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TEMA-Programmable transducer for active, apparent power, power factor, cos φ, phase angle, average power, frequency

Cat. No: TM4PT0W

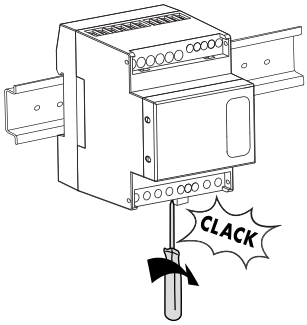
1. USE

Programmable transducer 4 Module.
Just one meter for single-phase and 3 phase connections wholly field programmable.
Direct voltage input or through external voltage transformers.
Direct current input 5 A, 1 A or through external current transformers X/5 A, X/1 A.

2. INSTALLATION

2.1 Fixing

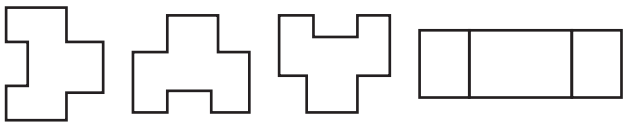
On IEC/EN 60715 symmetric rail or DIN 35 guide.



For fastening the device on the DIN rail: 5,5 mm flat screwdriver (from 4 to 6 mm).

2.2 Operating position

Vertical Horizontal Upside down On the side



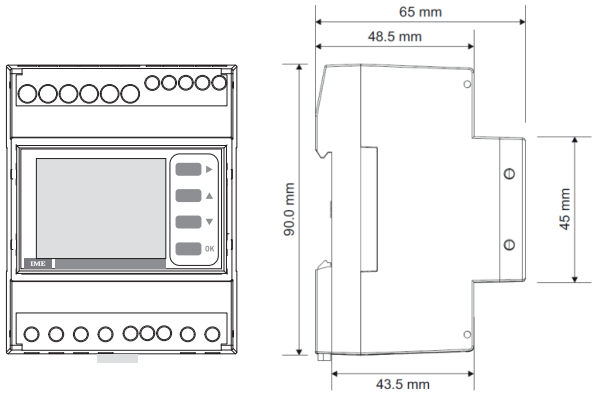
3. DIMENSIONS (mm)

Weight: 0,218 kg.

Packaged volume: 0,50 dm^3.

Room: Mechanical M1 - Electric E2.

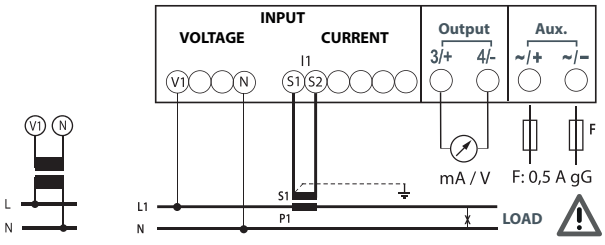
4 DIN modules.



