

Single phase counter, direct connection 45 A, pulse output, MID

Cat. No: 4 120 69



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1. DESCRIPTION - USE

Single phase active energy meter.
Measures the electric power consumed by a single-phase circuit downstream of the power distribution metering.
Displays the energy consumption in kWh.

2. RANGE

. Cat. No 4 120 69: Single phase counter in 1 module (18,1 mm) self-supplied on the measurement terminals.

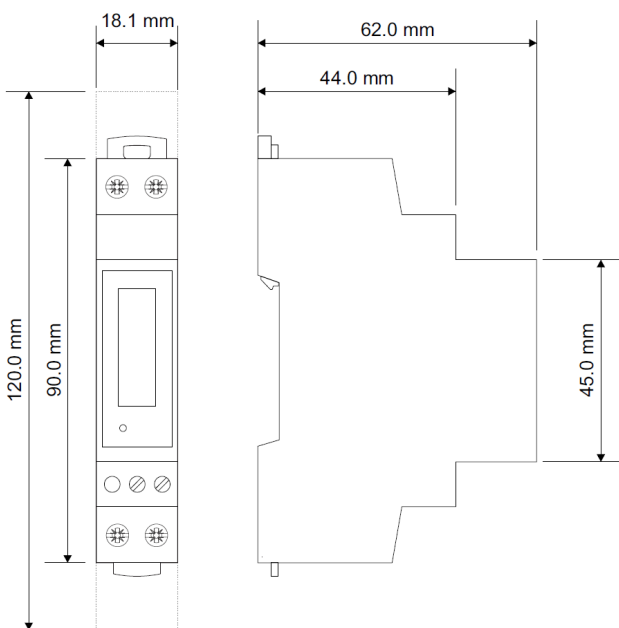
Rated currents:

- . Base current, I_b : 5 A
- . Maximum current, I_{max} : 45 A
- . Starting current, I_{st} : 20 mA

Rated voltage and frequency:

- . U_n : 230 Va.c. - Operational range: 161 + 279 Va.c.
- . F_n : 50/60 Hz - Operational range: 47 + 63 Hz

3. OVERALL DIMENSIONS



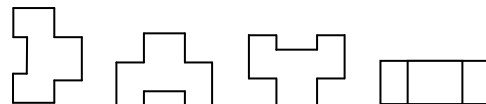
4. PREPARATION - CONNECTION

Fixing:

- . On symmetrical EN/IEC 60715 rail or DIN 35 rail.

Operating position:

- . Vertical Horizontal Upside down On the side



Power terminals (1-2; 4-3):

- . Terminals depth: 10 mm.
- . Stripping length: 11 mm

Pulse output terminals (6-7):

- . Terminals depth: 6 mm.
- . Stripping length: 7 mm

Screw head:

- . Power terminals: slotted and Philips.
- . Pulse output terminals: slotted.

Recommended tightening torque:

- . Power terminals: 0,8 Nm.
- . Pulse output terminals: 0,5 Nm.

Max. tightening torque:

- . Power terminals: 1,1 Nm.
- . Pulse output terminals: 0,8 Nm.

Tools required:

- . Power terminals: Philips n°1 screwdriver or flat screwdriver 4 mm.
- . Pulse output terminals: flat screwdriver 3 mm.
- . For fixing the device on the DIN rail: flat screwdriver 5.5 mm (max. 6 mm).

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4. PREPARATION - CONNECTION *(continued)*

Connectable section:

- . Copper cables.
- . Power terminals

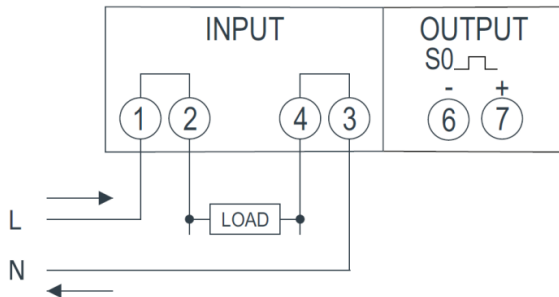
	Without ferrule	With ferrule
Rigid cable	1 to 10 mm²	-
Flexible cable	1 to 10 mm²	1 to 6 mm²

Pulse output terminals

	Without ferrule	With ferrule
Rigid cable	1 to 2,5 mm²	-
Flexible cable	1 to 1,5 mm²	1 to 1,5 mm²

ATTENTION: for safety reasons, it is compulsory not to exceed 4 A/mm² as current density in the input terminals.

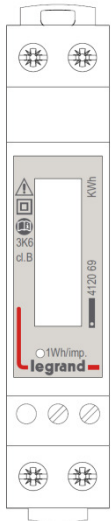
Electrical wiring diagram:



5. GENERAL CHARACTERISTICS

Front face marking:

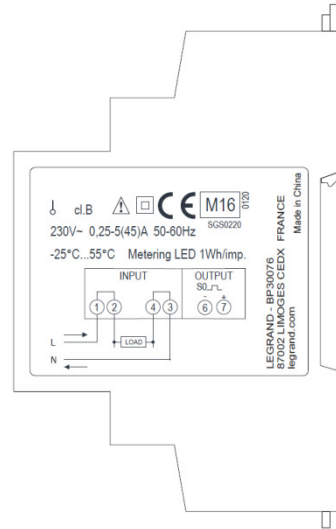
- . By permanent ink pad printing.



