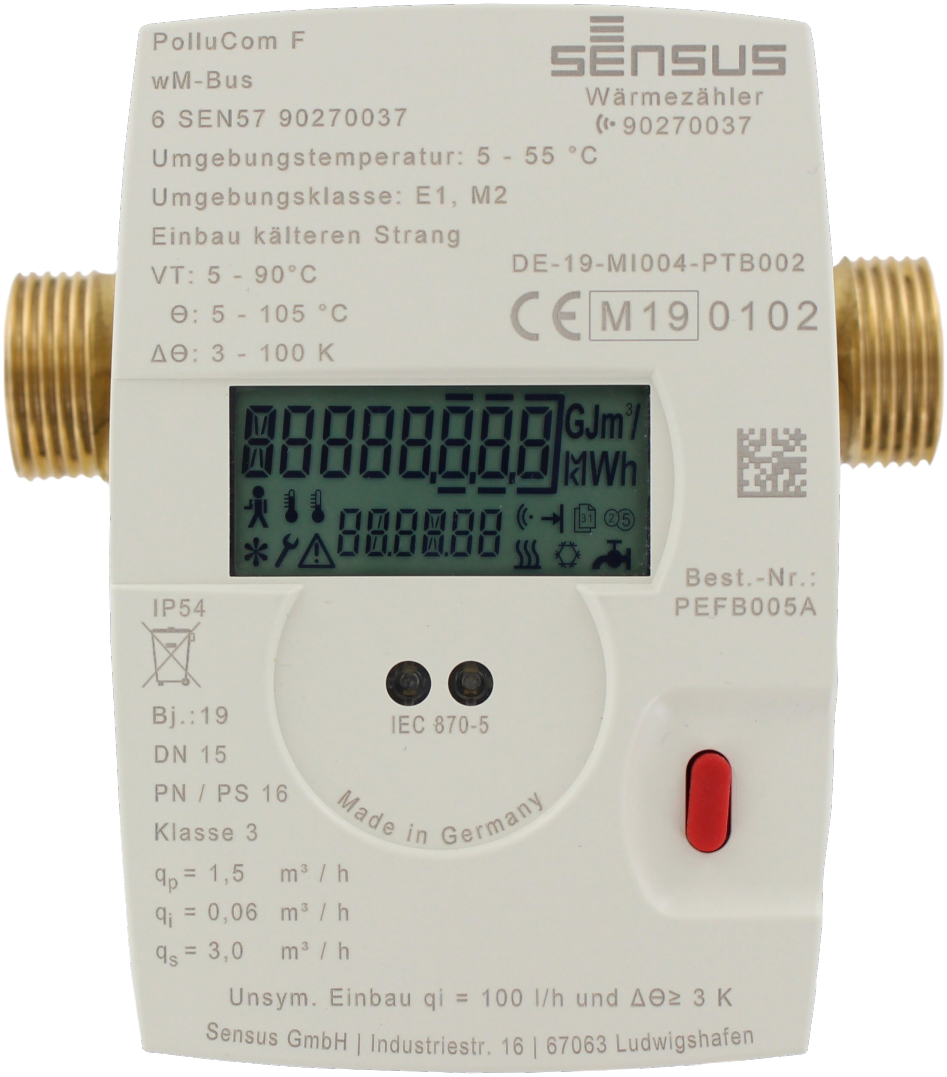
sensus
a xylem brand



PolluCom® F
Installation and Operating Instruction

Radio data decryption

The data that is transmitted by radio is encrypted to prevent unauthorized access. To decrypt the radio data, the appropriate radio key (KEY) is required.

How to obtain the radio key

There is a visible QR code on the bonnet of the meter. This code contains an Internet address and a so-called token (=process number with server connection). This token is not the actual radio key, but is used to provide the radio key to only authorized authenticated persons. The QR code can be scanned with any suitable device, e.g. a smartphone, using a QR app. The internet link leads to the website with the token. If you do not have a customer account yet, please create one.
The actual key will be accessible via this website after successful authentication. If no meter to add is displayed after registering the customer account or logging in to the account, please scan the QR code and open the included link again.
The radio key is only available to the authenticated user and is blocked against further access by third parties.

Example of a token

If the token cannot be assigned or if the meter has already been registered elsewhere, a new activation can only be achieved by a corresponding request to the Sensus Service Team (recoverkey@xylem.com).
To avoid this, it is recommended to keep the bonnet surface clean to ensure further protection of the data and to enable secure radio reading.

Note: Radio key and QR code are different for each meter!

