

HEAT METERS

Wall-mounted calculator



- MID Approved
- BMS output
- Pulsed output [Kw/hr], M-bus or 4-20mA versions
- Dn 15-300 applications
- Battery [6 year life] or 230v AC versions
- IP54 protection rating
- EMC Class C according to EN1434
- Measurement range 5-150°C
- Ambient temperature: 0 - 55°C
- Temperature resolution: 0.01°C
- Measuring frequency 20 - 120 seconds
- Selectable annual billing date
- No data loss when battery removed
- PT500 sensors
- Optional version with two pulsed inputs available



TECHNICAL DATA

Part No.	Power source	Pulse output values	
		Energy [Kw/h per pulse]	Volume [m³ per pulse]
ICT PIPO-1L	Battery 3v Li	1	0.1
ICT PIPO-10L	Battery 3v Li	10	0.1
ICT PIPO-100L	Battery 3v Li	100	1
ICT PIPO-1000L	Battery 3v Li	100	1
ICT PIPO230VAC-1L	230v AC 50Hz	1	0.1
ICT PIPO230VAC-10L	230v AC 50Hz	10	0.1
ICT PIPO230VAC-100L	230v AC 50Hz	100	0.1
ICT PIPO230VAC-1000L	230v AC 50Hz	100	1

Electrical characteristics	
Switching current	150mA-/-
Switching voltage	75mA/-
Switching power	5vA
Contact resistance [contact open]	10 ¹⁰ ohm
Contact capacity	≤ 0.6 pF
Maximum current [contact closed]	1A
Max. voltage [open contact]	140v-/-
Pulse duration [contact closed]	100ms
Minimum time between pulses	400ms
Bounce time	0.5ms

ADDITIONAL FEATURES

- Continuous display of the accumulated heat energy on a large LCD display
- Application-oriented display menu; easy to scan using operating key
- Data storage six times a day in non-volatile memory
- Hourly self-check
- 12 monthly values readable on the display or via the optional interface
- Available lengths of temperature sensor pair:
3m [2-wire type] and
10m [4-wire type]
- Installation in temperature pockets of various lengths possible.



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THE MENU

The large high-contrast display continuously shows the accumulated heat energy. This enables an easy, sure and quick read-out of the most commonly needed figures.

Main loop A1

1] Total heat quantity
[standard display]

2] Segment test - all segments
are triggered simultaneously

3] Heat quantity at last annual billing date,
alternating with last billing date

4] Current date

5] Error message "F".
"d" stands for days since error
started

6] Total volume since installation
in m³

Technician loop A2

1] Current flow in m³/h

2] Current power in kW

3] Forward flow and return flow
temperatures

4] Temperature difference

5] Date of next billing date

6] Days in operation since
verification

7] Pulse value, alternating with its unit

8] Customer number or
measurement location number

9] M-bus address

10] Serial number

Statistic loop A3

1] Heat quantity at next-to-last billing date,
alternating with next-to-last billing date

2] Heat quantities of the last twelve months
alternating with the corresponding billing date.

Tariff loop A4

1] Maximum power for one hour

2] Maximum flow for one hour

3] Maximum power to previous billing date,
alternating with previous billing date

3] Maximum flow to previous billing date,
alternating with previous billing date

All sizes are approximate and are given for guidance only.
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STORAGE INSTRUCTIONS

Dry and frost protected

MOUNTING INSTRUCTIONS

Affix the wall mounting bracket [supplied with the calculator] to the wall and clip on the calculator.

Connect the wires as described below [for the pulsed BMS output].

Clip the calculator on the output module

Remove the terminal cover on the front of the calculator.

Connect two wires from water meter to left hand terminal [NOT polarity sensitive] to give pulsed input flow rate.

Re-fit terminal cover.

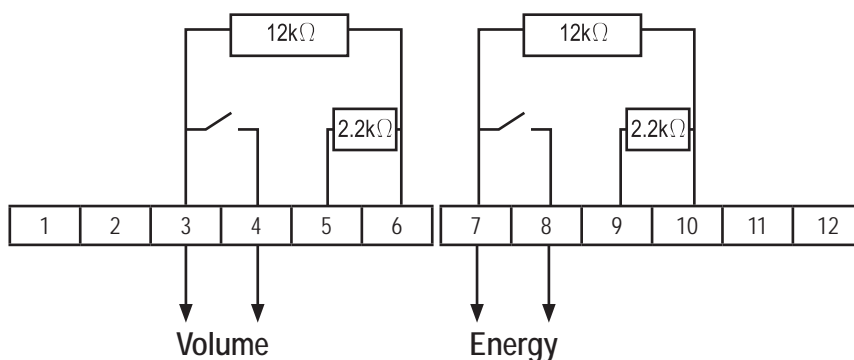
CONNECTION OF THE PULSE OUTPUT UNIT

To clamp on the **pulse output for energy**: the clamps 7 and 8 must be connected.

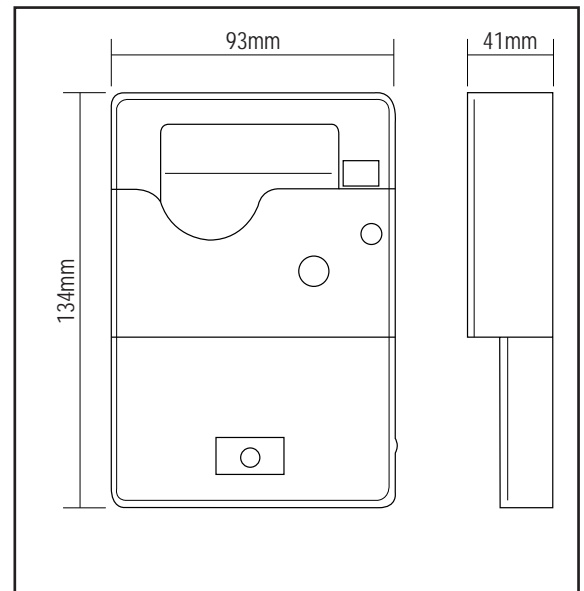
The short circuit wire between 4 and 5 must be removed.

To clamp on the **pulse output for volume**: the clamps 3 and 4 must be connected.

The short circuit wire between 8 and 9 must be removed.



DIMENSIONS



Wall mounting bracket

Output module

Calculator



Temperature sensors and pockets

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