

Engelmann **Heat Meter**

SensoStar Q

Mechanical flow sensor for inline installation points



Most accurate measurement results using the multi-jet principle

Various installation options due to a large selection of interfaces

Flexible communication based on modular system

Fast response due to dynamic temperature measurement cycle

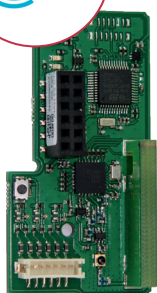
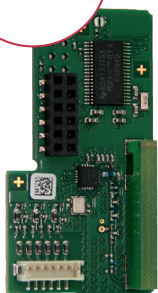
Precise heat/cooling measurement

The **SensoStar Q** is a high-precision measuring device that uses inductive scanning to record heat or cooling energy. This meter offers the right solution for every installation situation or requirement. The comprehensive range covers all installation lengths, temperature sensor and communication variants.

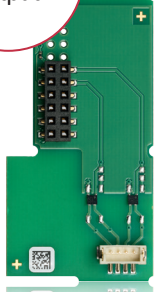
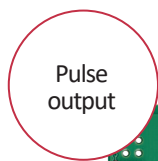
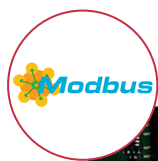
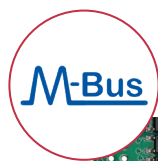
We speak your language

The continuously growing portfolio of communication modules offers you a wide range of remote readout options.

RADIO MODULES



WIRED MODULES



Features & Range of Functions

- Sizes: DN 15 and DN 20
- Meters from Qp 0.6 to Qp 2.5
- Installation lengths: 110 mm and 130 mm
- Horizontal / vertical / overhead installation
- Installation point and display unit adjustable on site
- Return flow detection
- Detachable calculator with 0.50 m connection cable
- Battery capacity of up to 20 years



wM-Bus, LoRaWAN and M-Bus can also be equipped with 3 pulse inputs to connect other devices.

Flow sensor

Sizes	Nominal flow rate Qp	m³/h	0.6	1.5	2.5
	Low flow threshold value	l/h	3.5	4.0	5.5
	Minimum flow Qi	l/h	12	30	50
	Maximum flow Qs	m³/h	1.2	3	5
Pressure drop Δp at Qp		bar	0.1	0.2	0.24
Pressure drop Δp at Qs		bar	0.4	0.74	0.92
Nominal diameter		mm	DN 15	DN 15	DN 20
Connection thread		inch	G3/4B	G3/4B	G1B
Installation length		mm	110	110	130
Dynamic range Qi/Qp		-	1:50	1:50	1:50
Measuring method		bidirectional inductive scanning system			
Accuracy class (MID)		class 3 (EN 1434)			
Protection class		IP65			
Nominal pressure PN		bar	16		
Medium		water optional, without approval: water with a propylene glycol or ethylene glycol percentage rate of 20 %, 30 %, 40 % or 50 % (type and concentration of glycol can be set at any time)			
Mounting position		any position (horizontal, vertical, overhead)			
Point of installation		outlet flow and inlet flow can be set when the amount of energy is still ≤ 10 kWh			
Temperature range medium heat		°C	15 – 90		
Temperature range medium cooling (Qp 1.5 and Qp 2.5)		°C	5 – 50		

Calculator

Temperature range medium	°C	0 – 150 heat / 0 – 50 cooling (Q_p 1.5 and Q_p 2.5)
Ambient temperature in the field	°C	5 – 55 at 95 % relative humidity
Transport temperature	°C	-25 – 70 (for max. 168 h)
Storage temperature	°C	-25 – 55
Temperature difference range $\Delta\theta$ heat	K	3 – 100
Temperature difference range $\Delta\theta$ cooling	K	-3 – -50
Minimum temperature difference $\Delta\theta$ heat	K	> 0.05
Minimum temperature difference $\Delta\theta$ cooling	K	< -0,05
Minimum temperature difference $\Delta\theta$ heat / cooling	K	> 0.5 / < -0.5
Resolution temperature	°C	0.01
Measuring cycle temperature; dynamic	s	2 / 60; by using external power supply: 2 s permanent

