

Fluidic Oscillator energy meter

The flow sensor must be designed without any moving parts, no reflectors that are susceptible to dirt. Signal amplifiers for compensation of contaminations are not permitted. No smoothing paths before and after the flow sensor are required related to the MID approval papers. For cooling application the flow sensor must have an optimized housing protection of IP68.

The flow measurement takes place statically (without moving parts), as the measured medium is shifted in oscillations. The oscillations produce a frequency, which has a linear function to the flow with a self cleaning effect.

The flow sensor must have common spare parts except the basic flow sensor. The measuring section must be exchangeable without removing of the whole flow sensor from the pipe.

The flow sensor must have good measuring characteristics also under strong disturbance influences. A copy of the disturbances measurements results for the MID approval and also a copy of the actual result of the AGFW heat meter test program must be included in the offer.

Technical data's flow sensor

Metrological class	EN 1434 class 2
Nominal working temperature	approved 5... 130°C
Nominal pressure	16 bar
Pressure loss	0.25 bar
Mounting position	universal

Integrator

Battery or mains supply; exchangeable integrator module, the basic housing with connections remains in the net; EEPROM for the communication attitude in the basic housing; reload able communication options and - functions without injury of the calibration validity; up to 4 freely programmable analogue outputs, programming over two control keys; self recognition of the options and voltage supplies; tariff as well as water glycol mixtures must be medium-specifically programmable over the optical interface. Application and functions for heating and cooling measurement.

Technical data's integrator

Absolute temperature range	-20... 180 °C or 0...200 °C, approved range 2...200 °C
Absolute temperature difference	1... 200 K approved range 2...150 K
Temperature sensor connection	Pt500, 2-wire
Temperature resolution	t= 0,1 K, delta t= 0,01 K
LC display	LCD, 8 digit
Display units	kWh, MWh
Modular voltage supply	mains supply 24 VAC 45-60Hz
Housing protection	IP 65
Environment temperature	operation 5...55 °C and -25...70 °C storing and transport
Data security	EEPROM verification and measurement relevant part EEPROM integrator base for the communication parameter setting
Pulse in and outputs	optical interface
2 open collector inputs	0-30 V, max. 5 Hz, mains operation max. 12 kHz, 0,0001...9999,9 pulse/litre
2 open collector outputs	0-30 V, max. 5 Hz, mains operation max. 12 kHz, 0,0001...9999,9 pulse/litre
Communication method	Built in <i>Meter-Bus</i>
Medium	water and water glycol mixtures