Our compact meter PolluCom® F is used for measuring energy consumption in plants carrying water as heating or cooling liquid. The use of water with antifreeze additive is possible with PolluCom F® in non-calibrated design and programmed correction factor.
These installation and operation instructions specify how to install and operate our compact meter PolluCom® F and its variants. The instructions are an essential part of the supplied items and must be handed over to the final user.

Contents

Supplied items

- PolluCom® F
- 2 gaskets
- Sealing material
- Half shell screw mounting kit
- Additionally for versions with removable integrator: 1 wall adapter
- Immersion sleeve marking set
- These installation instructions

1. General information

Purpose of this document

These instructions contain information that you will require to commission and use the device. Read these instructions carefully prior to installation and commissioning. In order to use the device correctly, first make yourself acquainted with its principle of operation. The instructions are aimed both at persons mechanically installing the device, connecting it electronically, configuring the parameters and commissioning it as well as service and maintenance engineers.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation for the specific task. Qualified personel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products and provide an appropriated installation and use of the products/systems.

Trademarks

All names identified by ® (e.g. PolluCom®) are registered trademarks of the Sensus Spectrum LLC, Raleigh. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Notes on Warranty

The contents of these instructions shall not become part of or modify any prior or existing agreement, commitment or legal relationship. All obligations on the part of Sensus GmbH Ludwigshafen (and its affiliated entities) are contained in the respective sales contract, which also contains the complete and solely applicable warranty conditions. Any statements on the device versions described in the instructions do not create new warranties or modify the existing warranty. The content reflects the technical status at the time of printing. We reserve the right to make technical changes in the course of further development without further notice.

Recycling

Devices described in these instructions can be recycled. Please contact a certified waste disposal company for eco-friendly recycling and disposal. This product contains a lithium Ion battery. In the interest of protecting the environment, this

battery may not be disposed in household waste after its period of use. The local and national regulations for environmental protection are to be considered.

2. Technical data

Meter size	q_p 0.6	q_p 1.5	q_p 2.5
Nominal flow rate q_p in m³/h	0.6	1.5	2.5
Minimum flow rate q_i in m³/h	0.006	0.015	0.025
Accuracy class	3 resp. 2 acc. to EN 1434		
Ratio q_i/q_p	1:25, 1:50 or 1:100		
Maximum flow rate q_s in m³/h (short-term)	1.2	3	5
Starting flow rate in m³/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-off threshold	0.15 K		
Measuring cycles	Temperature: 4 sec Flow rate and power: 4 sec Energy and volume: 4 sec		
Allowable temperature in the flow sensor	5 ... 90 °C		
Flow rate at 0.1 bar pressure loss in m³/h	0.5	1.2	1.7
Pressure loss at q_p in bar	0,15	0,17	0,21
k_{vs} value (flow rate at 1 bar pressure loss in in m³/h)	1.53	3.65	5.45
Allowable working pressure in bar	16		
Length in mm	110	110	130
Nominal diameter	R ½“	R ½“	R ¾“
Connection thread	G ¾ B	G ¾ B	G 1 B
Length of connection cable of split meters	PolluCom® F/S, FX/S: ca. 0.3 m		
Allowable ambient temperature	5 ... 55 °C		
Electromagnetic Environmental Condition	Class E 1		
Mechanical Environmental Condition	Class M 2		
Protection class	IP 54		
Battery lifetime for PolluCom® F, FX, F/S, FX/S	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

3. Important directions

Applied standard: EN 1434, parts 1, 3 and 6

- Heating and cooling meters are measuring instruments, which have to be handled with utmost care. In order to protect them against damage and soiling only remove their package immediately they will be installed. The meter must not be carried by the cable. For cleaning purposes use nothing else but a cloth moistened with water.
- If more than one heat meter are to be used in the same billing unit, choose the same meter types and fitting positions in order to achieve the fairest possible billing of heat consumption.
- Take care that PolluCom® F and immersion ball valve are perfectly installed, otherwise there might be the danger of being scalded by leaking of heating liquid. For the same reason close the stop cocks first of all before removal.
- Subject to manufacturing conditions the brass connection threads might be sharp-edged. Therefore we recommend wearing protection gloves.
- The meter contains a lithium battery. This battery must not be opened, be short-circuited or exposed to water or temperatures exceeding 80 °C. Empty batteries, electronic instruments or components are special refuse and have to be disposed of at suitable collection centres.

