

PolluCom F/S C

Heat/Cooling Meter



Properties

- MID Class 2 approval according to EN 1434 for any installation (except overhead)
- With integrated radio – cost-effective, legally compliant, certified radio function, and data protection processes
- Temperature range of the flow sensor from 5 to 90 °C, thus also suitable for use in “6/12°C refrigeration systems”
- With removable calculator for installation locations with limited space: PolluCom F/S C with connection cable about 0.3 m long.
- Standard optical data interface according to IEC870-5
- Tariff function for differentiated consumption calculations (e.g., depending on the heat output)
- Password-protected parameter settings directly on the meter without the need for additional peripheral devices
- PT500 temperature sensor:
 - Standard:
Design length 45 mm/Ø 5.2 mm
 - Optional:
Design length 45 mm/Ø 5.0 mm
Design type DS 27.5 mm according to EN1434

The PolluCom F/S C measuring capsule meter is used for measuring energy consumption in heating or cooling circuits. Thanks to its high-precision flow sensor, the range of applications ranges from the district heating transfer station to calculating residential consumption.

It is equipped as standard with integrated wM-Bus OMS Profile A Version 5 or Profile B Version 7.

Key management is regulated by Sensus through a GDPR and BSI certified customer portal.

The following additional modules for remote reading and data communication are available as options (factory installed, cannot be retrofitted):

- M-Bus according to EN 1434-3 with any readout frequency, configurable M-Bus telegram
- Wireless M-Bus OMS Profile A Version 5 or Profile B Version 7 with two inputs for consumption meters with remote counting pulse output
- M-Bus according to EN 1434-3 with two inputs for consumption meters with remote counting pulse output
- Integrated data logger for displaying 1200 hour, 120 day, 120 month values, 500 events and 500 changes
- Potential and bounce-free remote counting pulses (1 kWh per pulse)

Compatibility

PolluCom F/S C **RA** – directly compatible with Allmess measuring capsule counters

- Integral MK MaXX
- CF Compact MK
- CF sensor MK

PolluCom F/S C **RI** – directly compatible with Ista coaxial meter

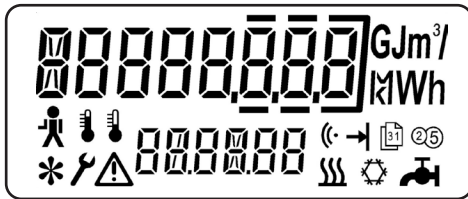
- Sensonic II

PolluCom F/S C **RT** directly compatible with Techem coaxial meter

- Vario S

Calculator

The calculator is equipped with a comfortable LC display with eight-digit main reading line and six-digit subordinate reading line. Furthermore, a total of 13 special characters can be displayed.



Segment test

One of the many useful features of this concept is the simultaneous presentation of the archived consumption values with the assigned date - an important contribution to avoid read-out errors:



Example: Monthly value for cooling energy

In addition, words are displayed with the aid of the six-digit sub-display in order to further improve the ease of reading.



Example: M-Bus secondary address

The available display positions are clearly structured in 6 levels and essentially contain:

L 1: User menu

- Cumulative consumption
- Segment test
- Current values (heating or cooling capacity, flow rate, temperatures)
- Customer-specific number

L 2: Target day menu

Consumption values at a programmable annual reporting date

L 3: Archive menu

Rolling monthly storage of the following values for the last 18 months:

- Consumption
- Volumes of heating and cooling medium
- Maximum for heating or cooling capacity and flow rate
- Possible absence hours

L 4: Service menu

- Maximum values since start of operation
- Date and time
- Next cut-off date
- Days of operation
- M-Bus address

L 5: Control menu

- Set tariff parameters
- Switching point between heat and cold counting
- Correction factor when using anti-freeze protection mixtures

L 6: Parameter menu

The following values, among others, can be set directly on the meter here (password protected):

- M-Bus addresses and M-Bus telegram selection (One, One Plus, All, User)
- Customer-specific number
- Date and time
- Next cut-off date
- Reset of maximum values
- Turn on the wireless M-Bus (if any)

Standard version with integrated wM-Bus

Wireless M-Bus OMS

The measuring device features integrated wireless M-Bus communication, with Mode T1 or Mode C1 selectable according to EN 13757 and OMS specification.

