



# Q-Heat 5.5 US (USA)

Thermal energy meter



## Your benefits

- Ultrasonic technology:  
**Long-term stable energy measurement with highest measurement accuracy**
- Compact design:  
**Little installation space required on site**
- Flexible installation:
  - **Change of flow and return flow**
  - **Change of the energy unit**
  - **Removable calculator (compact/split)**
- Large measuring range:  
**up for detection of smallest flow rates**
- User-friendly:  
**Parameter setting directly via the device buttons**
- Operational reliability:  
**Display of operating faults**

## Applications

- High-end device in the building technology sector
- Replacement of mechanical impeller heat meters
- Heat and/or cold consumption measurement in the building technology sector

## Properties

- Ultrasonic heat and cold meters (combi meter)
- Nominal diameter 1/2" to 1 1/2"
- Nominal flow  $q_p$  6.6 - 44 gpm
- Battery life up to 15 years (depending on environment and configuration conditions)
- Maximum operating pressure 232 psi
- Temperature range 41°F - 194°F
- Compact design and removable calculator as standard for tight and difficult to access installation situations
- Any installation position without restrictions, even "overhead"
- LCD-Resolution 8 digits
- Display in kWh, MWh, MJ, GJ possible
- Temperature sensor pt 1000

## Options

- Measurement Canada-compliant ultrasonic compact heat meter
- Standard Version with M-Bus interface (powered by battery)
- Retrofittable with external LoRaWAN radio module (RCM-H200 FW-V  $\geq 1.9.18$ )

## Technical data

### Ambient conditions

Protection rating	Calculator unit: IP65 according to EN 60529 Flow sensor: IP65 according to EN 60529
Transport	-13°F ... 158°F, 95% r.h. (without condensation)
Storage	23°F ... 113°F, 95% r.h. (without condensation)
Usage	+41°F ... 131°F, 95% r.h. (without condensation)
Medium	Only use water without chemical additives as the medium for this device. Glycol additives or sodium chloride NaCl (common salt) are expressly not permitted!

### Standards

Interference resistance and interference emission	EN 301 489-1, EN 301 489-3
Security	EN 62368-1, EN 62479
Quality of the heating medium	according to VDI guideline 2035, AGFW standard 510

### Influencing quantities

Electromagnetic class	E1
Mechanical class	M2
Ambient class	A
Measuring accuracy class	2

### Calculator unit Temperature range

Temperature range	32°F ... 221°F
Temperature difference range	3K ... 70K
Start of metering temperature difference	0.2K

### Power supply

Lithium battery	Nominal voltage 3.0 V
Lithium content	0.02046 oz
Battery type	CR AA
Batteries per device	1 (replaceable)
Battery life	Up to 15 years (depending on environment and configuration conditions)

## Display-levels

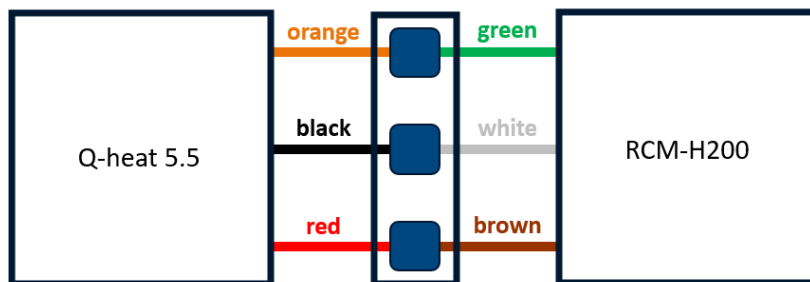
Display	8-digit LCD + pictograms
Energy display (switchable)	Default (kWh) kWh -> MWh MJ -> GJ kWh -> MJ (only up to 13.2 gal (50 liters) of cumulative flow) MWh -> GJ (only up to 13.2 gal (50 liters) of cumulative flow)
Connecting cable Calculator - volume measuring unit	31.5"

## Technical data communication

Connection cable	OUT
Function	M-Bus
Length	118.11"
Within Scope of delivery	included
Protection class	IP65
Cable ends	End sleeves
Cable sheathing	PVC

### Connection cable - Colour assignment

M-Bus	red black orange (not assigned) brown (not assigned)
M-Bus to RCM-H200 connection	red -> brown (ECO+) black -> white (ECO-) orange -> green (ECO Modem) Brown -> (not assigned)



### Specifications M-Bus

Possible readouts per day	96 (every 15 minutes) <sup>2</sup>
Baud rate	300, 2400 (default)

<sup>2</sup> if readings are taken less frequently, unused "credits" are stored in the device