4. Required tools

Meters with DN 15 screw connection: fork wrench SW 25, 32

Meters with DN 20 screw connection: fork wrench SW 31/37

Fork wrench SW14 for screw plug M10x1

MID starter kit, consisting of fitting piece and 3 special ball valves

- Order no. 68505006 (R½“ 110 mm) for q_p 0.6-1.5
- Order no. 68505007 (R¾“ 130 mm) for q_p 2.5

5. Installing the meter

Our PolluCom® F can be used as a heat meter as well as a cooling meter. Therefore the following terms are used in the text hereinafter:

Return pipe of heating plants: **colder pipe**
Supply pipe of heating plants: **warmer pipe**

Return pipe of cooling plants: **warmer pipe**
Supply pipe of cooling plants: **colder pipe**

Install our PolluCom® F in the colder pipe. For installation in the warmer pipe the version PolluCom® FX is available.

Cooling plants – due to possible condensation – require the versions PolluCom® F/S or EX/S, which are equipped with removable integrator. Remove the integrator from the flow sensor (pulling upwards) and mount it at a suitable place by means of the supplied wall adapter.

Some of our PolluCom® F can also be used as a combined heat/cooling meter (hybrid meter PolluCom® F/S H and EX/S H), depending on the version. In this case the integrator must also be mounted separately. The switchover point between heat and cold metering can be changed with the MiniCom 3 service software if required.

The integrator of our PolluCom® F can be turned through approx. 330 degrees to a perceptible stop. Forced further turning causes the damage of internal parts and the expiry of warranty.

The flow direction of the heating or cooling liquid is shown by an arrow on the flow sensor. Additional straight pipes before or behind the meter are not required. The flow sensor and both temperature sensors are to be installed within the same circuit of the heating or cooling plant. Our PolluCom® F can be installed in horizontal position, horizontal position but inclined through max. 90 degrees, or in vertical position. Overhead mounting is not permitted. Before the flow sensor (or at another suitable point in the heating or cooling plant) a dirt trap is to be installed, as well as a stop cock before and behind the flow sensor, in order to be able to remove the meter after expiry of the verification period without being compelled to empty the pipeline.

Before installing the meter, rinse the pipeline thoroughly, remove the fitting piece (included in the MID starter kit) and then mount the meter using new gaskets.

Examples of installation

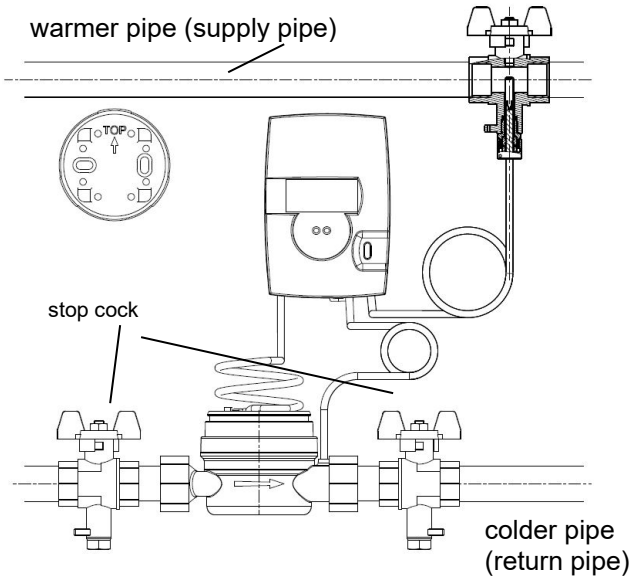


Fig. 1: PolluCom® F in a heating plant

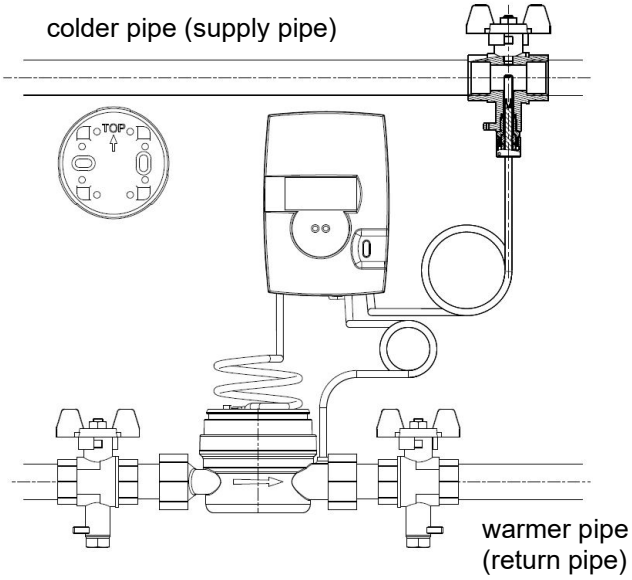
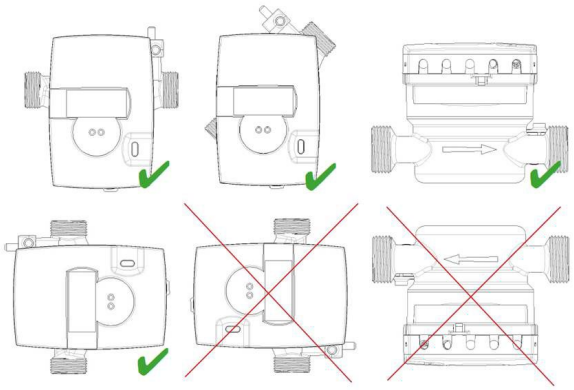


