



Heat meter Q heat 5.5 US

STATIC ULTRASONIC HEAT- / COLDMETER

- › Ultrasonic measurement - precise and durable
- › Flow and return of the device can be parameterised on site
- › Intelligent, adaptive measuring cycle
- › Any installation possible without any restrictions
- › Full metal measuring tube
- › Available as heat meter, as heat meter with optional cooling range and as nationally approved cooling meter
- › Qp 0.6 - 2.5 m³/h available
- › Integrated radio communication interfaces, M-Bus and Impuls-out

Application

Remote meter reading can be either stationary or mobile, as the devices transmit the data telegrams including 13 monthly values in a short transmission interval. The mobile readout takes place via Q log and ACT46. The stationary readout is carried out exclusively via Q gateway 5.5 direct and Q SMP. This means that a change to stationary readouts can be made at any time without reconfiguration.

Features

The products are equipped with a QUNDIS-specific data matrix code. The code is located on the top of the meter, on the packaging and on the outer packaging and contains the serial number, the complete article number, the year of conformity assessment and the number of products.

Technical data

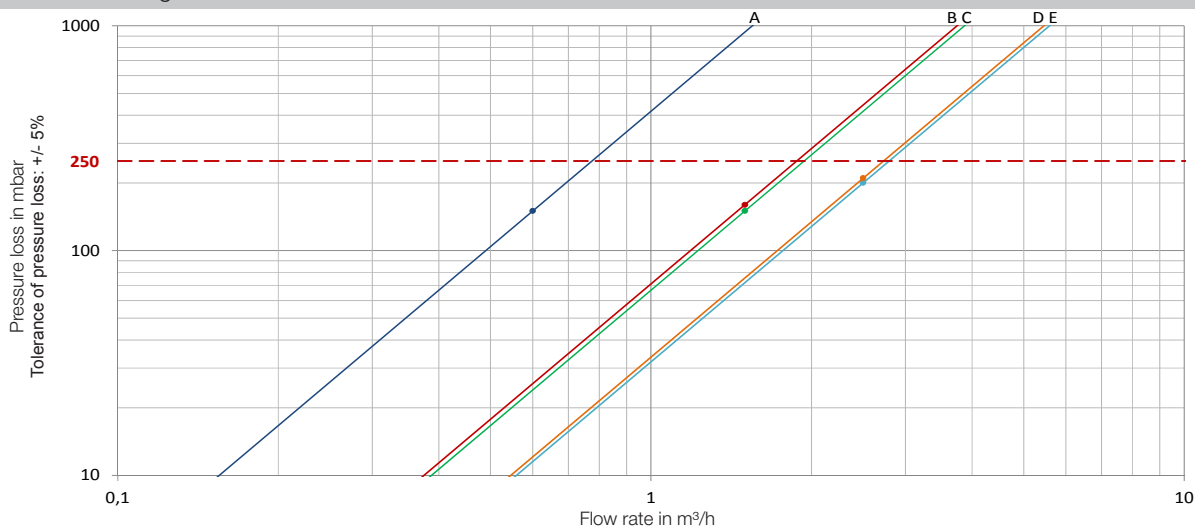
General	
Measuring accuracy	Class 2 (EN 1434)
Environment class	A (EN 1434) for indoor installation
Mechanical class	M1 / M2 *)
Electromagnetic class	E1 *)
Ambient humidity	< 93 % relative humidity at 25 °C, without condensation
Max. height	2000 m above sea level
Storage temperature	-20 ... 60 °C
*) acc. to 2004/22/EU Directive on Measuring Instruments	
Electronic unit	
Ambient temperature	5 ... 55 °C
Housing protection rating	IP 54 acc. to EN 60529
Power supply	Battery for 6 or 11 years
Operation threshold for ΔT	0.2 K
Temperature difference ΔT	3 K ... 80 K
Temperature measurement range	0 ... 180 °C
Measuring cycle (Adaptive)	Temperature measurement: Every 60 seconds, temporarily 4 seconds with fast change of volume flow rate Volume measurement: Every 4 seconds
LCD	
LCD	7 digit
Optical interface	Standard, EN 62056-21
Communication	Optional
Removable electronic unit	Standard, cable length 1.5 m
Temperature sensor	
Type	Pt500 acc. to EN 60751, not detachable
Connection type	Pt500, 2 wire technology
Cable length	1.5 m
Construction type	Bulb sensor \varnothing 5.2 x 45 mm DS direct short, M10 x 27.5 mm
Temperature range	0 ... 105 °C

