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.

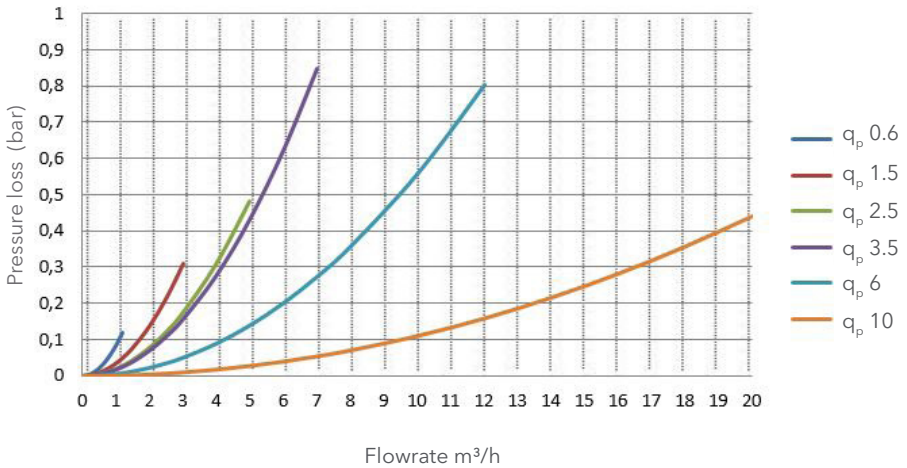
The following modules for remote readout and data communication are available as options and can be retrofitted:

- 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
- NB-IoT (expected Q1/2023)

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 (Also as variant 15 to 130 °C)
  - Hybrid meter 15 to 90 °C (Also as variant 15 to 120 °C)
  - Cooling meter 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

Pressure Loss Curve



SENSUS
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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.

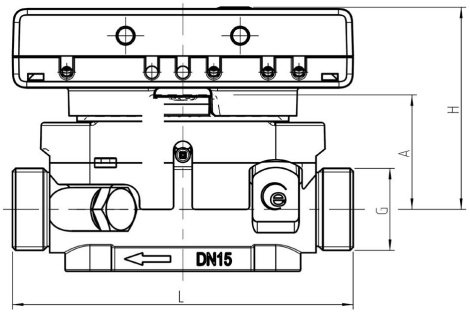
Wireless M-Bus (radio) with three inputs for external consumption meters
This option allows the connection of up to three external consumption meters, e.g. an electricity meter, a cold and a hot water meter. Reed contact or open collector pulse can be connected. The pulse value can be adjusted with the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

M-Bus with three inputs for external consumption meters
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.

Weights and dimensions

Calculator unit dimensions

75 x 110 x 34.5 mm



METER DIMENSIONS

q_p	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_p 0.6	q_p 1.5	q_p 2.5	q_p 3.5	q_p 6	q_p 10
Nominal flow q_p in m³/h	0.6	1.5	2.5	3.5	6	10
Minimum flow q_i m³/h	0.012	0.012	0.025	0.028	0.06	0.1
Accuracy class	2 or 3 per EN 1434					
Ratio q_i /q_p	1:50	1:125	1:100	1:125	1:100	1:100
Maximum flow q_s in m³/h (short-term)	1.2	3	5	7	12	20
Start-up value in m³/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 m³/h at 0.1 bar pressure loss	1.1	1.7	2.3	2.4	4.2	9.5
Pressure loss at q_p in bar	0.03	0.13	0.12	0.21	0.2	0.11
kvs value (in m³/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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