Hydrocal-M4

Compact thermal energy meter

MID
Measuring Instrument Directive
2014/32/UE - Approved

EN 1434

OMS® Gen4
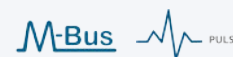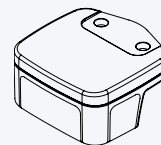Open Metering System

Integrated Transmission

M-Bus wireless

LoRaWAN®

Compatible modules
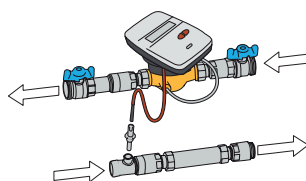
mod. IR-MB-Pulse

M-Bus PULSE

Description

HYDROCAL-M4 is a compact thermal energy meter. It measures the amount of energy used for heating or cooling the water supplied to individual tenants served by centralised heating/cooling systems. The processing of data related to the difference between the temperature of the supply and that of the return, along with the data related to the volume of water used by each tenant, allows to calculate the exact amount of energy used.

The heat meter HYDROCAL-M4 uses an innovative acquisition system to detect the turbine revolutions based on the inductive principle. This prevents for the instrument from being magnetically frauded and guarantees long term reliability.

Basic Version

> Hot/cold combined
> Integrated communication modules wMBUS or LoRa
> 2 pulse inputs and M-BUS EN13757-2/3 output (external module*)
> Calculation unit rotating at 360°
> High precision digitally made measuring sensors

*compliant only with meter firmware version equal or greater than 01.00.34

Version for installation on the return pipe/flow pipe configurable during installation.

Technical features

Nominal diameter	DN15 G 3/4"	DN15 G 3/4"	DN20 G 1"
Length	110 mm	110 mm	130 mm
Nominal flow rate	0.6 m³/h	1.5 m³/h	2.5 m³/h
Max flow rate	1.2 m³/h	3.0 m³/h	5.0 m³/h
Min flow rate	12 L/h	30 L/h	50 L/h
Accuracy class	2	2	2
Range qp/qi (H/V)	50	50*	50*
Environmental class	A (E1; M1)	A (E1; M1)	A (E1; M1)
Pressure lost at qp	≤ 0.25 bar	≤ 0.25 bar	≤ 0.25 bar
Nominal pressure	16 bar	16 bar	16 bar

*On request 100

Dimensions and Weights

DN (in)	L (mm)	H (mm)	h (mm)	B (mm)
15 (G 3/4")	110	73	13	102
20 (G 1")	130	77	17	102

Nominal diameter	DN15 G 3/4"	DN15 G 3/4"	DN20 G 1"
Temperature measuring range (Heating)	1 ÷ 90 °C	1 ÷ 90 °C	1 ÷ 90 °C
Temperature difference range (Heating)	3 ÷ 90 K	3 ÷ 90 K	3 ÷ 90 K
Temperature measuring range (cooling)	0,2 ÷ 90 °C	0,2 ÷ 90 °C	0,2 ÷ 90 °C
Calibration temperature (cooling)	0,2 ÷ 90 °C	0,2 ÷ 90 °C	0,2 ÷ 90 °C
Temperature sensor type	Digital	Digital	Digital
Cable length for the temperature sensor	1.5 m	1.5 m	1.5 m
Power supply	lithium battery	lithium battery	lithium battery
Maximum battery life	10 years*	10 years*	10 years*
Protection class	IP65	IP65	IP65
Display level	9	9	9
Display	LCD 8 digits + icons	LCD 8 digits + icons	LCD 8 digits + icons
Energy units	J, MJ, GJ, KWh, MWh		

*The battery life strongly depends on the data transmission frequency, set during the configuration process, and on the environmental conditions.