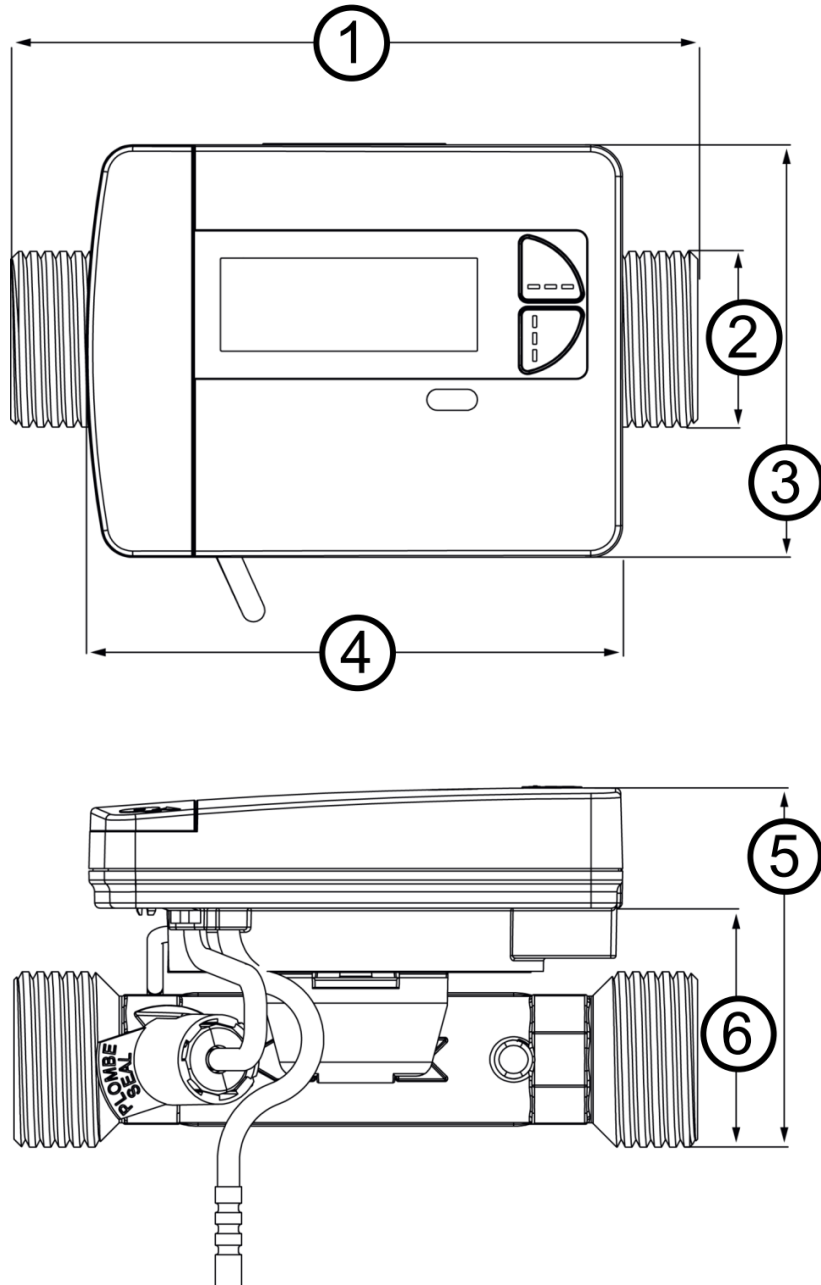
## Technical data temperature sensor

Temperature sensor	
Measuring element	Pt1000 according to EN 60751
Type	Typ DS
Diameter Ø	AGFW - ¼"
Installation variant	q <sub>p</sub> 6.6-11 AGFW 1.08" – direct installation Asymmetric q <sub>p</sub> 15.4-44 ¼" - indirect symmetrical (immersion sleeve)
Cable length	Default: 59.05" Optional: 118.11"

## Technical data flow sensor

Flow sensor						
Nominal flow q <sub>p</sub>	gpm	6.6	11	15.4	26.4	44
Nominal diameter DN	inch	0.59	0.79	0.98	0.98	1.57
Overall length	inch	4.33	5.11	10.24	10.24	11.81
Connection	inch	G¾B	G1B	G1¼B	G1¼B	G2B
Weight	lb	1.16	1.46	2.59	2.59	3.86
Installation location	Return or forward flow (switchable up to 13.2 gal (50 litres) cumulative flow)					
Installation position	any					
Inlet and outlet section	not required (no downstream or upstream straight pipe requirement)					
Minimum flow q <sub>i</sub>	gpm	0.07	0.11	0.12	0.21	0.44
Maximum flow q <sub>s</sub>	gpm	13.2	22	30.8	52.8	88.1
Start-up limit q <sub>0</sub>	gpm	0.026	0.044	0.062	0.106	0.22
Dynamic range		1:100	1:100	1:125	1:125	1:100
Accuracy class	2					
Pressure loss at q <sub>p</sub>	psi	1.89	2.61	0.55	1.77	2.44
Max. permissible operating pressure	psi	232				
Min. system pressure to avoid cavitation	psi	21.8	29	14.5	21.8	21.8
temperature range	°F	41 ... 194				

## Dimensional drawings



## Dimensions

Nominal flow $q_p$	gpm	6.6	11	15.4	26.4	44
1 Pipe length	inch	4.33	5.11	10.24	10.24	11.81
2 Threads	inch	G $\frac{3}{4}$ B	G1B	G1 $\frac{1}{4}$ B	G1 $\frac{1}{4}$ B	G2B
3 Calculator width	inch	3.07				
4 Calculator length	inch	3.98				
5 Total height	inch	2.56	2.68	3.31	3.31	3.94
6 Height of volume measuring part	inch	1.61	1.77	2.36	2.36	2.99