Fig. 2: PolluCom® FX/S in a cooling plant

Possible installation positions of the meter and calculator

The meter may be installed in all mounting positions, except over head. Please make sure that the calculator is correctly aligned.



6. Temperature sensor mounting

Depending on the design PolluCom® F either has one or two external temperature sensors. The standard cable length is approx. 1.5 m (special version: approx. 5 m and 10 m). If possible, a cable channel or empty tube should be used to lay the cable.
Joint laying in cable channels or on cable channels with network supply lines is not permitted. The minimum distance for low-voltage lines according to EN 1434, part 6, of 50 mm must be maintained.
After the temperature sensors have been installed, a plombation must be carried out in order to prevent tampering.

6.1 Installation in MID starter kit

Use our MID original equipment sets. These consist of special ball valves with temperature sensor intake M 10 x 1 with integrated union nuts and a fitting piece (see data sheet MH 1131). These MID original equipment sets are compatible with the temperature sensor types L = 45 mm/D = 5.2 mm and DS 27.5 and are suitable for delivery. EN 1434-2 can be used as a general installation policy. Please follow the country-specific guidelines that may be given.

6.2 Direct installation in heating or cooling liquid

For this type of installation you can use Sensus ball valves for instance. The ball valve is also used for shutting off the pipeline so that the temperature sensors can be removed without draining the pipe.

For detailed instruction on direct installation of temperature sensor please refer to Sensus instruction manual MH1131 (MID starter kit).

7. Display options

The various display options of our PolluCom® F are divided up into six menus. Depending on the version of the supplied meter and the display masking respectively, some of the display items marked with an asterisk (*) may be shielded. If required, the masking can be changed by means of the service software MiniCom 3 via the meter's optical interface. In normal condition the display switches on in intervals of 4 seconds and shows the accumulated heat consumption for one second. Depress the red key in order to activate the first display item of the user menu (accumulated heat consumption). Select the other five menus by depressing the red key for 5 seconds. The display shows the selection menu L1 to L6.

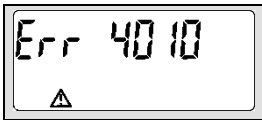
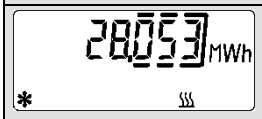
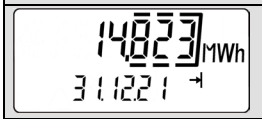
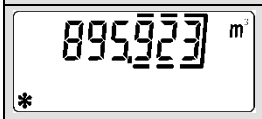
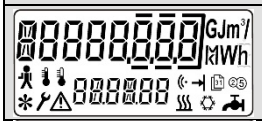
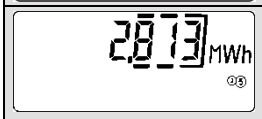
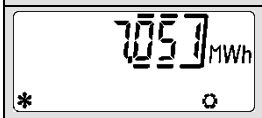
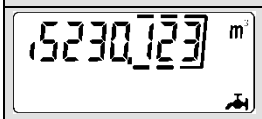
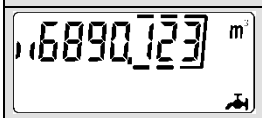
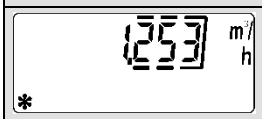
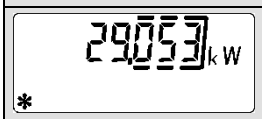
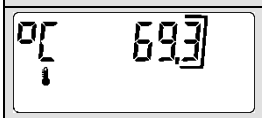
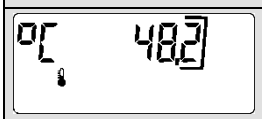
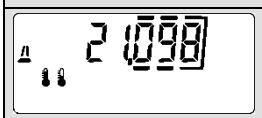
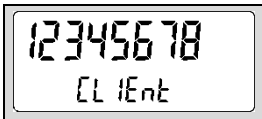
L1	**User menu**
L2	**Target date menu ***
L3	**Archive menu ***
L4	**Service menu**
L5 CtrL	**Control menu for tariff purposes ***
L6	**Parameter menu ***

Fig. 4: selection of display Menus

The above menus can sequentially be selected by shortly depressing the red key. As soon as the required menu is displayed depress the red key for 2 seconds in order to come to this menu. Each one of the separate display items of the menus is called up one after the other by shortly depressing the key. If the key is not operated for 4 minutes, the display returns by itself to the normal condition.

