

# PolluStat®

## Compact heating/cooling meter

- District Heat / Industry Heat**
- Commercial Heating / Cooling (HVAC)**
- Domestic Warm Water Generation / Charging Systems**

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The compact PolluStat ultrasonic meter measures energy consumption in heating or cooling circuits. Thanks to its high-precision flow sensor, the application range stretches from district heating stations to consumption billing for individual apartments.

It is equipped with a large comprehensive LC display with programmable screens.

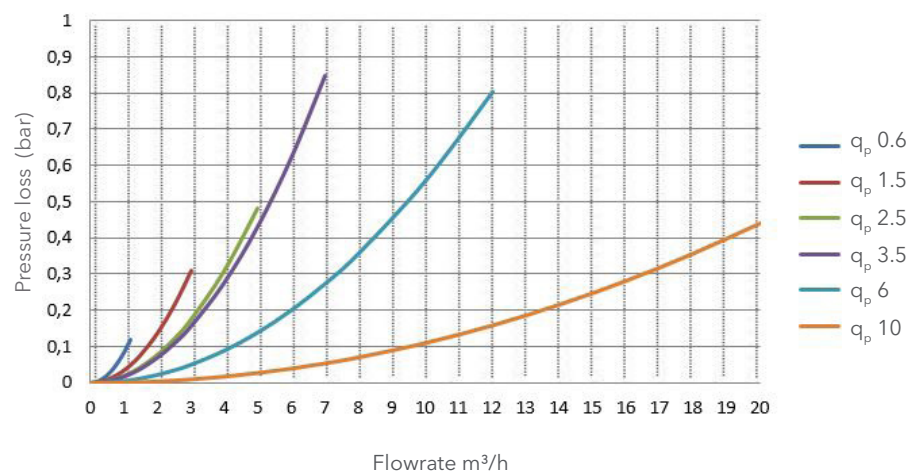
The following modules for remote readout and data communication are available as options and can be retrofitted:

### FEATURES

- MID approval in class 2 per EN 1434 for arbitrary installation (also overhead)
- Temperature range of the flow sensor:
  - Heating meter 15 to 90 °C (110 °C for maximum 2000 h per year)
  - Cooling meter 5 to 50 °C
  - Hybrid meter
    - Heating: 15 to 90 °C (110 °C for maximum 2000 h per year)
    - Cooling: 5 to 50 °C
- With detachable calculator unit for installation sites with limited space with approx. 0.85 m connection cable
- Optical data interface (M-Bus protocol) as standard
- Tariff registry: 2 pcs. individually adjustable; save energy or time
- Freely selectable annual cut-off date
- 15 monthly values via radio
- 15 monthly and 15 half-monthly values via the display
- 24 monthly and semi-monthly values via optical interface or M-Bus
- Storage of flow rate, power and temperature, as well as the respective maximum values of the last 15 months
- PT1000 temperature sensor:
  - Length 45 mm / diameter 5.2 mm, cable length 1.5 m
  - Length 50 mm with locking sleeves at 85 and 100 mm / diameter 6.0 mm, cable length 3 m

- Wireless M-Bus
- M-Bus per EN 1434-3 with arbitrary readout frequency, the values update every 2 min.
- Wireless M-Bus and 3 pulse inputs for consumption meters with remote meter pulse output
- M-Bus per EN 1434-3 and 3 pulse inputs for consumption meters with remote meter pulse output
- Pulse output
- Modbus RTU
- LoRaWAN

### Pressure Loss Curve



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### The option modules

For electronic remote reading of the meters and connection to building automation systems, a series of optional modules are available for the PolluStat series, which can be installed in the factory or retrofitted at any time:

#### Wireless M-Bus (radio)

A wireless M-Bus interface for walk-by and stationary readout in accordance with Open Metering Standard (OMS). 868 MHz frequency with the freely selectable modes S1, T1 and C1. Encryption modes 5 and 7 can also be selected per OMS 4.0.2.

#### M-Bus

For cable-connected data readout via a 2-wire cable with reverse polarity protection per EN13757. Suitable for monitoring, building automation or connection to an existing M-Bus network. Unlimited number of readouts. (Data update rate 120 s, with network operation 2 s.)

