

⚡ Caution

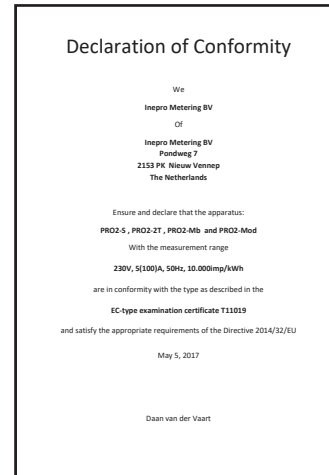
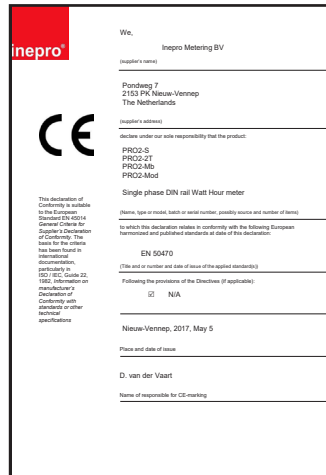
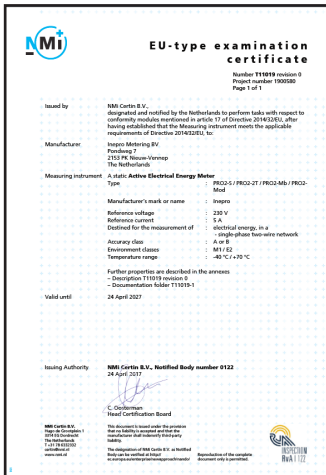
- Turn off and if possible lock all sources supplying the energy meter and the equipment that is connected to it before working on it.
- Always use a properly rated voltage sensing device to confirm that power is off.
- The connecting wire, connecting the device to the outside circuit, should be sized in accordance with local regulations for the maximum amount of the current breaker or other overcurrent protection devices used in the circuit.
- An external switch or a circuit-breaker should be installed on the supply wires, which will be used to disconnect the meter and the device supplying energy. It is recommended that this switch or circuit-breaker is placed near the meter because that is more convenient for the operator. The switch or circuit-breaker should comply with the specifications of the building's electrical design and all local regulations.
- An external fuse or thermal cut-off used as an overcurrent protection device for the meter must be installed on the supply side wires. It's recommended that this protection device is also placed near the meter for the convenience of the operator. The overcurrent protection device should comply with the specifications of the building's electrical design and all local regulations.

⚠ Warning

- The installation should be performed by qualified personnel familiar with applicable codes and regulations.
- Use insulated tools to install the device. A fuse, thermal cut-off or single-pole circuit breaker should be fitted on the supply line and not on the neutral line.
- This meter can be installed indoor, or outdoor enclosed in a meter box which is sufficiently protected, in accordance with local codes and regulations.
- To prevent tampering, an enclosure with a lock or a similar device can be used.
- The meter has to be installed against a fire resistant wall.
- The meter has to be installed in a well-ventilated and dry place.
- The meter has to be installed in a protective box if the meter is exposed to dust or other contaminants.
- The meter can be installed and used after being tested and can be sealed afterwards.
- The device can be installed on a 35mm DIN rail.
- The meter should be installed on a location where the meter can be read easily.
- In case the meter is installed in an area with frequent surges for example due to thunderstorms, welding machines, inverters etc., the meter is required to be protected with a Surge Protection Device.
- The device should be sealed immediately after installing it in order to prevent tampering.
- The device should be installed with a torque screw driver.

This short user manual does not contain every applicable safety regulation for using this meter. Also it might be required because of company, local government regulations or (inter)national laws to take additional measures. We have checked the contents of this manual and every effort has been made to ensure that the descriptions are as accurate as possible. However, deviations from the description cannot be completely ruled out, so that no liability can be accepted for any errors or omissions in the information given. Versions might be different in default programming based on the customers order.

Certificates



inepro®



**PRO2-S
PRO2-2T
PRO2-Mb
PRO2-Mod**

**PRO2 series MID
Single phase energy meter**

Short user manual

Version 2.18

Please note that this document is only a short user manual and does not handle every function. The complete user manual is available at: www.ineprometering.com/download.

