

## PolluCom® F

### Compact Heating / Cooling Meter

The compact meter PolluCom® F 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.

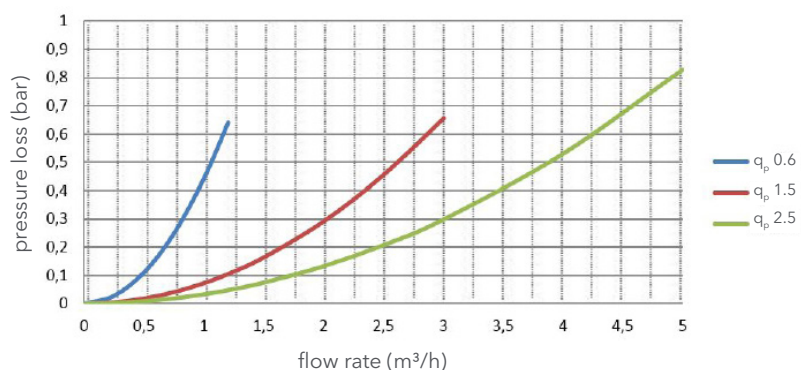
Comprehensive 8 - digit LC display - with adjustable masking

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

#### APPLICATION

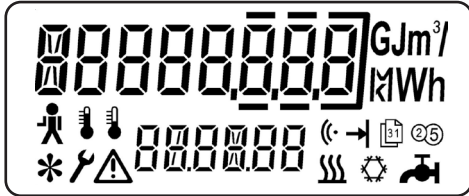
- MID approval in class 2 acc. to EN 1434 in any installation position except head down
- Temperature range of the flow sensor from 5 to 90 °C, thus also ideal applicability for so-called „6/12 °C cooling systems“
- Optionally available with removable calculator for narrow installation sites: PolluCom® F/S C 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
- Temperature sensors Pt 500 with overall length 45 mm / diameter 5.0 mm as well as in type DS 27.5 according to EN 1434-2
- M-Bus according to EN 1434-3 with unlimited number of readouts with configurable user M-Bus telegram
- Certified wireless M-Bus according to OMS standard Volume 2, Issue 4.0.2
- M-Bus according to EN 1434-3 with two inputs for consumption meters with remote reading pulse output
- Integrated data logger with 1200 hours, 120 days, 120 months, 500 events and 500 changes tracking
- Potential- and bounce-free remote reading pulses (1 kWh per pulse)

#### Head Loss Curve



### Calculator

The calculator is equipped with a comfortable LC display with eight-digit main reading line and six-digit subordinate reading line. Moreover 13 additional symbols support the read-out.



Segment test

One of many comfortable features of this design 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
- Volume of the heating and cooling liquid resp.
- Maximum value 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 and M-Bus telegram selection (One, One Plus, All, User)
- Customer's reference number
- Date and time
- Next target date
- Reset of maximum values
- Wireless M-Bus switch on/off (if available)

# PolluCom® F

## Compact Heating / Cooling Meter

### Application

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

#### M-Bus according to EN 1434-3

With this option the meter can be read out via its primary or secondary address with an M-Bus level converter (maximum Baud rate up to 38400. From those baud rates 300 and 2400 Baud are with automatic recognition).

The secondary address is pre-set 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® F is excellently suitable for connection to district heating control stations.

#### Suitable read-out software:

DOKOM CS (further information in the Dokom CS datasheet)

#### Suitable read-out hardware:

See M-Bus datasheet

#### Wireless M-Bus OMS

With this option the meter has a built-in wireless M-Bus communication, Mode T1 or Mode C1 according to EN13757 and OMS specification can be selected.

The wireless M-Bus of the meter is certified by OMS group according to OMS Specification, Volume 2, Issue 4.0.2 to ensure the best interoperability.

Mode C1 is used in connection with our reading software Diavaso for walk-by/drive-by meter reading.

Mode T1 is used in connection with OMS-based stationary networks.