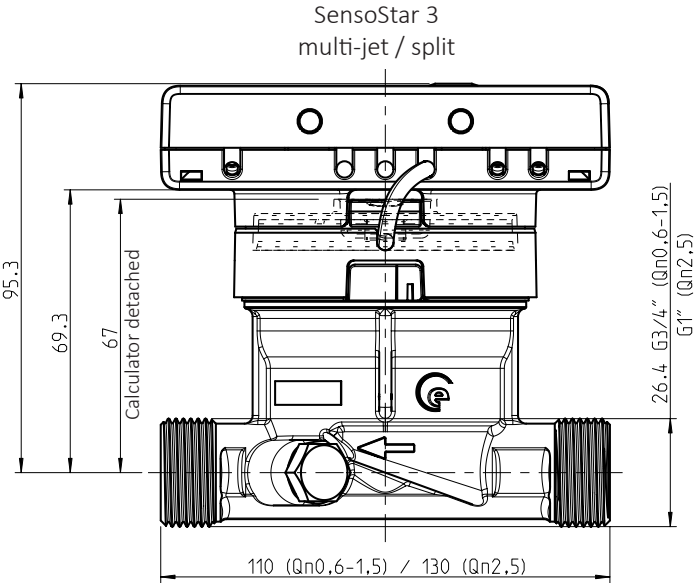
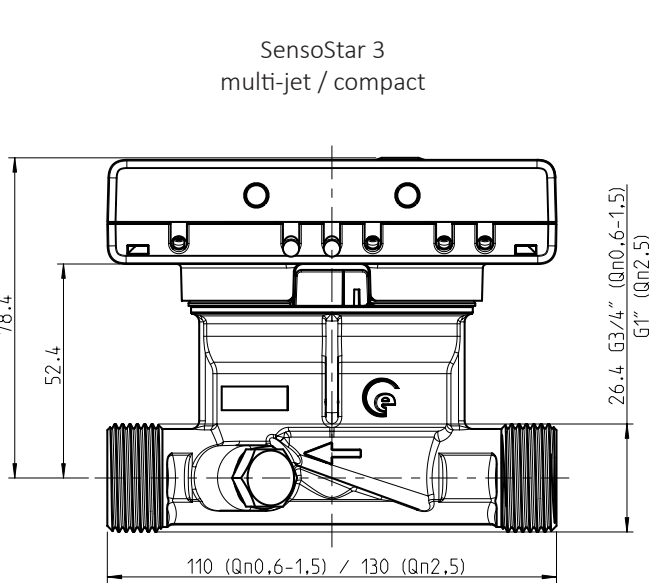
Calculator housing dimensions (H x W x D)	mm	75 x 110 x 34.5
Length of connecting cable calculator – flow sensor	m	0.5
Display		LCD – 8 digits + special characters
Displayed thermal energy		up to 3 decimal places
Units		MWh, kW, m ³ , m ³ /h (kWh, GJ, MMBTU, Gcal) unit of energy can be set when the amount of energy is still ≤ 10 kWh
Interfaces		optical interface (M-Bus protocol) optional communication: radio: wireless M-Bus*, LoRaWAN* wired: M-Bus*, Modbus RTU, 2 pulse outputse *Optional with 3 pulse inputs.
Power supply		easily replaceable 3 V lithium battery preparation for 3 V power pack available (input voltage 230 V / 24 V)
Battery capacity, designed	years	20 (without communication module) 16 (M-Bus, readout interval 1 hour) 15 (M-Bus, readout interval 10 minutes) 10 (with others e.g. wM-Bus, Modbus RTU, LoraWAN)
Data storage		24 monthly and 24 semi-monthly values
Billing dates		freely selectable annual billing date 15 monthly and 15 semi-monthly values via display or radio (compact mode) 24 monthly and 24 semi-monthly values via optical interface or M-Bus
2 tariff registers		individually adjustable; store energy or time
Storage of the maximum values		flow, power and temperatures (inlet, outlet, ΔΘ) as well as the respective maximum values of the last 15 months
Protection class		IP65
Approvals		DE-16-MI004-PTB025; DE-16-M-PTB-0097 CH-T2-18768-00 CE
Type designation		S3
EMC (MID)		EN 1434

