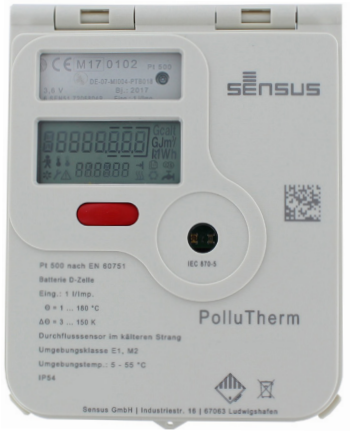


PolluTherm®

Calculator for measuring heating and cooling energy

Main Features

- Can be combined with all Sensus flow sensors, also with external voltage supply
- Standard possibility to connect temperature sensors Pt 500 in four- wire technology for quick and economic extension of temperature sensor cables
- High-resolution measuring cycles (2 seconds for temperatures, 4 seconds for power and flowrate)
- Back up of measuring and counting functions of mains-operated instruments for up to 3 months in case of external power failure
- Password-protected parameter setting right at the meter itself without any further peripheral equipment
- Supply via battery or optional external 230V or 24V voltage supply

APPLICATIONS

In combination with our temperature sensors and flow sensors

Series AN130
Series WPD FS/FSL
Series MeiStream FS
Series PolluFlow® 130°C/PN25,

the PolluTherm® calculator is used to measure energy consumption in heating or cooling circuits.

Recommendation: For our **PolluFlow® 90°C/PN16** series, we recommend our **PolluTherm® F** calculator, which is technically identical to the PolluStat series of ultrasonic compact heat meters.

With regard to data communication and remote reading, the innovative housing concept offers two slots for retrofitting various modules at any time, such as M-Bus, Modbus or remote metering pulse.

PolluTherm®

Calculator for measuring heating and cooling energy

Retrofittable plug-in modules

For electronic reading and connection to building automation systems a variety of anytime upgrade plugin modules are available for the PolluTherm®:

M-Bus according to EN 1434-3

This plugin module allows reading the meter via its primary or secondary address with an 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. If required both M-Bus addresses can be changed at the meter itself. Because of the short updating time for temperatures of 2 secons only as well as for power and flowrate values of 4 seconds only, the mains-operated PolluTherm® is excellently suitable for the connection to district heating regulators.

M-Bus with two inputs for external (pulse) consumption meters

This plug-in module allows the additional connection of up to two external consumption meters (cold water, warm water, electricity, gas, „others") with passive remote reading pulse output (reed switch, open collector). The consumptions of those meters can then be read out via the M-Bus interface of the PolluTherm®.

Required pulse duration: > 100 ms

Pulse input frequency: < 3 Hz

Terminal voltage: 3 V

Remote reading pulses energy

For battery-operated PolluTherm®

Recommendation: Because of the soldered battery, the plug-in unit should be replaced by a new plug-in unit after the calibration period of the PolluTherm® has expired.

Remote reading pulses energy and volume

For mains-operated PolluTherm®

Both remote counter plugin modules provide potential-free and bouncefree remote reading pulses, which can be added up by a remote totalizer.

Closing time: 125 ms

Bounce time: non

Max. voltage: 28 V DC or AC

Max. power: 0.1 A

The pulse values depend on the size of the connected flow sensor:

Input pulse value in l	1	10
Display of the calculator with decimal digits for MWh, GJ and m³	00000.000	000000.00
Pulse value in case of remote energy reading in MWh/pulse	0.001	0.01
Pulse value in case of remote volume reading in m³/pulse	0.001	0.01

USB interface

This plugin unit allows the connection of the meter to a USB interface of a PC or a notebook.

USB port: 1.1 or 2.0

Connection plug: type A

Cable length: ca. 1.5 m

Baud rate: 19,200

LONWORKS®-FTT10A

This plug-in module is used to implement the meter via LONTALK® protocol into a building automation system. For detailed informations please refer to data sheet LH 6131 INT

Modbus RTU Plugin Unit

The Modbus RTU option module is used to connect the PolluTherm® heat calculator to the Modbus RTU network using EIA-485 channel. For details please see the Manual MH 6123.

