

# PolluCom E Compact Heating / Cooling Meter



## Application

The compact meter PolluCom E is used for measuring energy consumption in heating or cooling circuits. Due to its high-precision flow sensor the application range reaches from district heating transfer stations to consumption billing for individual apartments.

Comprehensive 8 – digit LCD display - with adjustable masking

**Fast updating of measuring values (2 seconds for temperatures, 4 seconds for heating output and flow rate)**

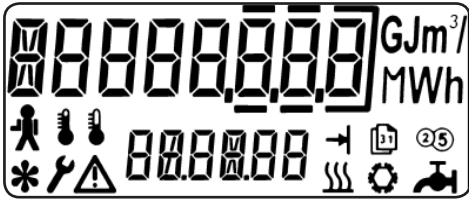
The following modules for remote reading and data communication are available:

- M-Bus according to EN 1434-3 with unlimited number of readouts
- M-Bus according to EN 1434-3 with two inputs for consumption meters with remote reading pulse output
- Integrated data logger
- Potential- and bounce-free remote reading pulses (1 kWh per pulse)

- ▶ MID approval in class 2 acc. to EN 1434 in any installation position except over head
- ▶ Temperature range of the flow sensor from 5 to 90 °C, thus also ideal applicability for so-called „6/12 °C chilling systems“
- ▶ Optionally available with removable integrator for narrow installation sites: PolluCom E/S with ca. 0.3 m connection cable
- ▶ Standard optical interface
- ▶ Tariff function for differentiated consumption billing (e.g. in dependency on heating output)
- ▶ Password protected parameter selections right on the meter itself without additional peripheral equipment
- ▶ Temperature sensors Pt 500 with overall length 45 mm / diameter 5.2 mm, also available in overall length 45 mm / diameter 5.0 mm as well as in type DS 27.5 according to EN 1434-2

# The Integrator

The integrator is equipped with a comfortable LC display with eight-digit main reading line and six-digit subordinate reading line. Moreover 12 additional symbols support the read-out.



Segment test

One of many comfortable features of this concept is the simultaneous display of stored consumption values together with the corresponding date – an important contribution to avoid read-out errors:



Example: monthly cooling energy

Where it is appropriate, the display shows additional letters in the six-digit subordinate line in order to increase the read-out comfort:



Example: M-Bus secondary address

The available display items are clearly structured in 6 menus and include essentially:

## L 1: User menu

- Accumulated consumptions
- Segment test
- Instantaneous items (heating resp. cooling output, flow, temperatures)
- Customer's reference number

## L 2: Target day menu

Consumption values at a programmable annual target day

## L 3: Archive menu

Rolling monthly storage of the following items for the last 16 months:

- Consumptions
- Volumina of the heating and cooling liquid resp.
- Maxima for heating resp. cooling output and flow
- Possible failure hours

## L 4: Service menu

- Maximum values since operational start-up
- Date and time
- Next target day
- Operation days
- M-Bus addresses

## L 5: Control menu

- Set tariff parameters
- Switch-over point between heating and cooling energy metering
- Correction factor in case of using water-antifreezer-mixture

## L 6: Parameter menu

This is the menu where, among other possibilities, the following items can be set right on the meter itself (password protected):

- M-Bus addresses
- Customer's reference number
- Date and time
- Next target date
- Reset of maximum values

# The Optional Modules

---

For electronic meter reading and connection with building automation systems a series of factory fittable optional modules are available for PolluCom E:

## M-Bus according to EN 1434-3

By this option the meter can be read out via its primary or secondary address with a M-Bus level converter (300 and 2400 Baud, automatic recognition). The secondary address is preset in the factory to the eight-digit meter serial number. In case of need both M-Bus addresses can be reset right on the meter itself. Because of the short time of only 4 seconds for updating energy and flow values our PolluCom E is excellently suitable for connection to district heating control stations.

Suitable read-out software:

DOKOM CS (leaflet LS 1300)

Suitable read-out hardware:

See leaflet LS 1100

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

This option allows the connection of up to two external consumption meters with passive remote reading pulse output, e.g. one cold and one hot water meter. The consumptions of those meters can then be read out via the M-Bus interface of PolluCom E.

Required pulse duration: > 125 ms

Pulse input frequency: < 3 Hz

Terminal voltage: 3 V

## Remote reading pulses

This option provides potential- and bounce-free remote reading pulses, which can be summed up with a telecounter:

|                |               |
|----------------|---------------|
| Pulse valency: | 1 kWh         |
| Closing time:  | 125 ms        |
| Bounce time:   | none          |
| Max. voltage:  | 28 V DC or AC |
| Max. power:    | 0,1 A         |

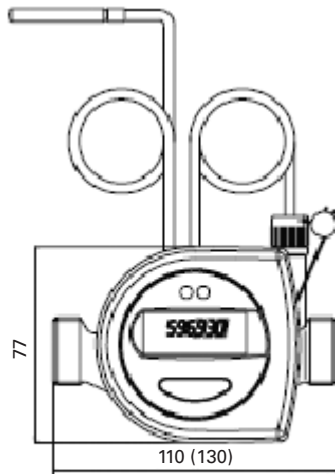
## Integrated data logger

By this option the following items are stored in a selectable time interval (3 to 1440 minutes):

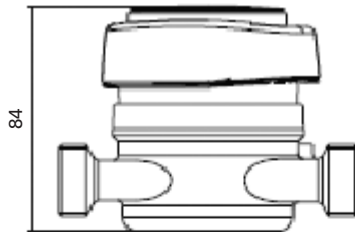
- Consumption (incl. tariff consumption and, if applicable, consumptions of the two external meters)
- Volume of the heating and cooling liquid resp.
- Flow of the heating and cooling liquid resp.
- Heating and cooling output resp.
- Temperature in the warmer pipe
- Temperature in the colder pipe
- Temperature difference
- Possible failure hours