Technical data

Volume measurement unit	
Protection class	IP 54 acc. to EN 60529, optional IP 65
Mounting place	return flow (standard) return flow (parameterizable on site)
Installation position	Any, horizontal or vertical
Flow straightening	None
Measuring range	1:100
Temperature range	5 ... 105 °C
Maximum overload	$q_s = 2 \times q_p$, permanent
Nominal pressure	PN16 (1.6 MPa; PS16) PN25 (2.5 MPa; PS25)

Nominal flowrate q_p	0.6	1.5	1.5	2.5	[m ³ /h]	
Overall length	110	110	130	130	[mm]	
Connection	G $\frac{3}{4}$	G $\frac{3}{4}$	G1	G1	G/DN	
Maximum flowrate q_s	1.2	3	3	5	[m ³ /h]	
Minimum flowrate q_i	6	15	15	25	[l/h]	
Response threshold (variable)	1.2	3	3	5	[l/h]	
Pressure loss at q_p	150	150	160	200	[mbar]	
Kv-value at Δp 1 bar	1.5	3.9	3.9	5.6	[m ³ /h]	
Kv-value at Δp 100 mbar	0.5	1.2	1.2	1.8	m ³ /h	
Weight	0.8	0.8	0.8	0.8	[kg]	
Pack size (LxWxH)	Length	15.5	15.5	15.5	15.5	[mm]
	Wide	13.5	13.5	13.5	13.5	[mm]
	Height	12.0	12.0	12.0	12.0	[mm]

Pressure loss diagram



Technical data

Dimensions (q_p 0.6 – 2.5 m³/h)

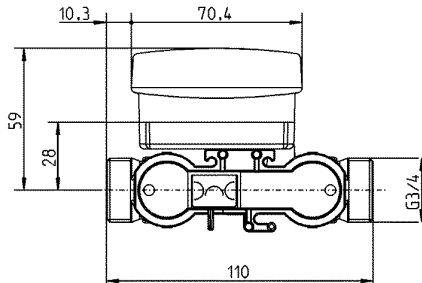


Fig. 1: Overview dimensions overall length 110 mm

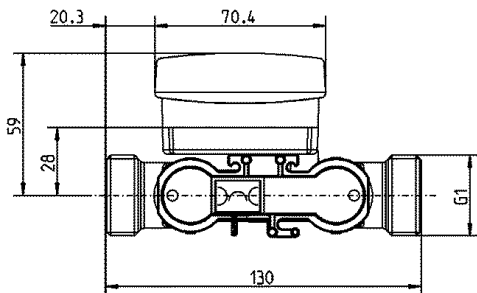


Fig. 2: Overview dimensions overall length 130 mm (thread)

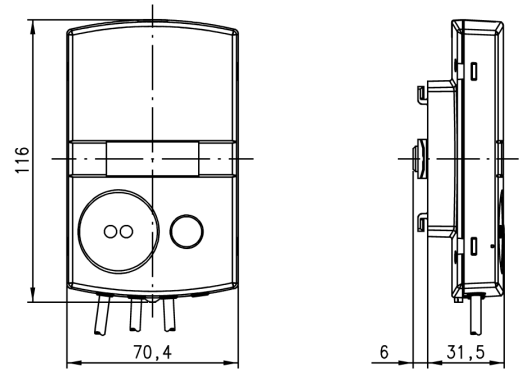


Fig. 3: Electronic unit

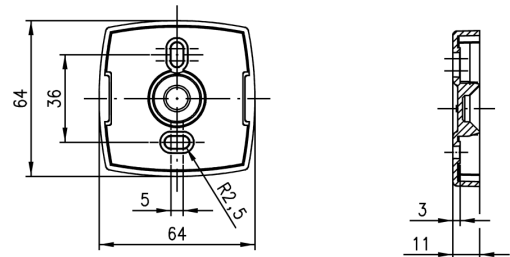


Fig. 4: Wall adapter (view from above and side)

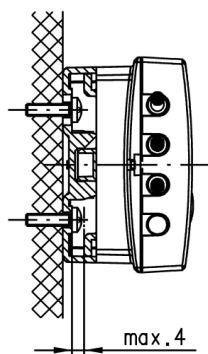


Fig. 5: Maximum screw head height (if using the wall bracket)

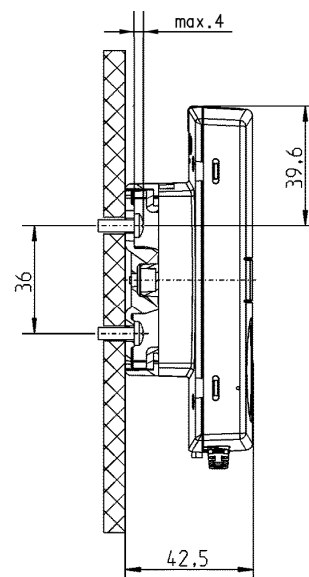


Fig. 6: Wall mounting

Communication (optional)