PolluTherm®

Calculator for measuring heating and cooling energy

Further Options

Integrated data logger

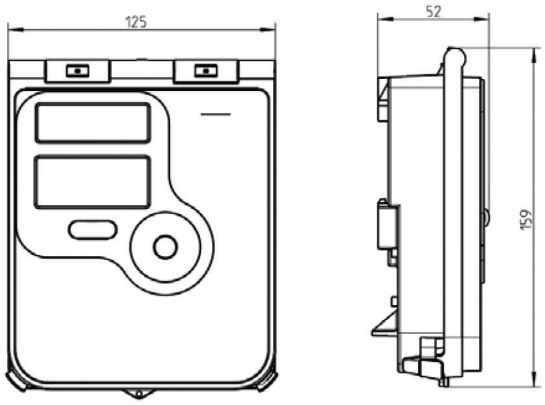
By this factory-set option the following values are stored in a selectable time interval (3 to 1440 minutes):

- Volume of the heating and cooling liquid resp.
- Flowrate of the heating and cooling liquid
- Heating and cooling power resp.
- Temperature in the warmer line
- Temperature in the colder line
- Temperature difference
- Potential failure hours

The capacity is ca. 1300 data records, i.e. for example covering ca. 54 days in case of hourly logger intervals.

The logger values are read out with the service software MiniCom 3, version 3.6.0.28 or higher.

Dimensional Drawings



Ordering information for complete units

A complete unit includes the following components:

- Calculator PolluTherm® (battery or mains operation)
- A pair of temperature sensors Pt 500
- MID installation kit (temperature sensor direct installation in ball valve)

  or

  starting from DN40 a pair of immersion sleeves (stainless steel V4A)
- Flow sensor with pulse output

  Series AN130

  Series WPD FS/FSL

  Series MeiStream FS

  Series PolluFlow® 130 °C/PN25

TECHNICAL DATA

Temperature measuring range	1 ... 180 °C (-20 … 180 °C uncalibrated)
Temperature difference	3 ... 150 K
Cut-off threshold	0.15 K
Measuring accuracy	better than ± (0,5 + ΔΘmin / ΔΘ)
Approval	acc. EN 1434, Class 2 Directive 2014/32/EU (MID)
Updating times and integration cycles resp. Temperatures Flowrate, Power Energy, Volume	 2 sec 4 sec 4 sec (16 sec *) * for battery-operated instruments
Buffering of measuring and counting functions in case of power failure	≤ 3 months
Optical data interface	Physical acc. to EN 61107 Data telegram acc. to EN 1434-3
Permissible environmental temperature	5 ... 55 °C
Battery lifetime	6 years + 1 year storing reserve optional: 11 years
Electromagnetic environment	Class E 1
Mechanical environment	Class M 2
Storing temperature	- 20 °C ... + 65 °C
Dimensions (wall mounting)	ca. 125 x 159 x 52 mm (WxHxD)
Wall mounting	C-rail
Suitable types of temperature sensors	Pt 500 Two- or four-wire connection
Input pulse values for flow sensors	1 / 10
Type of the pulsers	Open Collector, PolluFlow®
Input pulse frequency	≤ 3 Hz
Protection class	IP 54

PolluTherm®

Calculator for measuring heating and cooling energy

Standard variants for complete instruments and calculator modules

- Adjusted for flow sensors
  - Standard heat and hybrid application: flow sensor in the colder line
  - Standard cold measurement: flow sensor in the warmer line
  - Standard hybrid applications: Flow sensor in the colder line
- Battery or mains operation
- Physical unit MWh or GJ

Further variants on enquiry

Accessories

- Power supply unit 230 V AC for modification from battery to mains operation
- Junction box for four-wire extension of temperature sensor cables

Upgrading plugin units

- Remote reading of energy and volume pulses for mains-operated PolluTherm® only
- Remote reading of energy pulses for battery-operated PolluTherm® only
- M-Bus interface acc. to EN 1434-3
- M-Bus interface acc. to EN 1434-3 with two inputs for external consumption meters with pulse output
- USB (1.1, 2) interface
- LONWORKS®-FTT10A

Accessories for data communication

- USB interface for connection to PC or notebook
- Optical data coupler with USB connection

For further accessories, please refer to the current price lists for heating and cooling meters and system technology.

Xylem.com | Sensus.com

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