



Features

- ✓ Measures current, voltage, power, and energy
- ✓ 1 three-phase or 3 single-phase
- ✓ 3-wire and 4-wire voltage measurements
- ✓ Measures real, reactive, and apparent power and energy
- ✓ Energy meter with gate function

Energy Meter

The Energy Meter function module for the TB20 IO system records all essential measured values from AC 230 V networks with regard to current and voltage measurement.

Input voltages (3 phases + N) can be connected directly to the module.

In addition to general status information, the module's configuration can be used to show up to 7 readings in the input image table.

In the event of a system failure, the controllable meter's values will be stored in non-volatile memory.

Input currents are coupled through current transformers. The Energy Meter module is designed for a maximum secondary current of 1 A.

Other rated secondary currents, as well as the use of Rogowski coils, are available upon request.

Note: Individual modules cannot be combined with the IO systems of other manufacturers.

Parameters for the module

Overvoltage / undervoltage threshold

Overcurrent threshold

Zero transition timeout

Enable energy meter

50/60 Hz line frequency

3-wire or 4-wire voltage measurement

Process image table input values

Parameters for phases A, B, and C

Primary current

Secondary current

Phase angle error correction (for current transformer phase angle error)

Zero crossing, overvoltage / undervoltage , overcurrent diagnoses

Configurable process input image table

7 readings at the same time

RMS voltage A,B,C

RMS current A,B,C

A, B, C, and total real power/energy

A, B, C, and total apparent power/energy

A, B, C, and total reactive power/energy

Frequency

A, B, C, and total power factor

Phase angle between the voltages or between the currents

Diagnostic messages

Phase shift

Overvoltage / undervoltage

Overcurrent

No zero crossing (no phase)

Configuration errors

General information

Order number	600-255-7AA21
Article name	Energy Meter, 1 A
Scope of delivery	Energy Meter, 1 A
Dimensions (DxWxH)	110 x 25 x 73 mm
Weight	Approx. 120 g
Number of inputs	Voltage L1, L2, L3, N, Current I1, I2, I3
Voltage	Max. 400 V AC
Current	Max. 1 A, secondary
from the backplane bus	Yes
Diagnoses	Undervoltage/overvoltage, Overcurrent, No zero crossing, Phase shift
Parameter configuration length	25/49 bytes
General error indicator	Red LED
Internal	Max. 150 mA
Power dissipation	Max. 2.0 W
Hot-swap capable	Yes

Ambient conditions

Ambient temperature	0 °C ... +60 °C
Transport and storage temperature	-20 °C ... +80 °C
Relative air humidity	95 % r H without condensation

Protection rating	IP 20
Certifications	CE, UL

CE

Noise immunity	DIN EN 61000-6-2 "EMC Immunity"
Interference emission	DIN EN 61000-6-4 "EMC Emission"
Vibration and shock resistance	DIN EN 60068-2-6:2008 „Vibration“, DIN EN 60068-2-27:2010 „Shock“

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Änderungen und Irrtümer vorbehalten