The wireless M-Bus is certified by the OMS group according to OMS specification, Volume 2 and Edition 4.0.2, to fully comply with the requirements of the EED regarding interoperability, radio function, and data protection.

C1 mode is used in conjunction with our Diavaso reading software for walk by/drive by (e.g. basic package).

T1 mode is used in conjunction with OMS-based stationary networks (e.g. AMR-2-AMI Bridge).

There are three different data packets for T1 and C1 mode:

- Long telegram data packet
- Short telegram data packet
- 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 is activated by one of the following steps:

- Manually by pressing the button of the PolluCom F/S C for 5 seconds for initial activation
- Manually by setting a date
- Optically with the MiniCom 3 software
- Automatically after 100 liters of volume

After successful activation, the radio symbol  appears in the LC display.

Communication options

For electronic meter reading and connection to building automation systems, PolluCom F/S C offers a range of factory integrated communication options.

M-Bus according to EN 1434-3

This option allows the meter to be read via its primary or secondary address with an M-Bus level converter (Maximum baud rate up to 38400. Among these, the baud rates of 300 and 2400 baud have automatic detection).

The secondary address is factory set with the eight-digit meter serial number. If necessary, both M-Bus addresses can be changed directly on the meter.

Thanks to the short update time for power and flow values of only 4 seconds, the PolluCom F/S C is ideally suited for connection to district heating stations.

Suitable M-Bus reading software:

DOKOM CS (for further information, see the Dokom CS data sheet)

Suitable M-Bus readout hardware:

See data sheet for the M-Bus system

wM-Bus or M-Bus with two inputs for external consumption counter

This option allows the connection of up to two external consumption meters with passive remote counter output, e.g., a cold water meter and a hot water meter. The consumption of these meters can then be read via the M-Bus interface of PolluCom F/S C.

Required pulse length:	> 125 ms
Pulse input frequency:	< 3 Hz
Terminal voltage:	3 V

Remote counting pulse

This option provides potential-free and bounce-free remote counter pulses that can be added up with a remote counter:

Pulse value:	1 kWh
Closing time:	125 ms
Bounce time:	none
Max. Voltage:	28 V CC or AC
Max. Current:	0.1 A

Integrated data logger

PolluCom F/S C has an integrated data logger with a recording capacity of 1200 hours, 120 days, 120 months, plus 500 events and 500 errors.

The following values are stored at a selected time interval (3...1440 minutes):

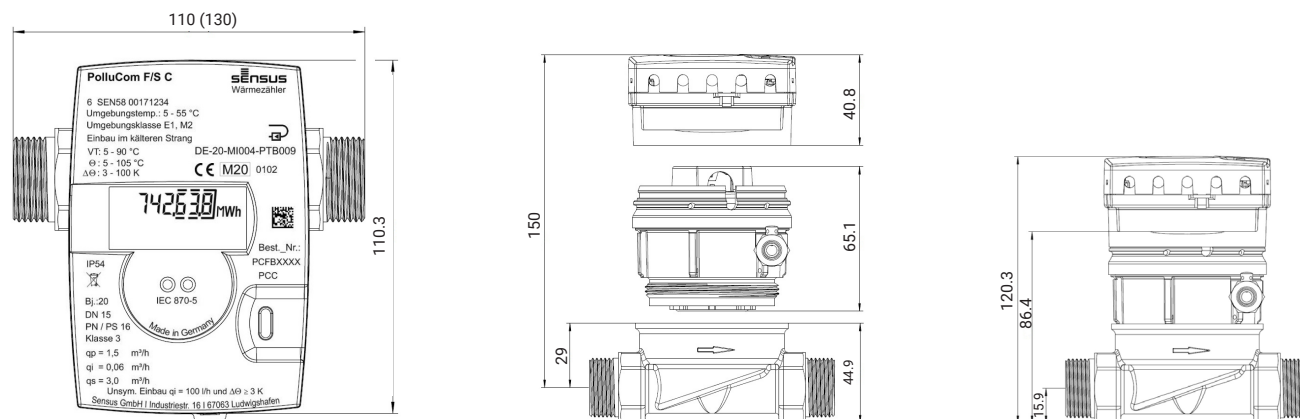
- Energy consumption (including tariff consumption) and, if applicable, the consumption of the two external meters
- Volume of heating or cooling medium
- Flow rate of the heating or cooling medium
- Heating or cooling capacity
- Temperature in the warmer pipe
- Temperature in the colder pipe
- Temperature difference
- Possible error hour