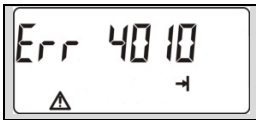
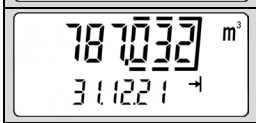
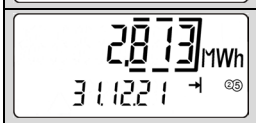
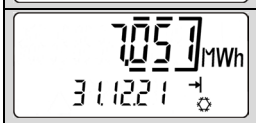
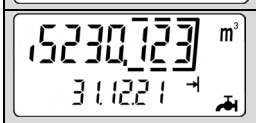
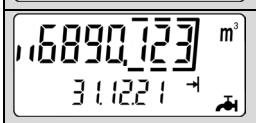
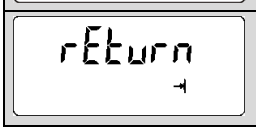
In all menus a blinking impeller symbol (left bottom display corner) shows that volume pulses are received.
The shown value figures are to be considered exemplarily.

7.1 User menu (L 1)

	Error message (only in case of error)
	Accumulated heat and/or cooling energy
	Target day consumption incl. corresponding date *
	Accumulated volume
	Segment test
	Pulse value of connected flow sensor *
	Tariff consumption 1 * (if activated)
	Cooling energy (only for hybrid meter version)
	Consumption external pulse meter1* (optional)
	Consumption external pulse meter2* (optional)
	Current flow rate of the heating or cooling medium
	Current heating or cooling capacity
	Temperature in warmer pipe *
	Temperature in colder pipe *
	Temperature difference *
	Customer's reference number *
	Primary M-Bus address (preset in factory to: 0) *
	Secondary M-Bus address (preset in factory to: meter serial number) *

7.2 Target day menu (L 2)

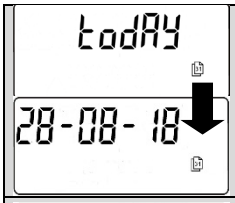
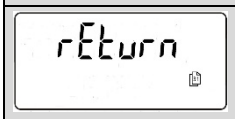
All display items are marked with an arrow symbol. Display of all stored consumption values on an adjustable annual target day.

	Error message (only in case of error)
	Target day consumption for heat and/or cooling energy *
	Target day consumption for volume *
	Target day consumption for tariff 1 (if activated) *
	Target day consumption cooling energy (only for hybrid meter version)
	Target day consumption for external pulse meter 1 (optional) *
	Target day consumption for external pulse meter 2 (optional) *
	Return to selection menu (depress for 2 seconds)

7.3 Archive menu (L 3)

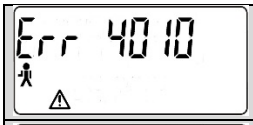
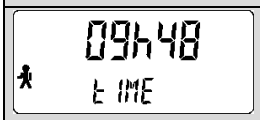
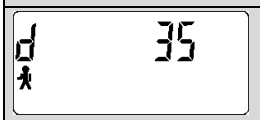
All display items are marked with a calendar sheet symbol. Starting from the current date, the consumption on the turns of the past 16 months is displayed (six-figure date in the format dd.mm.yy below the main display).

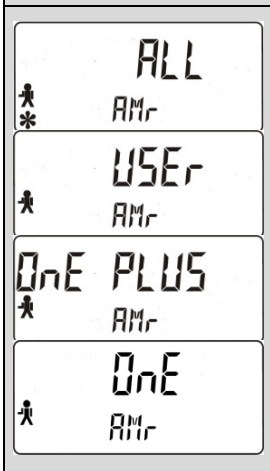
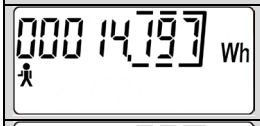
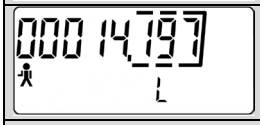
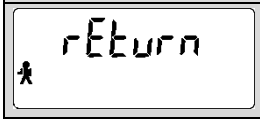
Moreover the maxima for flow and power are displayed for the current month (incl. date and time), here the word „today“ appears below the main display.

