

# Ambition 2PU CT Series MID/MIR Short user manual



## 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.

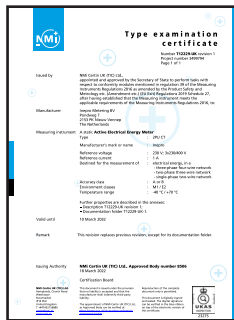
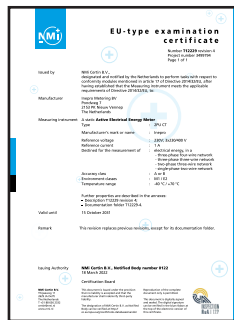
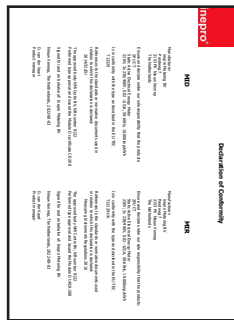


## Warning

- 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.
- The meter is intended to be installed in a Mechanical Environment 'M1', with Shock and Vibrations of low significance and Electromagnetic Environment 'E2', as per 2014/32/EC Directive. The meter is intended for indoor use. The meter shall be installed inside a suitable IP rated enclosure, 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.

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. A complete user manual can be found at [www.inprometering.com](http://www.inprometering.com). 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



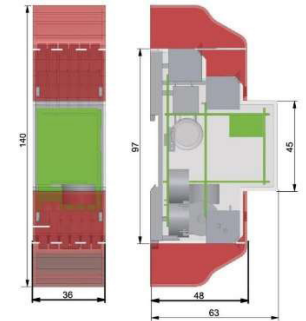
## Default settings

Backlight	Button
S0 output	1.000
S0 pulse width	30ms
Modbus/M-bus ID	01/000
OBIS codes	OFF

Baud rate	M-bus: 2400	Modbus: 9600
Parity	Even	Bluetooth 4.0: 2402 - 2480 MHz
Password	0000	
Combination code	C04 (forward-reverse)	
Pulse type	Forward & reverse	

## Dimensions

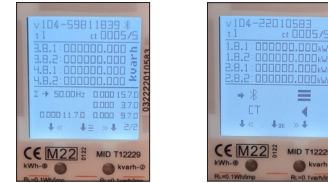
Height without protection cover	92 mm
Height	140 mm
Width	72 mm
Depth	63 mm
Weight	0,26 Kg (net)



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

## inepro Meter Manager

Press the middle button to enter the menu and select the Bluetooth® logo to activate:



Scan the QR code on the display using the inepro Meter Manager mobile phone app. When Bluetooth is active, the Bluetooth activation icon will be shown on the display.



## Display

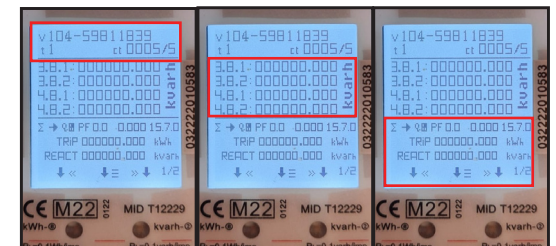
**Part 1:** Software version - CRC - Serial number - Bluetooth activation icon - Modbus / M-bus activation icon - Tariff - Measurement units (kWh)

**Part 2:** MID relevant measurement values:  
1.8.1: Positive active energy in tariff 1  
1.8.2: Positive active energy in tariff 2  
1.8.3: Positive active energy in tariff 3\*  
1.8.4: Positive active energy in tariff 4\*

2.8.1: Negative active energy in tariff 1  
2.8.2: Negative active energy in tariff 2  
2.8.3: Negative active energy in tariff 3\*  
2.8.4: Negative active energy in tariff 4\*