Specifications

Nominal voltage (Un)	230V AC
Operational voltage	195-253VAC
Insulation capabilities:	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV - 1,2 μS waveform
Base current (Ib)	5A
Maximum rated current (Imax)	100A
Operational current range	0,4%Ib-Imax
Overcurrent withstand	30Imax for 0,01s
Operational frequency range	50Hz ±10%
Internal power consumption	≤2W/Phase - ≤10VA/Phase
Test output flash rate (RED LED)	10.000 imp/kWh
Pulse output rate	10.000/2.000/1.000/100/10/1/0,1/0,01 imp/kWh
Pulse width:	
- 1.000/100/10/1/0,1/0,01 imp/kWh	31ms
- 2.000 imp/kWh < 30kW	31ms
- 2.000 imp/kWh > 30kW	15ms
- 10.000 imp/kWh < 6kW	31ms
- 10.000 imp/kWh > 6kW	15ms
- 10.000 imp/kWh > 12kW	5ms
Operating temperature	-40°C - +70°C
Accuracy class	B (=1% accuracy)
Data store	The data can be stored for more than 10 years without power

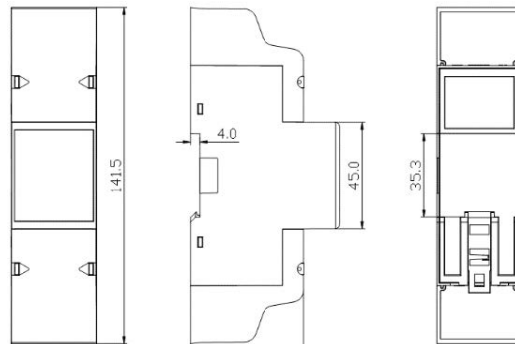
Default settings

LCD cycle time	10s	Automatic scroll	Total active energy, Active power
Backlight	Button	Baud rate	9600
S0 output	1.000	Parity	Even
Combination code	C01 (forward only)	Password	0000
Modbus/M-bus ID	01/00	OBIS codes	OFF

Dimensions

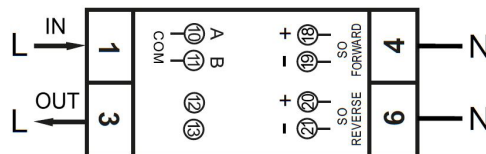
Height without protection cover	92,5 mm
Height	141,5 mm
Width	35,8 mm
Depth	63 mm
Max. diameter power connection clamps	35mm ²
Weight	0,16 Kg (net)

*NOTE: The housing is sealed, do not open the meter!
No warranty if the housing is opened or the seal is removed.*



Connection diagram

- 1 Phase line in (L-IN)
- 3 Phase line out (L-OUT)
- 4 Neutral line in (N)
- 6 Neutral line out (N)
- 10 & 11 Modbus/M-bus communication contact
- 12 & 13 External tariff input (PRO2-2T version only)
- 18 & 19 Pulse output contact (S0) forward
- 20 & 21 Pulse output contact (S0) reverse



Display pages

Automatic scroll: default 10 seconds

Total active energy

Active power

PRO2-2T, PRO2-MB & PRO2-MOD

PRO2-MB & PRO2-MOD

PRO2-MOD

Button scroll: press the buttons for less than 3 seconds to scroll. After 30 seconds of no interaction the meter goes back to automatic scroll mode.

Total active energy

Total forward active energy

Total reverse active energy

T1 forward active energy

T1 reverse active energy

T2 forward active energy

T2 reverse active energy

Program verify sum

Meter serial number

Total reactive energy

Total forward reactive energy

Total reverse reactive energy

T1 forward reactive energy

T1 reverse reactive energy

T2 forward reactive energy

T2 reverse reactive energy

Active power

Voltage

Current

Frequency

Reactive power

Apparent power

Power factor

Resettable kWh

Hold the right button for 5 seconds to reset.

Program mode 1 (Read only)

Display Shows: >> or <<

LCD cycle time	Backlight	S0 output	Combination code	Modbus/M-bus ID	Baud rate	Resettable kWh	Parity

Power down counter

Program mode 2 (Write)

LCD cycle time	Backlight	Modbus/M-bus ID

Scroll with the buttons to select 1-30.
Hold both buttons for 3 seconds to confirm.

Scroll with the buttons to select on/off/button.
Hold both buttons for 3 seconds to confirm.

Scroll with the buttons to select 3 digits.
Confirm each digit by holding both buttons for 3 seconds.

Program mode 3 (Write: password protected)

Hold the right button for 3 seconds and enter 4 digit password to enter program mode.

S0 output	Combination code	Baud rate	Parity	Power down counter	Password	OBIS codes

Scroll with the buttons to select 10.000/2.000/1.000/100/10/1/0,1/0,01.
Hold both buttons for 3 seconds to confirm.

Scroll with the buttons to select 01(F)/04(R)/05(F+R)/06(R-F)/09(F-R)/10(F-R).
Hold both buttons for 3 seconds to confirm.

Scroll with the buttons to select 300/600/1200/4800/9600.
Hold both buttons for 3 seconds to confirm.

Scroll with the buttons to select even/none/odd.
Hold both buttons for 3 seconds to confirm.

Hold both buttons for 3 seconds to reset.

Select the new 4 digit password by choosing each digit (0-9).
Confirm each digit by holding both buttons for 3 seconds

Select ON or OFF.
Hold both buttons for 3 seconds to confirm.