	Choosing the desired Month starting with today by short keystroke 16 months Backwards, then pushing the buttonfor 2 seconds **
	Monthly value energy *
	Monthly value volume *
	Monthly value tariff energy (if activated) *
	Monthly value cooling energy (if activated) *
	Consumption external pulse meter 1 (optional) *
	Consumption external pulse meter 2 (optional) *
	Maximum flow in selected month incl. date (average) *
	Maximum flow in selected month incl. time (average)*
	Maximum efficiency in selected month incl. date (average) *
	Maximum efficiency in selected month incl. time (average) *
	Hours of error condition *
	Return to month selection (depress for 2 seconds)

7.4. Service menu (L 4)

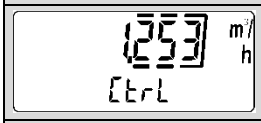
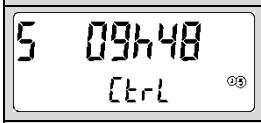
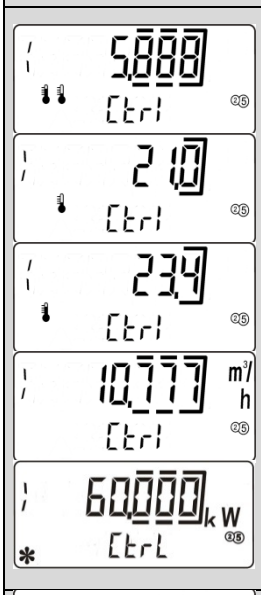
Each display item is marked with a man symbol. The service menu shows maximum values and settings.

	Error message (only in case of error)
	Absolute maximum flow incl. date *
	Absolute maximum flow incl. time *
	Absolute maximum efficiency incl. date*
	Absolute maximum efficiency incl. time *
	Absolute maximum temperature in warmer pipe incl. date *
	Absolute minimum temperature in warmer pipe incl.date *
	Absolute maximum temperature in colder pipe incl. date *
	Absolute minimum temperature in colder pipe incl.date *
	Current date *
	Current time *
	Next target day *
	Operating days *
	Regulated battery voltage

	Accumulated failure hours *
	Primary M-Bus address (preset in factory to: 0) *
	Secondary M-Bus address (preset in factory to: meter serial number) *
	Data communication mode (different length and structure of M-Bus protocol) *
	Version of firmware
	Checksum
	High-resolution energy display *
	High-resolution volume *
	Return to selection menu (depress for 2 seconds)

7.5 Control menu for tariff purposes (L 5)

Each display item is marked with the letters „CTRL“. Here the tariff functions can be set and controlled.

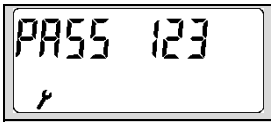
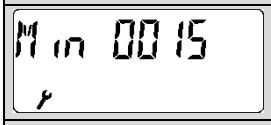
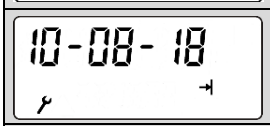
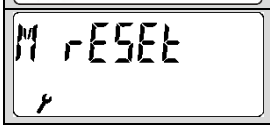
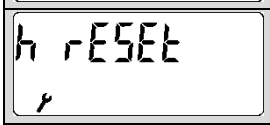
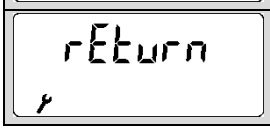
	Error message (only in case of error)
	Set averaging interval for flow and energy *
	Efficiency in current averaging interval *
	Flow in current averaging interval *
	Set tariff 1 start time (if activated,for tariff with start and end time) *
	Set tariff 1 finish time (if activated, for tariff with start and end time) *
	- Set temperature difference - Set temperature limit in warmer pipe - Set temperature limit in colder pipe - Set flow limit - Set energy limit (if activated, for value limited tariff) *
	If Tariff is not use, „off” will be shown*
	Switch-over temperature for cooling metering (if activated) *
	Switch-over point for negative temperature difference cooling metering (if activated) *
	Corrective factor for water-antifreezer-mixtures *
	Return to selection menu (depress for 2 seconds)

7.6 Parameter menu (L 6)

Each display item is marked with the tool symbol. This menu is protected by password. The passwork corresponds to the **last three digits** of the eight-digit serial number on the meter body. At first “000”

appears. Then depress the key for approx. 2 seconds, and the left cipher starts blinking. Change the value of the blinking digit by holding the key continuously depressed. Release the key as soon as the required value is shown. A short keystroke confirms the set value and switches to the next digit. Here repeat the same procedure. As soon as the last digit has been set, the menu will be released.