4. CONNECTION

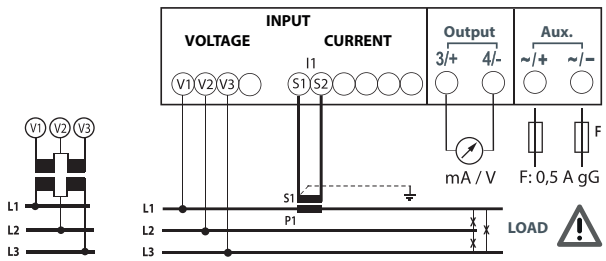
4.1 Wiring diagrams

1N1E

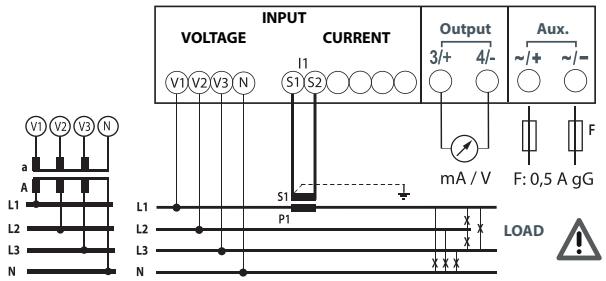


4. CONNECTION *(continued)*

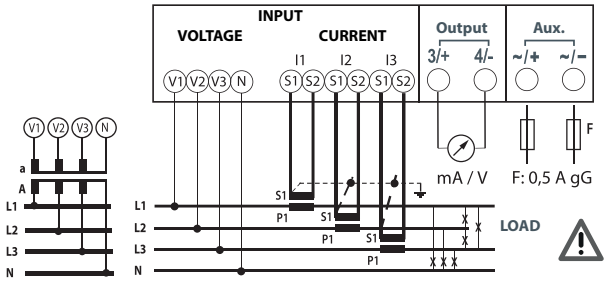
3-1E



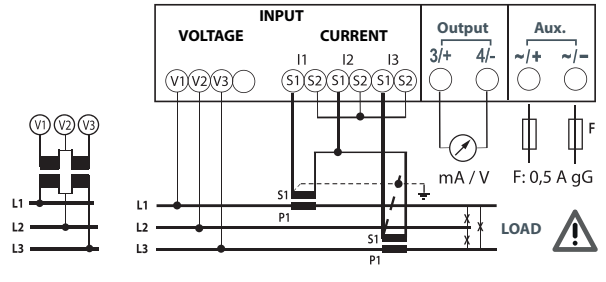
3N1E

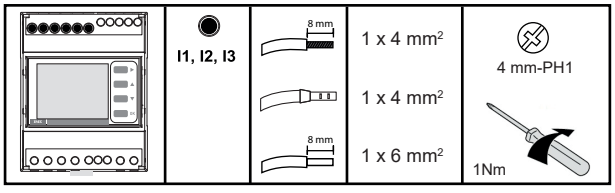


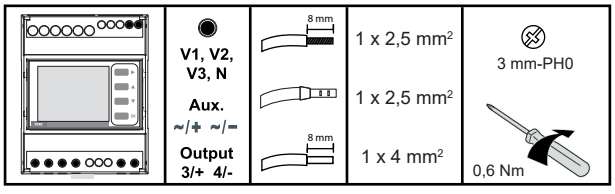
3N3E



3-2E

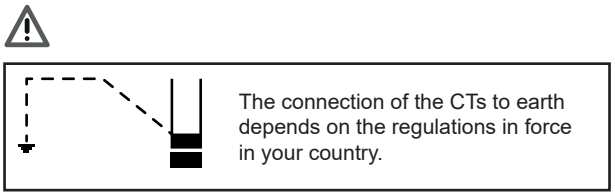






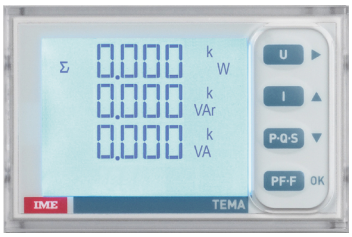
■ 4.2 Protection of the device

Recommended fuse 0,5 A type gG.



5. TECHNICAL CHARACTERISTICS

■ 5.1 Display



Type: backlit LCD.
Automatic backlight reduction after 20 s of keyboard inactivity.

Resolution: automatic adjustment of the display resolution for the decimal figures and the engineering units as a function of the transformation ratio of the external current and votage transformers.

Update time: 1 s.

Display of the value and programming:
By means of the front keypad, 4 pushbuttons (please refer to the user manual).
Access protected by identification code (predefined code 1000).

Housing material: Self-extinguishing BLEND.

■ 5.2 Electric characteristics

Self consuption:
≤ 2,2 VA (AC supply).
≤ 1 W (DC supply).
≤ 0,2 VA (voltage single fase).
≤ 0,5 VA (current single fase).

Current output (I):
- 20... + 20 mA, - 10... + 10 mA, 4...20 mA, 0...20 mA, 0...10 mA, 0...5 mA, - 5... + 5 mA.

