



Heat meter Q heat 5.5 US

Static Ultrasonic Heat and cold meter

- › Nominal flow rate q_p 0.6 m³/h ... 2.5 m³/h
- › Precise and durable ultrasonic measurement
- › Flow and return of the device can be parameterised on site
- › Intelligent, adaptive measuring cycle
- › Any installation possible without any restrictions
- › Available as heat meter, as heat meter with optional cold range and as nationally approved cold meter
- › Integrated radio communication interfaces, M-Bus and impuls-out
- › Full metal measuring tube

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 tool 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 product.

Technical data - General

Measuring accuracy	Class 2 (EN 1434)
Ambient class	A (EN 1434) for indoor installation
Mechanical class	M1/M2*
Electromagnetic class	E1 *
Ambient humidity	< 93 % r.h. at 25 °C, without condensation
Max. height above sea level	2,000 m
Storage temperature	-20 °C ... 60 °C

* according to 2004/22/EC Directive on Measuring Instruments

Technical data - Calculator unit

Ambient temperature	5 °C ... 55 °C
Protection rating Housing	IP 54 according 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 °C ... 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	7 digit
Optical interface	standard, EN 62056-21
Communication	optional
Removable calculator unit	standard, cable length 1.5 m

Technical data - Temperature sensor

Type	Pt500 according to EN 60751, not detachable
Connection type	Pt500, 2 wire technology
Cable length	1.5 m
Construction type	bulb sensor Ø 5.2 × 45 mm DS direct short, M10 x 27.5 mm
Temperature range	0 °C ... 105 °C

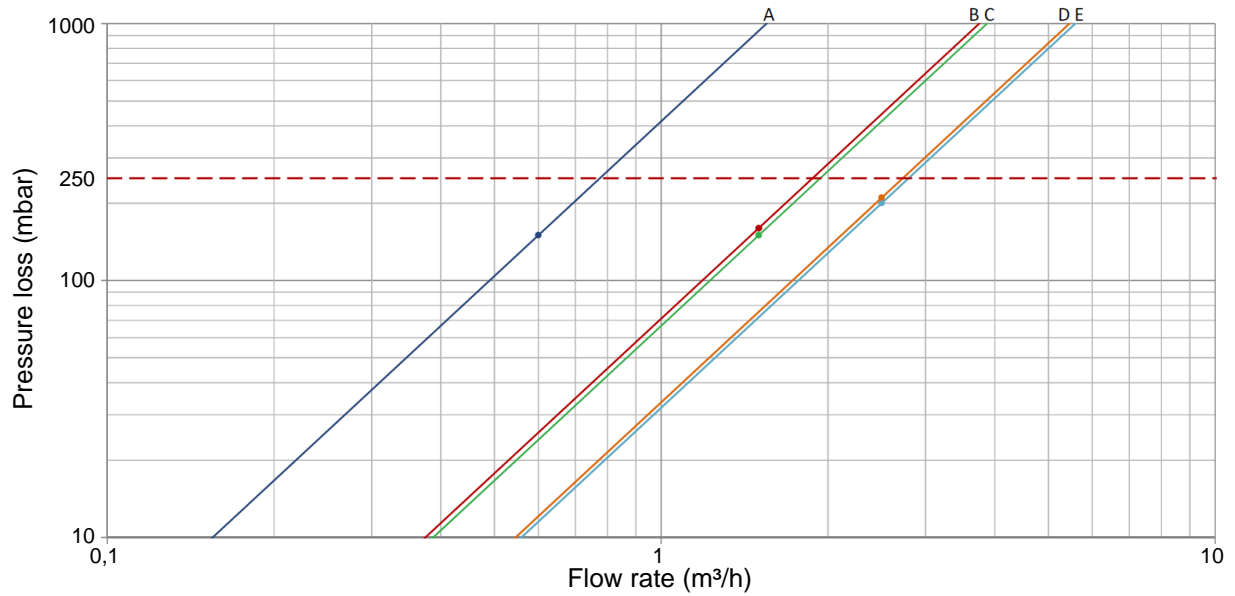
Technical data - Volume measurement units

Protection class	IP 54 according to EN 60529, optional IP 65
Installation location	return flow (standard) supply flow (parameterizable on site)
Installation position	any, horizontal or vertical
Flow straightening	none
Measuring range	1:100
Temperature range	0 °C ... 105 °C
Maximum overload	$q_s = 2 \times q_p$, permanent
Nominal pressure	PN16 (1.6 MPa; PS16) PN25 (2.5 MPa; PS25)