There are three different data packages for the T1 and C1 mode:

- Long telegram data package
- Short telegram data package
- Very short telegram data package

Detailed information on the above mentioned packages can be found in the PolluCom® F Communication Interface manual.

The radio function will be activated by one of the following steps:

- Manually by pressing the button of the PolluCom® F for 5 sec for the initial activation
- Manually by setting a date
- Optically with the MiniCom 3 software
- Automatically after 100 liter volume

After successful activation the radio symbol  will appear on the LCD display.

#### 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 M-Bus interface of PolluCom® F.

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 pulse counter:

Pulse valency:	1 kWh
Closing time:	125 ms
Bounce time:	nona
Max. voltage:	28 V DC or AC
Max. power:	0.1 A

#### Integrated data logger

PolluCom® F has an integrated data logger with recording 1200 hours, 120 days, 120 months value. Additionally it records 500 events and 500 errors.

The following items are stored in a selected 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
- Possible failure hours

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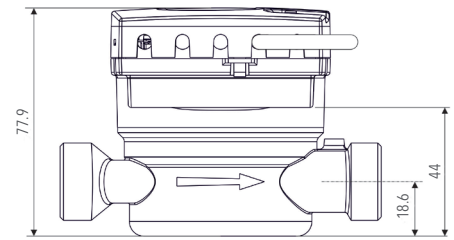
## Compact Heating / Cooling Meter

### TECHNICAL DATA

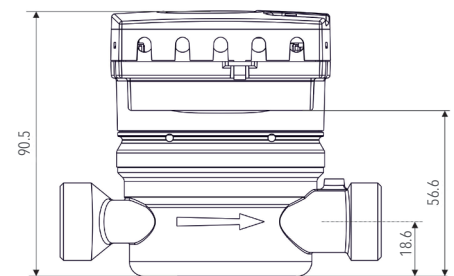
Meter size	$q_p$ 0.6	$q_p$ 1.5	$q_p$ 2.5
Nominal flow $q_p$ in m <sup>3</sup> /h	0.6	1.5	2.5
Minimum flow $q_i$ m <sup>3</sup> /h according to approval in m <sup>3</sup> /h	0.006	0.015	0.025
Accuracy class	2 or 3 acc. to EN 1434		
Ratio $q_i/q_p$	1:25, 1:50 or 1:100		
Maximum flow $q_s$ in m <sup>3</sup> /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 ... 105 °C (-20 ... 105 °C for water-antifreeze-liquids, not calibrated)		
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 $q_p$ 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	R½"	R½"	R¾"
Connection thread	G¾B	G¾B	G1B
Connection cable length of split meters	PolluCom® F/S C, FX/S C: 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® F, FX, F/S C, FX/S C	8 years (for a standard configuration)*		

\* assumption based on 2 years storage time + 6 years active measuring mode. High ambient temperatures generally have a negative impact on the battery lifetime

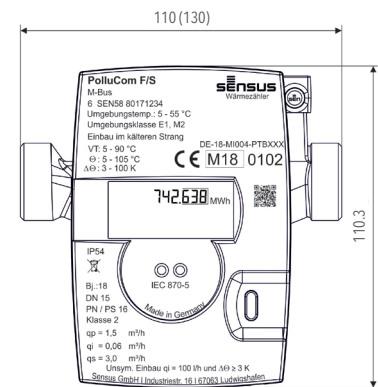
### Dimensional drawings



Compact device



Split device



**xylem**

Xylem.com | Sensus.com

UK & Ireland Inquiries | Sensus UK Systems Ltd. | 3 Lindenwood Crockford Lane, Chineham Business Park | Basingstoke RG24 8QY UK | +44 1256 372800 | [info.gb@xylem.com](mailto:info.gb@xylem.com)

International Inquiries | Sensus GmbH Hannover | Meineckestr. 10 | 30880 Laatzen | Germany | +49 5102 743177 | [info.int@xylem.com](mailto:info.int@xylem.com)

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