

Programmable transducer for active, reactive and apparent power, factor power, phase angle, power demand, frequency.

Code: **TM4PT0W**
 Model: **TEMA**



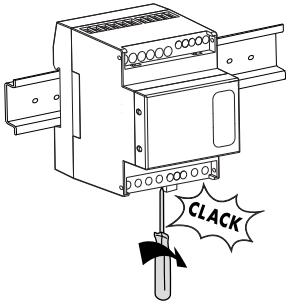
Contents	Pages
1. Use.....	1
2. Installation.....	1
3. Dimensions.....	1
4. Commissioning-Connection.....	2
5. Operating data.....	2
6. General features	3
7. Conformity and certifications.....	4

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 5A, 1A or through external current transformers X/5A, X/1A

2. INSTALLATION

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



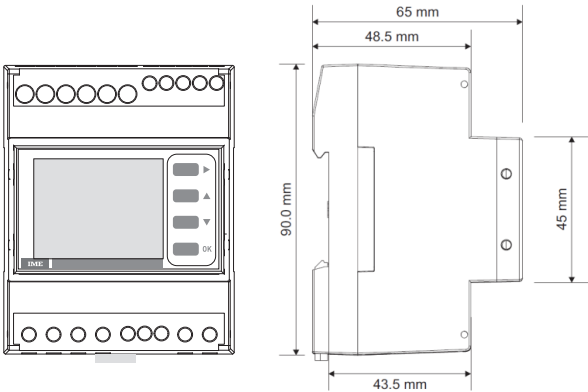
Necessary tools:
 For fastening the device on the DIN rail: 5,5mm flat screwdriver (from 4 a 6mm).

Operating position:
 Vertical, Horizontal, Upside down, On the side



3. DIMENSIONS

Housing:
 4 DIN 43880 module



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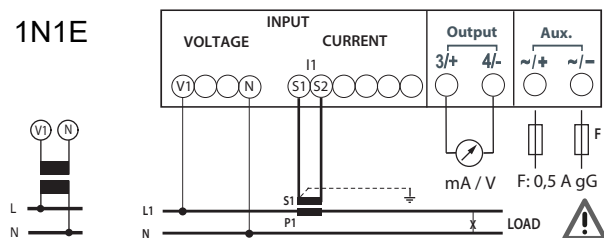
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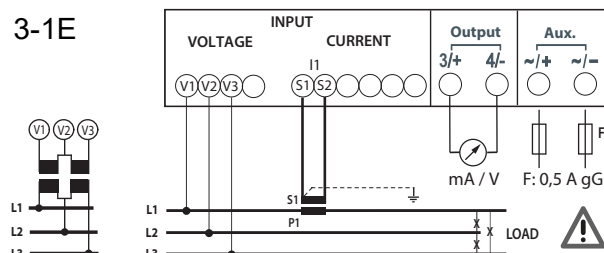
4. COMMISSIONING - CONNECTION

4.1 Wiring diagrams:

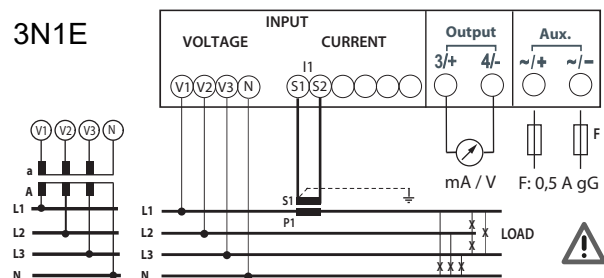
1N1E



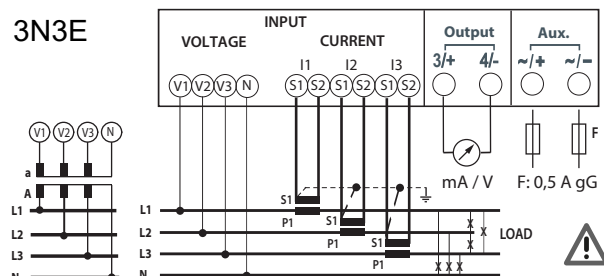
3-1E



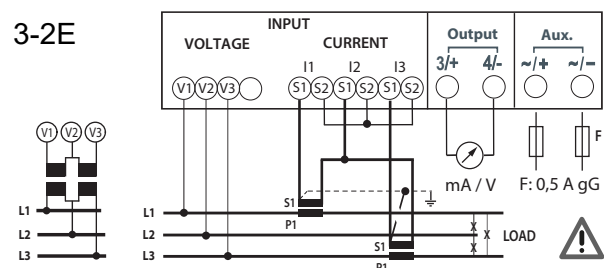
3N1E



3N3E

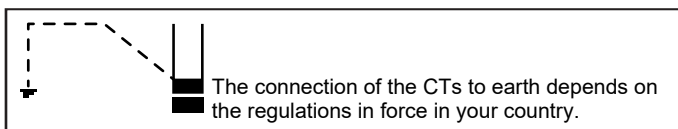


3-2E



4.2 Protection of the device:

Recommended fuse 0,5A type gG



5. OPERATING DATA

5.1 ELECTRIC:

Self consumption:

- ≤ 2,2VA (AC supply)
- ≤ 1W (DC supply)
- ≤ 0,2VA (voltage single fase)
- ≤ 0,5VA (current single fase)

Current output (I):

- 20...+20mA, -10...+10mA, 4...20mA, 0...20mA, 0...10mA, 0...5mA, -5...+5mA

Voltage output (V):

- 10...+10V, 0...10V, 1...5V

Auxiliary supply:

- 24...240V AC/DC ±10%

Nominal current (In):

- 1A or 5A

Maximum current (Imax):

- 1,2In

Nominal input voltage (Vn):

- 80...500V AC (phase/phase)
- 50...300V AC (phase/neutral)

Nominal Frequency (Fn):

- 50...60Hz

Permitted variation:

- 45...65Hz

Current output loads:

- ≤ 600Ω (20mA); ≤ 1,2kΩ (10mA); ≤ 2,4kΩ (5mA)

Voltage output loads:

- ≥ 5kΩ

Programmable response time:

- 50ms; 100ms; 150ms; 200ms; 250ms; 300ms

Trasdution 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:

- $k_{TA} \times k_{TV} \leq 220.000$ (In 5A)

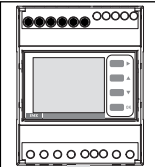
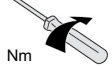
- $k_{TA} \times k_{TV} \leq 2.000.000$ (In 1A)

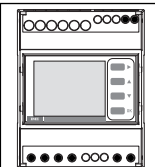
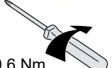
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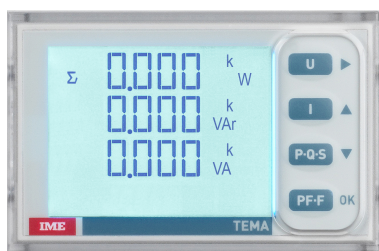
5.2 MECHANICAL

	 I1, I2, I3	 8mm	1 x 4 mm ²	 5 mm - PH1  1 Nm
		 8mm	1 x 4 mm ²	
		 8mm	1 x 6 mm ²	

	 V1, V2, V3, N Aux. ~ / ~ Output 3/+ 4/-	 8mm	1 x 2,5 mm ²	 3 mm - PH0  0,6 Nm
		 8mm	1 x 2,5 mm ²	
		 8mm	1 x 4 mm ²	

6. GENERAL FEATURES

6.1 Display:



Type: backlit LCD

Automatic backlight reduction after 20 sec 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 voltage transformers.

Update time: 1 sec.

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).

Protection class:

Terminal protection index against solid bodies and liquids:
IP 20 (IEC/EN 60529).

Housing protection index against solid bodies and liquids:
IP 52 (IEC/EN 60529)

Class II: front panel with cover plate.

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

Vibration resistance:

da 5 a 150Hz amplitude 0,15mm/1g - Shock: 19g / 16mse

Housing material:

Self-extinguishing BLEND

Operating room temperatures:

Tmin. = -10°C; Tmax. = +55°C

Storage room temperatures:

Tmin. = -25°C; Tmax. = +70°C

Weight:

0,218Kg

Packaged volume:

0,50dm³

Room:

Mechanical M1 - Electric E2

6.2 Diagnostic

Current output diagnostic:

Open circuit.

Voltage output diagnostic:

Low output load.

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7. CONFORMITY AND CERTIFICATIONS.

2014/35/UE LOW VOLTAGE DIRECTIVE.

According to the standard EN 61010-1

Measurement categories: III

Level of pollution: 2

Insulation voltage: 300V (Phase-Neutral).

Dielectric rigidity test:

- Power supplies/Outputs: 3kV
- Power supplies and outputs/housing: 4kV
- Measurement input pulse/Auxiliary supply: 6kV

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 environmental bodies of each European country in charge 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), $\pm 0,2\text{Hz}$ (frequency).

Plastic materials:

Plastic materials without Halogens.

Parts marking according to standards ISO 11469 e ISO 1043.

Packaging:

Packaging designed and produced in accordance with Decree 98-638 of 07.20.98 and directive 94/62/CE