\*VIII only be displayed when T3 or T4 are activated

**Part 3:** Non-MID relevant measurement data



## Specifications

Nominal voltage (Un)	230/400V AC (3~)
Operational voltage	3*230/400V ±20%
Insulation capabilities:	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV - 1,2 μS waveform
Base current (Ib)	1A
Maximum rated current (Imax)	5A
Operational current range	0,4%Ib-Imax
Overcurrent withstand	30Imax for 0,01s
Operational frequency range	45-60Hz
Internal power consumption	≤2W/Phase - ≤10VA/Phase (active - reactive)
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:	2~99ms (settable)
Operating temperature	-40°C - +70°C*
Accuracy class	B
Data store	The data can be stored for more than 10 years without power
Humidity	<75%, according to EN50470-1 paragraph 6.2 table 9

Annual mean	<75%
For 30 days, these days being spread in a natural manner over one year	95%
Occasionally on other days	85%

\*Limits for ambient temperature in combination with conductor cross-section and rated current:

## Wire connection

Connection technology: Push-in CAGE  
CLAMP®  
Actuation type: Lever

### WAGO serie 2616

Solid conductor 0.75 ... 16 mm<sup>2</sup> / 18 ... 4 AWG  
Fine-stranded conductor 0.75 ... 25 mm<sup>2</sup> / 18 ... 4 AWG

Fine-stranded conductor; with insulated ferrule 0.75 ... 16 mm<sup>2</sup>

### WAGO serie 2604

Solid conductor 0.2 ... 4 mm<sup>2</sup> / 24 ... 12 AWG  
Fine-stranded conductor 0.2 ... 4 mm<sup>2</sup> / 24 ... 12 AWG

Fine-stranded conductor; with insulated ferrule 0.25 ... 2.5 mm<sup>2</sup>

Conductor cross-section	Rated current	Ambient temperature		
		40 °C	55 °C	70 °C
25 mm <sup>2</sup> (Fine-stranded conductor)	65 A		x	
	45 A			x
16 mm <sup>2</sup> (Fine-stranded conductor with insulated ferrule)	65 A	x		
	55 A		x	
16 mm <sup>2</sup> (Fine-stranded conductor)	35 A			x
	65 A	x		
16 mm <sup>2</sup> (Fine-stranded conductor)	50 A		x	
	35 A			x
10 mm <sup>2</sup> (Fine-stranded conductor with insulated ferrule)	55 A	x		
	45 A		x	
10 mm <sup>2</sup> (Fine-stranded conductor)	30 A			x
	55 A	x		
10 mm <sup>2</sup> (Fine-stranded conductor)	40 A		x	
	30 A			x
6 mm <sup>2</sup> (Fine-stranded conductor with insulated ferrule)	41 A	x		
	39 A		x	
6 mm <sup>2</sup> (Fine-stranded conductor)	27 A			x
	41 A	x		
6 mm <sup>2</sup> (Fine-stranded conductor)	37 A		x	
	25 A			x
4 mm <sup>2</sup> (Fine-stranded conductor with insulated ferrule)	32 A	x		
	27 A		x	
4 mm <sup>2</sup> (Fine-stranded conductor)	17 A			x
	30 A	x		
4 mm <sup>2</sup> (Fine-stranded conductor)	25 A		x	
	15 A			x

Push-in technology can be used for Solid conductors and fine-stranded conductors with insulated ferrule. Fine-stranded conductors require opening the levers for connection.

## Connection diagrams

- L1 (in) Phase 1 input - L1 (out) Phase 1 output
- L2 (in) Phase 2 input - L2 (out) Phase 2 output
- L3 (in) Phase 3 input - L3 (out) Phase 3 output
- N Neutral input
- 4 S0 output 1 (+)
- 5 Ground (-)
- 6 S0 output 2 (+)
- 7 Modbus communication contact A
- 8 Modbus communication contact B / M-bus communication contact (-) - connector RS485
- 9 M-bus communication contact (+)
- 10, 11: Tariff switching (230V AC)

