enclosure base on rails W, by means of special M5 nuts, with degrees of freedom in two directions (or on flat rails with screws). This way of fixing allows various mounting dimensions for the meters.

The drawing below shows the mounting dimensions for the meters, the distance between the Ω rails symmetry axes being of 150 mm.

FDCP4 H(V) Sf0 U



THE CIRCUIT DIAGRAM FOR "THE DISTRIBUTION MODULE" - FDCP4 H(V) Sf0 U



CIRCUIT DIAGRAMS

FDCP4 CIRCUIT DIAGRAM