Technical data - Nominal flow rate

Nominal flow rate q_p in m ³ /h	0.6	1.5	1.5	2.5
Overall length in mm	110	110	130	130
Connection in G/DN	G ³ / ₄	G ³ / ₄	G1	G1
Maximum flow q_s in m ³ /h	1.2	3	3	5
Minimum flow q_i in l/h	6	15	15	25
Operation threshold (variable) in l/h	1.2	3	3	5
Pressure loss at q_p in mbar	150	150	160	200
kv value at Δp 1bar in m ³ /h	1.5	3.9	3.9	5.6
kv value at Δp 100 mbar in m ³ /h	0.5	1.2	1.2	1.8
Weight in kg	0.8	0.8	0.8	0.8
Pack size (L x W x H) in mm	15.5 x 13.5 x 12.0			

Pressure loss curves



Tolerance of pressure loss: $\pm 5\%$

Dimensional drawings

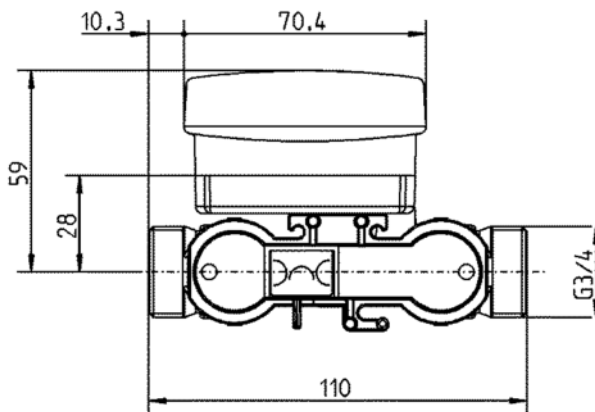


Figure 1: Dimensions Overall length 110 mm

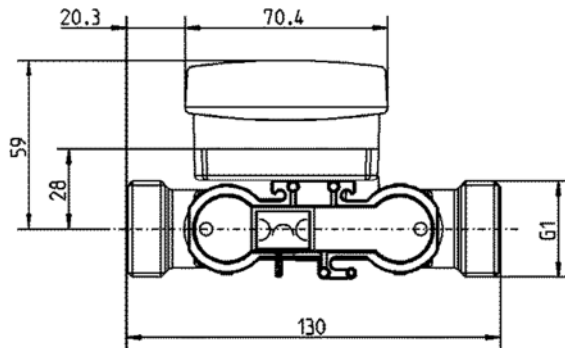


Figure 2: Dimensions Overall length 130 mm (Thread)

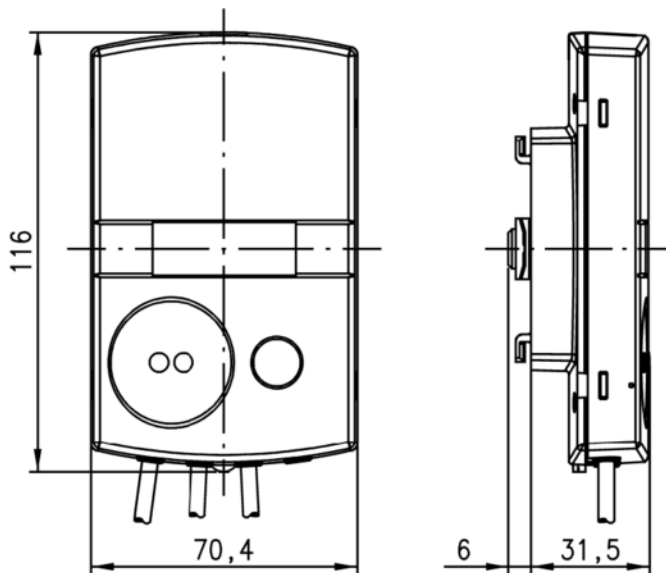


Figure 3: Dimensions Calculator unit

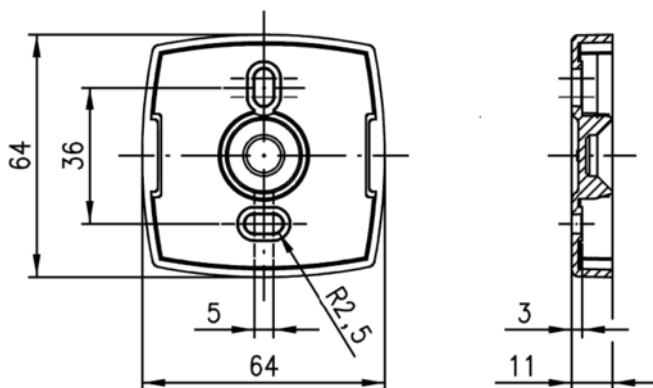


Figure 4: Wall adapter (view from above and side)