# Technical Data

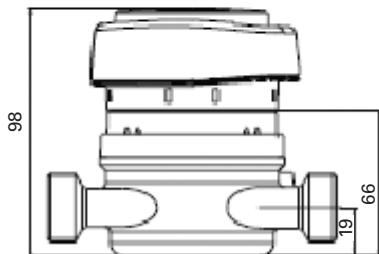
## Dimensional drawings



Front view



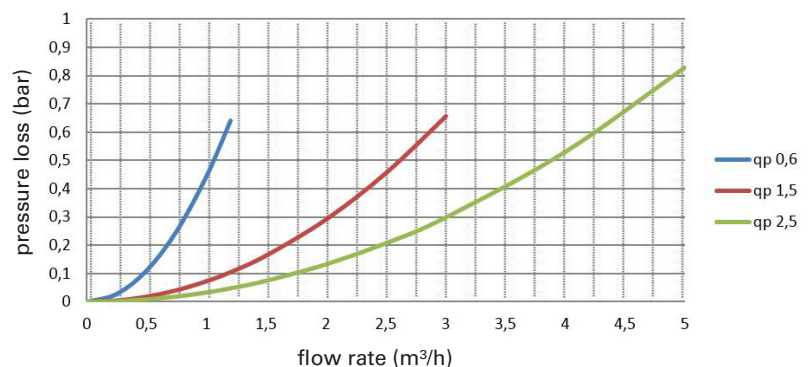
Side view PolluCom E



Side view PolluCom E/S

| Meter size   | q <sub>p</sub> 0.6  | q <sub>p</sub> 1.5              | q <sub>p</sub> 2.5              |
|--|---|---------------------------------|---------------------------------|
| Nominal flow q <sub>p</sub> in m <sup>3</sup> /h   | 0.6   | 1.5                             | 2.5                             |
| Minimum flow q <sub>i</sub> m <sup>3</sup> /h according to approval in m <sup>3</sup> /h | 0.006   | 0.015                           | 0.025                           |
| Accuracy class   | 2 or 3 acc. to EN 1434  |                                 |                                 |
| Ratio q <sub>i</sub> /q <sub>p</sub>   | 1:25, 1:50 or 1:100   |                                 |                                 |
| Maximum flow q <sub>s</sub> in m <sup>3</sup> /h (short-term)                            | 1.2   | 3                               | 5                               |
| Starting flow in m <sup>3</sup> /h (average value)                                       | 0.0015  | 0.0025                          | 0.003                           |
| Temperature measuring range  | 5 ... 150 °C<br>(-20 ... 150 °C for waterantifreezer liquids, uncalibrated) |                                 |                                 |
| Temperature difference range   | 3 ... 100 K   |                                 |                                 |
| Cut-out threshold  | 0.15 K  |                                 |                                 |
| Permissible temperature in the flow sensor   | 5 ... 90 °C   |                                 |                                 |
| Flow rate at 0.1 bar head loss in m <sup>3</sup> /h                                      | 0.5   | 1.2                             | 1.7                             |
| Head loss at q <sub>p</sub> in bar   | 0.15  | 0.17                            | 0.21                            |
| kvs-value (flow rate at 1 bar head loss in m <sup>3</sup> /h)                            | 1.53  | 3.65                            | 5.45                            |
| Permissible working pressure in bar  | 16  |                                 |                                 |
| Overall length in mm   | 110   | 110                             | 130                             |
| Nominal diameter   | R <sup>1</sup> / <sub>2</sub> "   | R <sup>1</sup> / <sub>2</sub> " | R <sup>3</sup> / <sub>4</sub> " |
| Connection thread  | G <sup>3</sup> / <sub>4</sub> B   | G <sup>3</sup> / <sub>4</sub> B | G1B                             |
| Connection cable length of split meters  | PolluCom E/S, EX/S: ca. 0.3 m   |                                 |                                 |
| Weight in kg   | ca. 0.8   | ca. 0.8                         | ca. 0.86                        |
| Permissible environmental temperature  | 5 ... 55 °C   |                                 |                                 |
| Electromagnetic Environmental Condition  | Class E 1   |                                 |                                 |
| Mechanical Environmental Condition   | Class M 2   |                                 |                                 |
| Protection   | IP 54   |                                 |                                 |
| Storage temperature  | -20 ... 65 °C   |                                 |                                 |
| Relative humidity  | < 90 %  |                                 |                                 |
| Battery lifetime for PolluCom E, EX, E/S, EX/S   | 6 years   |                                 |                                 |
| Battery lifetime for PolluCom E/S 10, EX/S 10  | 10 years  |                                 |                                 |

## Head Loss Curve



**qualityaustria**  
Succeed with Quality

Certified according to ISO 9001  
Quality Management System Quality Austria Reg.no. 3496/0

### UK & Ireland Enquiries

Sensus UK Systems Ltd, 3 Lindenwood Crockford Lane, Chineham Business Park  
Basingstoke RG24 8QY UK  
T: +44 (0) 1256 372800 F: +44 (0) 1256 707203 Email: info.gb@xyleminc.com [www.sensus.com](http://www.sensus.com)

### International Enquiries

Sensus GmbH Ludwigshafen, Industriestrasse 16, 67063 Ludwigshafen Germany  
T: +49 (0) 621-6904-0 F: +49 (0) 621-6904-1409 Email: info.int@xyleminc.com [www.sensus.com](http://www.sensus.com)