Voltage output (V): - 10... + 10 V, 0...10 V, 1...5 V.

Auxiliary supply: 24...240 V AC/DC ± 10%.

Nominal current (In): 1 A, 5 A.

Maximum current (Imax): 1, 2 In.

Nominal input voltage (Vn):
80...500 V AC (phase/phase).
50...300 V AC (phase/neutral).

Nominal Frequency (Fn): 50...60 Hz.

Permitted variation: 45...65 Hz.

Current output loads:
≤ 600 Ω (20 mA); ≤ 1,2 kΩ (10 mA); ≤ 2,4 kΩ (5 mA).

5. TECHNICAL CHARACTERISTICS *(continued)*

Voltage output loads: ≥ 5 kΩ.

Programmable response time:
50 ms; 100 ms; 150 ms; 200 ms; 250 ms; 300 ms.

Trasduction limit in power:
full-scale value: 50%... 120% Pn.
Variation between beginning and full-scale value: ≥ 25% Pn.

Transmission ratio of current and voltage transformers:
kTA x kTV ≤ 220 000 (In 5 A).
kTA x kTV ≤ 2 000 000 (In 1 A).

Measurement categories: III.
Isolation voltage: 300 V (Phase-Neutral).
Dielectric rigidity test:
- Power supplies/Outputs: 3 kV.
- Power supplies and outputs/housing: 4 kV.
- Measurement input pulse/Analog auxiliary power supply: 6 kV.

■ 5.3 Mecanical characteristics

Protection class:
Terminal protection index against solid bodies and liquids:
IP20 (IEC/EN 60529).
Housing protection index against solid bodies and liquids:
IP52 (IEC/EN 60529).

Class II: front panel with cover plate.

Protection class against external mechanical impacts:
IK07 (IEC/EN 62262).

Vibration resistance: from 5 Hz to 150 Hz amplitude 0,15 mm/1 g.

Shock: 19 g/16 mse.

Level of pollution: 2.

■ 5.4 Climatic characteristics

Operating room temperatures:
T min. = - 10 °C; T max. = + 55 °C.

Storage room temperatures:
T min. = - 25 °C; T max. = + 70 °C.

■ 5.5 Diagnostic

Current output diagnostic:
Open circuit.

Voltage output diagnostic:
Low output load.

6. CONFORMITY AND CERTIFICATIONS

Low voltage Directive 2014/35/UE.
According to the standard: EN 61010-1.

EMC compatibility: IEC/EN 61326-1.

European Directives :
2014/35/UE.
2014/30/UE.

Respecting the environment - Conformity with CEE Directives:
Compliance with the 2100/65/EU Directive, as modified by the 2015/863 Directive (RoHS), on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
Conformity with the REACH Regulation (1907/ 2006): at the date of publication of this document no substance in the annex XIV is found in these products.

RAEE Directive (2012/19/EU): the sale of this product includes a contribution to the appointed enviromental bodies of each European country incharge of handling, at the end of their life, the products falling within the scope of the EU Directive on Electrical and Electronic Equipment Waste.

Precision class (IEC/EN 60688) :
cl. 0,5 (power), cl. 1 (power factor), ± 0,2 Hz (frequency).

Plastic materials:
Plastic materials without Halogens.
Parts marking according to standards ISO 11469 and ISO 1043.

Packaging:
Packaging designed and produced in accordance with Decree 98-638 of 20/07/98 and Directive 94/62/CE.

This device is projected for industrial application, and it is compliant with the class A defined by the standard.
The standard defines two classes of equipment, namely A and class B.

Class A equipment is suitable for use in all locations other than residential environments.

Class B equipment is suitable for use in residential environments.

The use of the device in different environments than the ones defined for class A could generate interferences. If sensitive radio services are present in the installation a distance higher than 30 m or the use of element which act as barrier to radiated phenomena is recommended.

CE