Temperature sensors (2-wire technology)

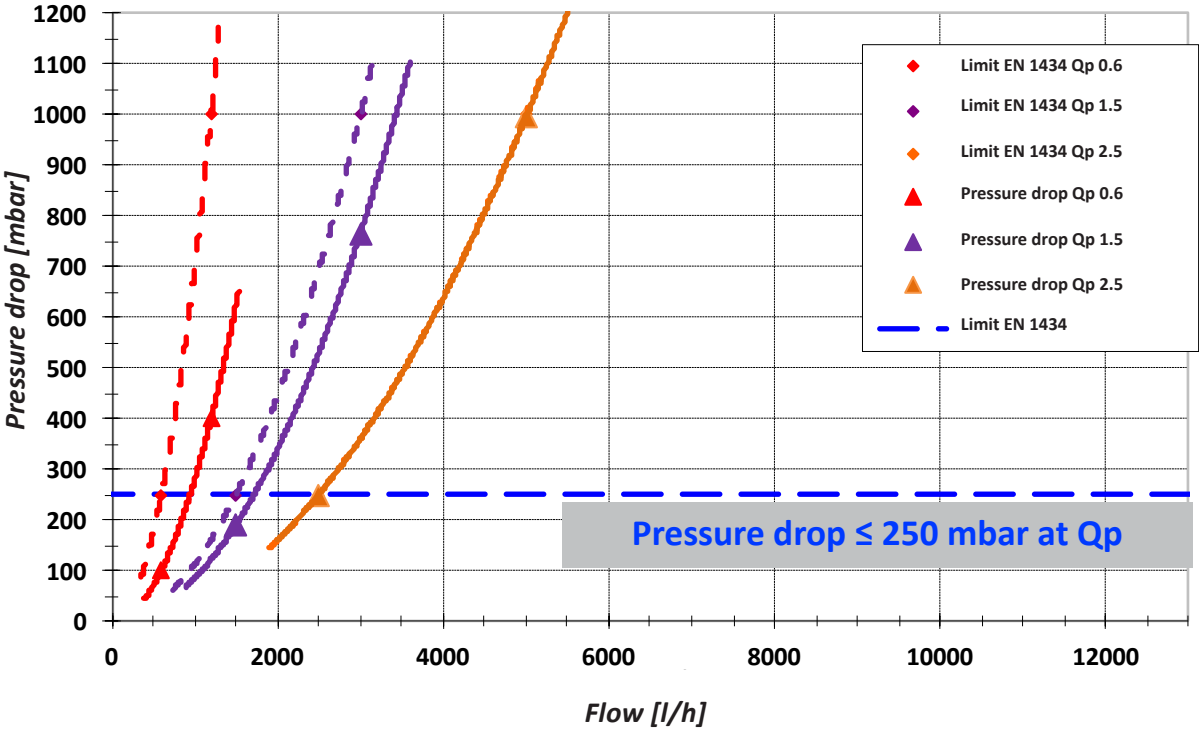
Platinum precision resistor		Pt 1000
Sensor diameter	mm	UTS: 5; 5.2; 6; AGFW: 27.5; 38; needle sensor: 3.5 x 75
Connection cable length	m	1.5; 3; 6
Installation type		asymmetrical; symmetrical

Weights

Weight (standard version in kg)	Qp 0.6 / Qp 1.5	Qp 2.5
Calculator not detachable	0.875	0.955
Calculator detachable	0.915	0.995



PRESSURE DROP SENSOSTAR Q



Contact us here:



+49 6222 98 00 188 (Orders)
+49 6222 98 00 2727 (Technical Service)
+49 6222 98 00 0 (Head Office)



info@engelmann.de



Engelmann Sensor GmbH
Rudolf-Diesel-Straße 24-28
69168 Wiesloch-Baiertal
Germany



www.engelmann.de