Technical data

Version	PolluCom F/S C (marking: PCC)			PolluCom F/S C RA (marking: A34)		
Size designation	q _p 0.6	q _p 1.5	q _p 2.5	q _p 1.0	q _p 1.5	q _p 2.5
Rated flow q _p in m³/h	0.6	1.5	2.5	1.0	1.5	2.5
Minimum flow rate q _i m³/h	0.006	0.015	0.025	0.010	0.015	0.025
Accuracy class	2 or 3 in accordance with EN 1434					
Ratio q _i / q _p	1:100					
Maximum flow q _s in m³/h (short-term)	1.2	3	5	2	3	5
Starting flow in m³/h (average value)	0.0015	0.0025	0.003	0.025	0.0025	0.003
Temperature measurement range	5 ... 150 °C (-20 – 150 °C for Anti-freeze protected media, uncalibrated)					
Temperature difference range	3– 100 K					
Switch-off limit	0.15 K					
Permissible temperature in the flow sensor	5 ... 90 °C (short-term: 110 °C)					
Let-through value at 0.1 bar pressure loss in m³/h	0.5	1.2	1.7	0.9	1.2	1.6
Pressure loss at q _p in bar	approx. 0.15	approx 0.17	approx 0.21	0.13	0.16	0.24
kvs value (permeable value at 1 bar pressure loss in m³/h)	1.53	3.65	5.45	2.8	3.8	5.1
Permissible operating pressure in bar	16					
Connection thread	M 60 x 2	M 60 x 2	M 60 x 2	M77 x 1.5	M77 x 1.5	M77 x 1.5
Length of connection cable for split device	approx. 0.3 m					
Permissible ambient temperature	5 ... 55 °C					
Environment class	C according to EN 1434					
Electromagnetic class	Class E 1					
Mechanical class	Class M 2					
Degree of protection	IP 54					

