

# PolluStat E Ultrasonic Energy Meter



## Special Features

---

Accredited to EN 1434 Class 2  
(Turndown ratio 1:200)

No moving parts in the flow meter

Suitable for horizontal and vertical installation

Available in all sizes for flow rates from  
qp 0.6 to 60

Removable totaliser

Can be operated constantly at double the qp flow rate  
with no damage

Flow meter made completely of metal

Robust stainless steel signal converter housing

Greater temperature range from 5 to 130 °C (short  
period overload to 150 °C). Also suitable for so-called  
“6 °C / 12 °C refrigeration plants” with water as the  
refrigerant medium.

Not sensitive to dirt in the pipeline due to very high ultrasonic signal strength.

Generously dimensioned terminal connection box

Four or two wire temperature sensor compatible

Two expansion slots for optional modules.

Optional modules can be fitted without damaging the verification seal.

Standard Mini-Bus port (for external Automatic Meter Reading)

Customisable display options

Tariff functions for future tariff tables

NOWA – capable

Innovative design of the flow meter and signal converter makes servicing and  
reconditioning easy on expiry of the verification period

---

[www.sensus.com](http://www.sensus.com)  
[info.int@sensus.com](mailto:info.int@sensus.com)

The logo for Sensus Metering Systems, featuring a stylized blue and yellow circular icon to the left of the text "SENSUS METERING SYSTEMS".

**SENSUS**  
METERING SYSTEMS

## Description

The new PolluStat E is a universal energy consumption meter for heating and refrigeration applications using water as the refrigerant or heating medium. The robust flow meter constructed completely out of metal has a turndown ratio of 1:200 enabling accurate measurement over extreme flowrate variation.

The LC-Display options are clearly structured in 4 menus:

- **User menu** with cumulative consumption values, tariff register and instantaneous values (flowrate, energy value, feed and return line temperature, temperature difference)
- **Archive menu** with the previous 16 monthly values (cumulative energy and volume values, maximum monthly flowrate and energy consumption values)
- **Service menu** (Absolute maximums, averaging time frame for calculating maximums. Primary and secondary M-Bus addresses. Self-diagnostics)
- **Parameter menu** to program (without any peripheral equipment) the following values: Primary and secondary M-Bus addresses, Stand number and averaging time frame for energy peaks.

The electronic signal converter display can be installed up to 3m from the flow meter.

A combination of Pt 100 and Pt 500 temperature sensors can be used. The 4-wire temperature sensor cable may be lengthened should the cable be too short

The serial data port and the M-Bus communication are compatible with the PolluCom E (Data sheet L H 1100 GB) and the PolluTherm (Data sheet L H 6100 GB). Therefore all three meters can be read using one system. Incompatibility problems of meter reading hardware and software are eliminated.

## Communication ports and Optional modules

The PolluStat E has two expansion ports as standard. The following modules can be added without damaging the verification seal:

- M-Bus module type EN1434-3 for readout via an M-Bus level converter or for connection to a remote energy controller:
  - Expanded data values (consumption, instantaneous, maximum and monthly values)
  - Readout by primary or secondary address (Secondary address is the serial number of the meter)
  - Automatic baud rate detection (300 and 2400 baud)
- Remote readout module for energy consumption and volume, potential-free pulse with bounce suppression



M-Bus module



Remote readout module for energy consumption and volume



Remote readout module for energy consumption

A Mini-Bus port is also provided as standard for connection to an inductive touchpad for remote Automatic Meter Reading (AMR)

The standard optical data port can be used for reading the meter with a mobile data collection system e.g. DOKOM Mobile (Data sheet L S 3400 GB)



## Technical specifications of the flow meter

Accuracy	Class 2 EN 1434-1 (all models)
Measuring characteristics Permanent flowrate $q_p$ to Minimum flowrate $q_i$ Maximum flowrate $q_s$ to Permanent flowrate $q_p$	100 : 1 (all models) * 2 : 1 (all models)
Installation angle	Horizontal or vertical
Installation position	PolluStat E: Return line (i.e. cold line) PolluStat EX: Feed line (i.e. warm line)
Temperature range	5 ... 130 °C

\* Approved values - Current regulations valid until 2003, dictate that all manufacturers of Ultrasonic Energy Meters must label the meter sizes  $q_p$  0,6 to 2,5 with the turndown ratio 50 : 1

### Threaded version / Nominal flowrates $q_p$ 0.6 to 10

$q_p$ (m <sup>3</sup> /h)	0.6	1.5	2.5	3.5	6	10
$q_i$ (m <sup>3</sup> /h)	0.012 *	0.03 *	0.05 *	0.035	0.06	0.1
$q_s$ (m <sup>3</sup> /h)	1.2	3	5	7	12	20
Body length (mm)	110 (190)	110 (190)	130 (190)	260	260	300
Connection thread	G 3/4 B (G 1 B)	G 3/4 B (G 1 B)	G 1 B (G 1 B)	G 1 1/4 B	G 1 1/4 B	G 2 B
Pressure rating	PN 16					