5. GENERAL CHARACTERISTICS *(continued)*

Right face marking:

- . By laser:



Display:

- Type: 6 digit LCD
- Resolution: 0,01 kWh or 0,1kWh
- Maximum indication: 99999,9 kWh

Metrological LED:

- . Pulse weight: 1 Wh/imp

Pulse output's characteristics:

- . Type S0 according to IEC/EN62053-31, class A
- . Voltage U_{imp} : 12...27 Vd.c.
- . Current I_{imp} : 10...27 mA
- . Pulse weight: 1 Wh/imp
- . Pulse duration: 70 ms.

Ambient operating temperature:

- . Min. = - 5 °C Max. = + 55 °C.

Ambient storage temperature:

- . Min. = - 25 °C Max. = + 70 °C.

Protection Index:

- . Protection index of terminals against solid and liquid bodies (wired device): IP 20 (IEC/EN 60529).
- . Protection index of the front face against solid and liquid bodies: IP 20 (IEC/EN 60529).

Impulse withstand voltage:

- . All circuits / earth:
alternate current 50 Hz / 1 min.: 4 kV

Short-time overcurrent:

- . 20 I_{max} for 10 ms

Power Factor - Operating range:

- . 0.5 inductive to 0.8 leading

Protection class:

- . II

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5. GENERAL CHARACTERISTICS *(continued)*

Pollution degree:

. 2

Installation category:

. III

Accuracy class:

. Active energy: class B according EN 50470-1, -3

Average weight per device:

. 0, 1 kg.

Volume when packed:

. 0,15 dm³.

Consumption

. ≤ 10 VA

Thermal power dissipated:

. ≤ 1 W.

6. COMPLIANCE AND APPROVALS

Compliance to standards:

. Compliance with Directive on electromagnetic compatibility (EMC) n° 2014/30/EU

. Compliance with low voltage directive n° 2014/35/EU.

. Electromagnetic Compatibility:

emission according IEC/EN 61326-1

immunity according IEC/EN 61326-1 and IEC/EN 61000-4-2, -4, -5, -12

IEC 62052-11

IEC/EN 62053-21

EN 55022 + A1 + A2

. Compliance with Directive on Electrical measurement devices (MID) n° 2014/32/EU

standards: EN 50470-1, -3

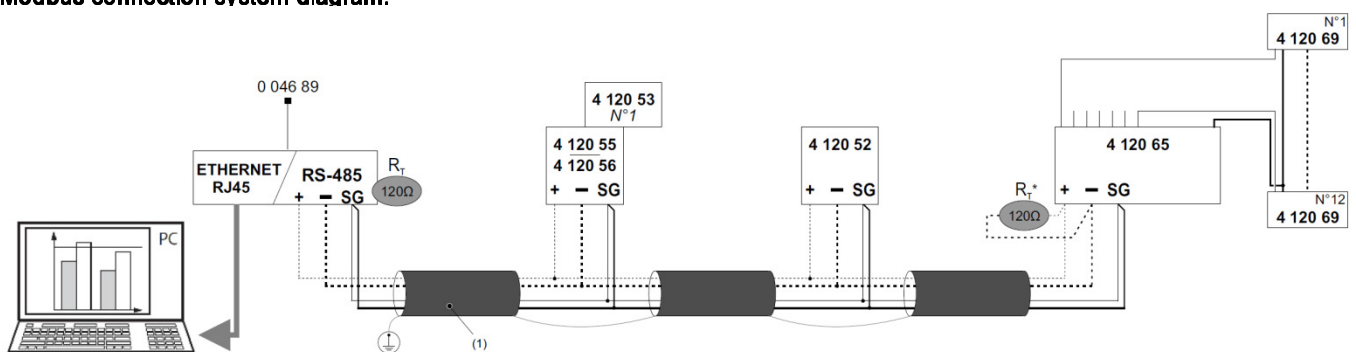
7. EQUIPMENT AND ACCESSORIES

Wiring accessories:

. Sealable terminals shield (supplied with the counter). The overall height of the device and terminal shields is 120 mm.

8. COMMUNICATION

Modbus connection system diagram:



(1) RS485: Prescribed use of Cable Belden 9842, Belden 3106A (or equivalent) for a maximum length of 1000 m, or Category 6 cable (FTP or UTP) for a maximum length of 50 m;

(*)Resistance not furnished

The pulse meter must be connected to a pulse concentrator, cat. no 4 120 65 (old cat. no 0 046 87), for integration in a monitoring / energy metering system.