M-Bus	
Versions	<ul style="list-style-type: none"> • exclusively as heat meter • exclusively as cooling meter • as heat meter with optional cold range (outside the measuring instrument directive)
Standard	EN13757-2 / EN13757-3
Address	Primary- or secondary address
Transmission rate	Autobaud: 300 / 2400 Baud
Connection	1.5 m cable, 2-wired, fixed
Reading interval	> 1 min @ 2400 baud
Data telegram	1 predefined data telegram ex works; User-defined telegrams configurable with software
Previous month values	24 prev. month telegram via roll frame function available; 24 prev. monthly values available in user defined telegram
wM-Bus *)	
Versions	<ul style="list-style-type: none"> • exclusively as heat meter • exclusively as cooling meter
Standard	Open Metering System Specification OMS (Issue 4.0.2) EN 13757-4; Modus C1
Transmission frequency	868,95 MHz
Transmitting power	Typical 10 dBm
Transmission interval	Predefined ex works and optimized for integration into the Q log and the Q gateway 5.5 direct, 120 seconds, 24 hours a day, 365 days a year
Data telegram	Predefined ex works and optimized for integration into the Q log and the Q gateway 5.5 direct
Data telegram content	<ul style="list-style-type: none"> • Energy quantity heat (excluding heat meters) • Energy quantity cooling (excluding cooling meter) • Key date • Reference date value Energy quantity heat (excluding heat meter) • Key date value Energy quantity cooling (excluding cooling meter) • Date last month end • Value at the last end of the month Energy quantity heat (excluding heat meters) • Value at the end of the last month Energy quantity cooling (excluding cooling meter) • Time without measuring function • Current date/time • 13 monthly values
Start of radio telegrams	<ul style="list-style-type: none"> • Automatically after a cumulative volume of approx. 10 L • Alternatively via operating button on the device or via software

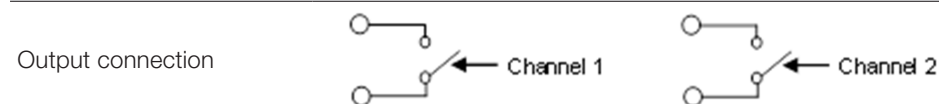
*) The devices as exclusively heat and cooling meters with integrated radio communication are optimised with regard to their transmission interval and telegram content. They are intended exclusively for reception by the Q gateway 5.5 direct, the Q SMP and the Q log and the ACT46. Changes to the factory-configured telegram content and transmission interval can lead to malfunctions.

Communication (optional)

wM-Bus **)	
Versions	<ul style="list-style-type: none"> • as heat meter with optional cold range (refrigeration sector outside the Measuring Instruments Directive)
Standard	Open Metering System Specification OMS (Issue 4.0.2) EN 13757-4; Modus C1
Transmission frequency	868.95 MHz
Transmitting power	Typical 10 dBm
Transmission interval	Predefined ex works and optimized for integration into the Q log and the Q gateway 5.5 direct, 120 seconds, 24 hours a day, 365 days a year
Data telegram	Predefined ex works and optimized for integration into Q log and Q gateway 5.5 direct
Data telegram content	<ul style="list-style-type: none"> • Energy quantity heat • Energy quantity cooling • Key date • Key date value Energy quantity heat • Key date value Energy quantity cooling • Date last month end • Value at the last end of the month Energy quantity heat • Value at the end of the last month Energy quantity cooling • Time without measuring function • Current date/time
Start of radio telegrams	<ul style="list-style-type: none"> • Automatically after a cumulative volume of approx. 10 L • Alternatively via operating button on the device or via software

**) The combined heat/cooling meters with integrated radio communication are optimised with regard to their transmission interval and telegram content. They are intended exclusively for reception by the Q gateway 5.5 direct and the Q SMP. Changes to the factory-configured telegram content and transmission interval can lead to malfunctions.

Pulse output	
Versions	<ul style="list-style-type: none"> • exclusively as heat meter • exclusively as cooling meter
Output type	open drain
Classification	OB/OC (acc. to EN 1434-2)
Cable	1.5 m; 4-wired, LL84201 4xAWG28 / 0.2 mm ²
Cable diameter	4 mm
Cable labelling	passive pulse output
Voltage	max. 30 V
Current	max. 30 mA
Dielectric strength	500 V _{eff} against ground
ON/OFF resistance	<74 Ω / 6 MΩ



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