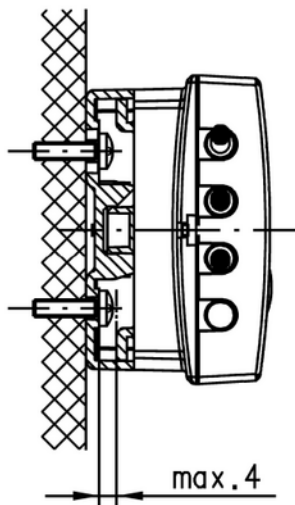


Figure 5: Maximum screw head height (if using the wall bracket)

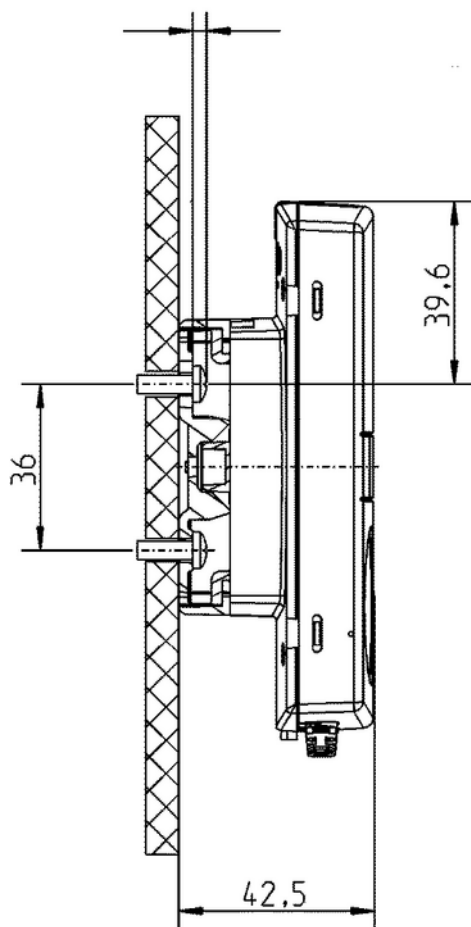


Figure 6: Wall mounting

Communication (optional)

M-Bus

Versions	<ul style="list-style-type: none"> › exclusively as heat meter › exclusively as cold meter › as heat meter with optional cold range (outside the Directive on Measuring Instruments)
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 telegrams	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 ¹⁾

¹⁾ The devices as exclusively heat and cold 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 tool and the ACT46 . Changes to the factory-configured telegram content and transmission interval can lead to malfunctions.

Versions	<ul style="list-style-type: none"> › exclusively as heat meter › exclusively as cold meter
Standard	Open Metering System Specification OMS (Issue 4.0.2) EN 13757-4; Modus C1
Transmission frequency	868.95 MHz
Transmission power	typical 10 dBm
Transmission interval	predefined ex works and optimized for integration into the Q tool 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 tool and the Q gateway 5.5 direct


Data telegram content	<ul style="list-style-type: none"> › energy quantity of heat (exclusively heat meters) › energy quantity of cold (exclusively cold meters) › key date › key date value energy quantity of heat (exclusively heat meter) › key date value Energy quantity of cold (exclusively cold meter) › date of last month end › value at the last end of the month energy quantity heat (exclusively heat meters) › value at the end of the last month energy quantity cold (exclusively cold 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

wM-Bus ²⁾

²⁾ The combined heat and cold meters with integrated radio communication are optimized with regard to their transmission interval and data telegram content. They are exclusively intended for reception by the Q gateway 5.5 direct and the Q SMP. Changes to the factory-configured data telegram content and transmission interval can lead to malfunctions.

Versions	as heat meter with optional cold range (refrigeration sector outside the Directive on Measuring Instruments)
Standard	Open Metering System Specification OMS (Issue 4.0.2) EN 13757-4; Mode C1
Transmission frequency	868.95 MHz
Transmission power	typical 10 dBm
Transmission interval	predefined ex works and optimized for integration into the Q gateway 5.5 direct, 120 seconds, 24 hours per day, 365 days per year
Data telegram	predefined ex works and optimized for integration into the Q tool and the Q gateway 5.5 direct
Data telegram content	<ul style="list-style-type: none"> › energy quantity heat › energy quantity cold › key date › key date value energy quantity of heat › key date value energy quantity of cold › date of the last month end › value at the last end of month, energy quantity of heat › value at the last end of month, energy quantity of cold › 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

Pulse output

Versions	<ul style="list-style-type: none"> › exclusively as heat meter › exclusively as cold meter
Output type	open drain
Classification	OB/OC (according to EN1434-2)
Cable	1.5 m; 4-adrig, 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
Output connection	

QUNDIS GmbH

Sonnentor 2
99098 Erfurt
Germany
Phone.: +49 (0) 361 26 280-0
Fax: +49 (0) 361 26 280-175
E mail: info@qundis.com
www.qundis.com

A company of the
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