\* see above

### Flanged version / Nominal flowrates $q_p$ 0.6 to 10

$q_p$ (m <sup>3</sup> /h)	0.6	1.5	2.5	3.5	6	10
$q_i$ (m <sup>3</sup> /h)	0.012 *	0.03 *	0.05 *	0.035	0.06	0.1
$q_s$ (m <sup>3</sup> /h)	1.2	3	5	7	12	20
Body length (mm)	190	190	190	260	260	300
Flange	DN 20	DN 20	DN 20	DN 25	DN 25	DN 40
Pressure rating	PN 25					

\* see above

### Flanged version / Nominal flowrates $q_p$ 15 to 60

$q_p$ (m <sup>3</sup> /h)	15	25	40	60
$q_i$ (m <sup>3</sup> /h)	0.15	0.25	0.4	0.6
$q_s$ (m <sup>3</sup> /h)	30	50	80	120
Body length (mm)	270	300	300	360
Flange	DN 50	DN 65	DN 80	DN 100
Pressure rating	PN 16 or PN 25			

# Versions, Dimensions and Weights

Accuracy	Class 2 EN 1434-1
Temperature range	2 ... 180 °C
Temperature differential range	3 ... 150 K
Environmental class	Class A to the EN 1434-1norm
Protection class	IP 54
Display	8 digit LC-Display with additional symbols
Temperature sensors	Pt 100, Pt 500 2 or 4 wire versions
Power supply	3.6 V battery or 230 V AC (+ 10 % / - 15 %), 50 Hz, on site selection
Expansion slots for optional modules	2
Data ports	Optical (dimensions to the EN 61107 norm, data protocol to the EN 60870-5 norm) Mini-Bus
Length of cable between register and flowmeter	1.5 m (optional: 3 m),

## Accessories

M-Bus Module

M-Bus readout system "DOKOM CS"

Remote readout module  
for energy consumption - / volume

Optical data coupler  
with 9 pin Sub-D-connector for RS 232 port

"MiniCom" Service-Software  
for setting up tariff parameters

"DOKOM Mobile" Data collection system

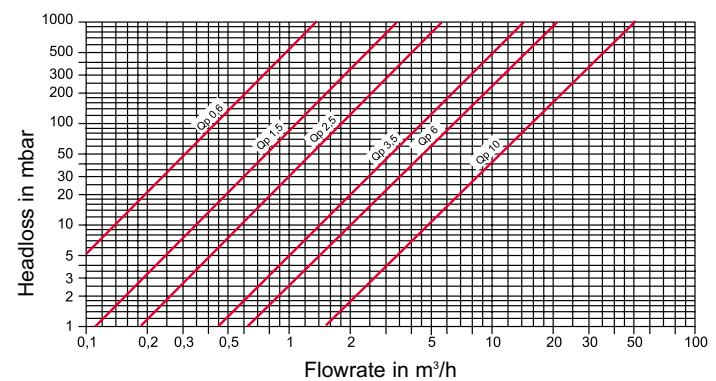
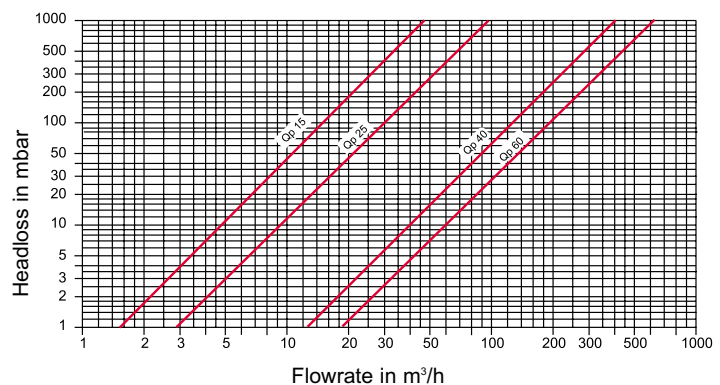
MiniPad and MiniReader for Automatic Meter  
Reading (AMR)

R 1/2" and R 3/4" ball valve  
for installation of the temperature sensors directly into  
the medium

Stainless steel temperature wells for refrigeration  
applications  
(100mm and 150mm lengths)

Special connectors to accommodate body length  
differences  
from 110 mm (G 3/4 B) to 130 mm (G 1 B)

## Head loss curves



L H 4100 INT / 001-0204 • Subject to change without notice