Dimensional drawing

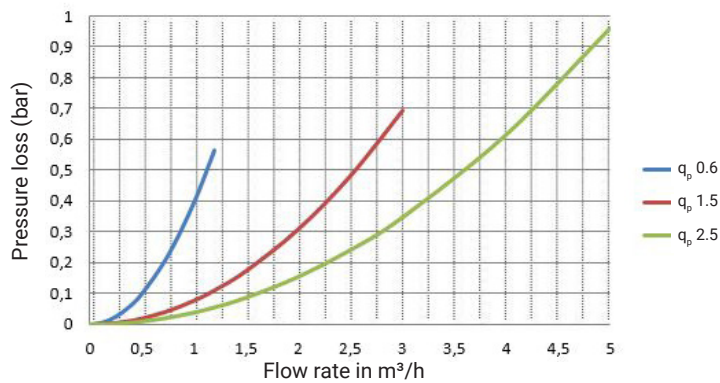
PolluCom F/S C



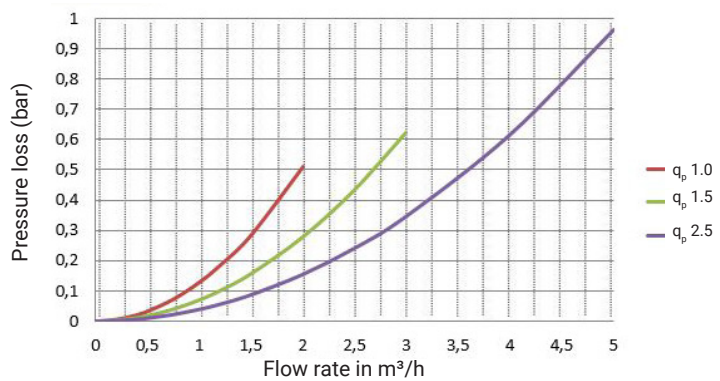
Technical data

Version	PolluCom F/S C RI (marking: IST)			PolluCom F/S C RT (marking: TE1)		
Size designation	q _p 0.6	q _p 1.5	q _p 2.5	q _p 0.6	q _p 1.5	q _p 2.5
Rated flow q _p in m³/h	0.6	1.5	2.5	0.6	1.5	2.5
Minimum flow rate q _i m³/h	0.006	0.015	0.025	0.006	0.015	0.025
Accuracy class	2 or 3 in accordance with EN 1434					
Ratio q _i / q _p	1:100					
Maximum flow q _s in m³/h (short-term)	1.2	3	5	1.2	3	5
Starting flow in m³/h (average value)	0.0015	0.0025	0.003	0.0015	0.0025	0.003
Temperature measurement range	5 ... 150 °C (-20 – 150 °C for anti-freeze protected media, uncalibrated)					
Temperature difference range	3– 100 K					
Switch-off limit	0.15 K					
Permissible temperature in the flow sensor	5 ... 90 °C (short-term: 110 °C)					
Let-through value at 0.1 bar pressure loss in m³/h	0.5	1.0	1.6	0.5	1.0	1.6
Pressure loss at q _p in bar	0.14	0.22	0.24	0.14	0.21	0.24
kvs value (permeable value at 1 bar pressure loss in m³/h)	1.6	3.2	5.1	1.6	3.3	5.1
Permissible operating pressure in bar	16					
Connection thread	G2"	G2"	G2"	M62 x 2	M62 x 2	M62 x 2
Length of connection cable for split device	approx. 0.3 m					
Permissible ambient temperature	5 ... 55 °C					
Environment class	C according to EN 1434					
Electromagnetic class	Class E 1					
Mechanical class	Class M 2					
Degree of protection	IP 54					

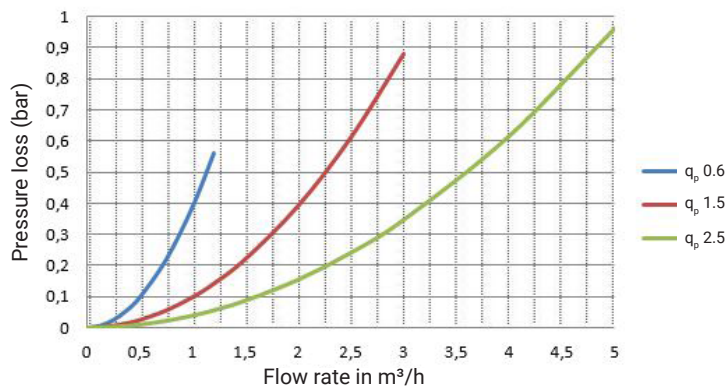
Pressure loss curves



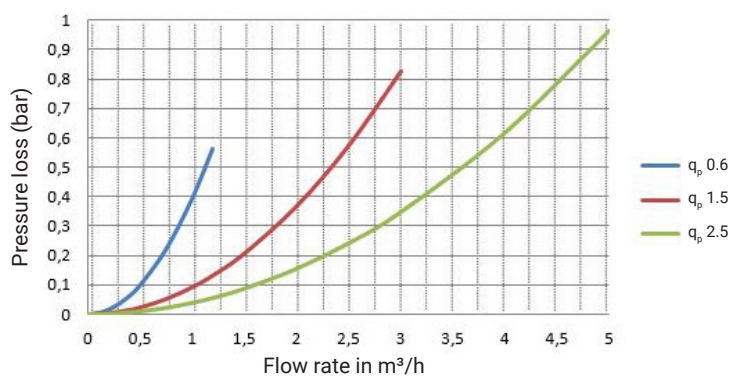
PolluCom F/S C RT



PolluCom F/S C RA



PolluCom F/S C RI



PolluCom F/S C RT