#### Remote meter pulse

A potential-free pulse output for connection to various interrogation devices.

#### Wireless M-Bus (radio) with three inputs for external consumption meters

This option allows the connection of up to three external consumption meters, e.g. an electricity meter, a cold and a hot water meter. Reed contact or open collector pulse can be connected. The pulse value can be adjusted with the optical head and by suitable software.

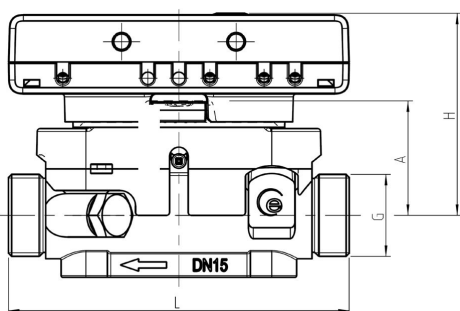
#### M-Bus with three inputs for external consumption meters

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## Weights and dimensions

### Calculator unit dimensions

75 x 110 x 34.5 mm



### METER DIMENSIONS

q <sub>p</sub>	Nominal diameter	G (")	L (mm)	H (mm)	A (mm)	Weight (kg)
0.6	DN 15	¾	110	65	37	0.720
1.5	DN 15	¾	110	65	37	0.720
2.5	DN 20	1	130	65	37	0.770
3.5	DN 25	1¼	150	65	37	0.930
6	DN 25	1¼	150	67.5	39.5	0.930
6	DN 25	1¼	260	67.5	39.5	0.120
10	DN 40	2	200	73	45	1.580
10	DN 40	2	300	73	45	2.050

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### TECHNICAL DATA

Characteristic	q <sub>p</sub> 0.6	q <sub>p</sub> 1.5	q <sub>p</sub> 2.5	q <sub>p</sub> 3.5	q <sub>p</sub> 6	q <sub>p</sub> 10
Nominal flow q <sub>p</sub> in m <sup>3</sup> /h	0.6	1.5	2.5	3.5	6	10
Minimum flow q <sub>i</sub> m <sup>3</sup> /h	0.012	0.012	0.025	0.028	0.06	0.1
Accuracy class	2 or 3 per EN 1434					
Ratio q <sub>i</sub> /q <sub>p</sub>	1:50	1:125	1:100	1:125	1:100	1:100
Maximum flow q <sub>s</sub> in m <sup>3</sup> /h (short-term)	1.2	3	5	7	12	20
Start-up value in m <sup>3</sup> /h (average value)	0.006	0.006	0.012	0.014	0.03	0.05
Temperature measurement range	0 - 150°C (with cooling metering 0 to 50 °C)					
Temperature difference range	3 - 100 K (with cooling metering -3 to -50 K)					
Minimum temperature difference	> 0.05 K (with cooling metering < -0.05)					
Permissible temperature in the flow sensor	Heating meter 15 - 90 °C (Also as variant 15 - 130 °C or Hybrid 15 - 120 °C) Cooling meter 5 - 50 °C					
Temperature measurement cycle	2 / 60 s (dynamic); with network operation 2 s					
Flow measurement cycle	2 s					
Through-pass value in m <sup>3</sup> /h at 0.1 bar pressure loss	1.1	1.7	2.3	2.4	4.2	9.5
Pressure loss at q <sub>p</sub> in bar	0.03	0.13	0.12	0.21	0.2	0.11
kvs value (in m <sup>3</sup> /h at 1.0 bar pressure loss)	3.5	5.4	7.2	7.6	13.4	30.2
Permissible operating pressure in bar	16					
Length of the connecting cable m	0.85					
Permissible ambient temperature	5 - 55 °C at 95% rH					
Electromagnetic environmental conditions	Class E2					
Mechanical environmental conditions	Class M1					
Protection class	IP 65					
Storage temperature	-20 ... 55 °C					
Relative humidity	95 %					
Battery life	10 years / except for pulse output 6 + 1 years					



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