Now the required items can be selected by short keystroke, setting the values analogously to entering the password.

	Enter password *
	Set primary M-Bus address *
	Set secondary M-Bus address *
	Set customer's reference number *
	Set averaging interval for flow and efficiency *
   	Set data communication mode (One, All, One plus, User) *
 	Turn on or off the radio communication (if meter is equipped with radio module)
	Pulse valency of the first external meter (0.25 to 10.000 L/Imp.) *
	Pulse valency of the second external meter (0.25 to 10.000 L/Imp.) *
	Set date *
	Set time *
	Set target day *
	Reset absolute maxima *
	Reset failure hours *
	Return to selection menu (depress for 2 seconds)

8. Functional test, sealing

Open the stop cocks and test the installed units for leaks.

For checking purposes, the current values of flow, energy as well as supply and return flow temperature can be called to the display according to chapter 6.1.

In order to protect the meter against tampering, the supplied self-lock seals have to be applied to the following points:

- Union of the flow sensor
- insertion point of the separately installed temperature sensor (see also chapter 5)

9. Possible error situations

Our PolluCom® F is equipped with an automatic self-checking function. In case of error the display shows a four-digit info code in the format **„Err XYZW“** which can be decoded as follows:

X: maintaining a check on the temperature sensors

Y: maintaining a check on the integrator electronics and communication

Z: error statistics

W: error in measurement electronics

Example info code:

Code	Decoding
Err 2010	One or both temperature sensors is/are short-circuited
Err 4010	Cable failure of return pipe temperature sensor
Err 8010	Cable failure of supply pipe temperature sensor
Err 0022	Error in impeller scanning
Err 0200	Battery lifetime less than 6 months

With all listed errors except Err 0200, the device is defective and must be replaced.
With error Err 0200 the device continues to measure for max. 6 months and must be replaced promptly.

In case of other error situations please contact Sensus.

10. Optical interface and optional modules

10.1 Optical interface

All meters are equipped with an optical interface according to IEC 870-5. Baud rate is selectable from 300 to 9600. Via an optical data interface (with the help of data copplers) parameters can be changed with the help of the service software MiniCom 3, or the meter can be read out via the readout system SensusREAD. The data interface is activated by a short keystroke for one hour. By every meantime data communication this period of time starts again, so that e.g. a logger readout at 15-minute or hourly intervals is possible over a longer period of time.

10.2 M-Bus option according to EN 13757-3

This option allows the meter to be read out via its primary or secondary address by means of an M-Bus level converter (maximium Baud rate up to 38400. From those baud rates 300 and 2400 Baud are with automatic recognition). Both addresses can be set in the parameter menu (see chapter 6.6) or with the help of the service software MiniCom 3 (note: secondary address preset in factory in accordance with the serial number on the meter body). The primary address can be set between 0 and 250 and is preset in factory to 0.

The optional two-wire cable can be integrated at a suitable place in the M-Bus system. Polarity of the two wires can be disregarded.

10.3 Remote read-out option for heat or cooling consumption pulses

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

Connect the two-wire cable to a suitable pulse totalizer or to a contact input of a house control system. Polarity of both wires can be disregarded.

10.4 M-Bus option with two contact inputs

In addition to the module specified in chapter 9.2 and 9.3 resp., two external consumption meters (cold water, warm water, electricity, gas, others) with passive remote read-out contact can be connected (reed switch or open collector).

This option has two connection cables altogether (1 x two wires, 1 x four wires). The two-wire cable (white and brown wire) is integrated at a suitable place in the M-Bus system, polarity can be disregarded.

Connect the four-wire cable as follows:

White = external meter 1 / positive pole
Brown = external meter 1 / negative pole
Green = external meter 2 / positive pole
Yellow = external meter 2 / negative pole

Specification of contact inputs

Required closing time:	> 125 ms
Input frequency:	≤ 3 Hz
Terminal voltage:	3 V

Both contact inputs preset in the factory to:

Input 1: cold water meter, pulse valency 10 litres, initial meter reading 0.00 m³

Input 2: warm water meter, pulse valency 10 litres, initial meter reading: 0.00 m³

Other values can be set via the service software MiniCom 3.

10.5 Integrated data logger

The integrated data logger stores consumption values and current values. The logger has the possibility to record values of 1200hours, 120 days and 120 months. The logger data can be read out via optical interface or M-Bus by means of the service software MiniCom 3.

As part of the integrated data logger the device stores also 500 events and 500 changes of error situations.

10.6 Wireless M-Bus

If the meter has integrated wireless M-Bus, it has an internal antenna. It is possible to select between Mode C1 and Mode T1.

The meter is certified by OMS group according to OMS Specification, Volume 2, and Issue 4.0.2. It ensures the best interoperability with all OMS compatible reading systems.

Mode C1 is set with transmission interval 16 seconds as default. Individual 128-bit encryption.

Mode T1 is set with transmission interval of 900 seconds as default. Individual 128-bit encryption.

With Sensus reading software DIAVASO, customers can do the meter data reading with either T1 or C1 mode.

As default, the wireless M-Bus communication is deactivated. To switch on the wireless M-Bus communication, you can either select in the LCD menu structure level 6 or use the Software MiniCom 3.

Changing the configuration of the wireless M-Bus communication Mode and Telegram package types can be done by the software MiniCom 3.

The Frequency of wireless transmission used is 868.95 MHz and the maximum transmission power is 25 mW (14 dBm).

11. Battery supply

PolluCom® F is battery-supplied with either 1 or 2 AA-Lithium batteries depending on the version. Optimal battery lifetime can obtained by keeping the battery temperature not above the allowed ambient temperature, e.g. by split version with wall mounting.

The voltage of a lithium battery is nearly constant through the whole lifetime of the battery. In the LCD display Level 4 service menu, you can see the actual measured battery voltage after the voltage regulation circuit. It shall be constant at about 3.0 V. If this voltage drops below 2.7 V, there will be a warning code 0200 appearing in the LCD and exchanging of meter shall be done as soon as possible.

Note: battery in PolluCom® F cannot be exchanged or recharged.

The typical battery lifetime of PolluCom® F is 8 years for a standard configuration*. Depending on the options and configurations selected, the battery lifetime of the wM-Bus device could also be up to 13 years.
The duration of device usage is based on national guidelines.

*assumption based on 2 years storage time + 6 years active measuring mode

12. Declaration of CE conformity

Date: 02.12.2019

EU Declaration of Conformity
No. CE/PolluCom F/1219

Herewith we,

Sensus GmbH Ludwigshafen
Industriestr.16
67063 Ludwigshafen

declare under our sole responsibility, that the thermal energy meter type **PolluCom F,** to which this declaration relates, is in conformity with the following legal regulations: Directive 2014/32/EU of the European Parliament and the Council of the 26th of February 2014 (OJL 96, 29.03.2014 p.149-250), including

Annex I, Essential requirements
Annex VI, Thermal Energy Meters (MI-004)

Directive 2014/30/EU (EMC)
Directive 2014/53/EU (RED)
Directive 2011/65/EU (RoHS)

Further applied normative documents, harmonized standards or rules

- OIML-R 75, Edition 2002
- DIN EN 1434, Edition 2015
- DIN EN 55022, Edition 2010
- WELMEC Guideline 7.2, Edition 2015
- EN 60751, Edition 2009
- EN 13757-2, Edition 2018
- EN 13757-3, Edition 2018
- EN 13757-4, Edition 2019
- DIN EN ISO 4064-4, Edition 2014
- DIN EN 60529, Edition 2014
- DIN EN 60870, Edition 2006
- EN 301489-1 V2.2.0
- EN 301489-3 V2.2.1
- EN 300220-1 V3.1.1
- EN 300220-2 V3.1.1
- EN 62368-1:2014+AC:2015
- EN 62479:2010
- EN 50581:2012

The conformity assessment procedure was carried out under the supervision of the notified body PTB identification number 0102. The type-examination certificate DE-19-MI004-PTB002 was issued.

This declaration is made on behalf of the manufacturer by the Director Metrology.

Sensus GmbH Ludwigshafen

Thomas Helf
Managing Director

Jürgen Westphal
Director Metrology

Sensus GmbH Ludwigshafen

Bankverbindung: Deutsche Bank Ludwigshafen
Konto: 024 913 600 (BLZ 545 700 94)
www.sensus.com

Telefon: + 49 (0) 621 / 6904 – 0
Telefax: + 49 (0) 621 / 6904 – 1490
Amtsgericht: Ludwigshafen HRB 5153
Geschäftsführung:
Aufsichtsratsvorsitzender:

Industriestraße 16
D-67063 Ludwigshafen
Ust-Id-Nr.: DE 160261426
Peter Karst, Thomas Helf
Borja Alcázar Pérez

28505306

Edition: 008 – March 22, 2023
Subject to changes

Sensus GmbH Ludwigshafen
Industriestraße 16
D-67063 Ludwigshafen

Phone: + 49 (0) 621 6904-1113
Fax: + 49 (0) 621 6904-1409
E-Mail: info.int@xylem.com