AMTRON® E-30

Compact heat and cooling meter

Application

The compact AMTRON® E-30 meter is used for energy consumption measurements for heating and cooling applications in small premises such as apartments, offices or in transmission stations for heat transfer. AMTRON® E-30 can be equipped with pulse output, an M-Bus interface and also pulse inputs for two external meters.

Features

- Power supply via battery or M-Bus
- Available with M-Bus and 2 pulse inputs
- Mounting in horizontal and vertical piping
- For cooling and combined heating/cooling applications with programmable switchover point
- Data logger and memory for maximum values

Benefits

- For connecting 2 external meters
- Simple inventory management and installation
- Combined heat and cooling measurements
- Start-up without peripheral instruments required

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General

The compact heat meter consists of a flowmeter, calculator and temperature sensors. The flowmeter is a mechanical single-jet turbine flowmeter. The calculator shows the energy in MWh with three fractional digits. The temperature sensors are with a diameter of 5 mm and 1.5 m cable length.

Technical specifications

Specification	Units	qp 0.6	qp 1.5	qp 2.5
Nominal flowrate qp	m^3/h	0.6	1.5	2.5
Minimum flowrate qi		0.006	0.015	0.025
Accuracy class		Class 2 acc. to EN 1434		
Dynamic ratio qi /qp		1:100		
Maximum flowrate qs (<1 h / day and <200 h / year)	m^3/h	1.2	3	5
Start-up flow rate (typical)	l/h	1.5	2.5	3
Temperature measuring range	°C	5...150, (-20...150 with antifreeze, uncalibrated)		
Differential temperature range	K	3...100		
Cut-off limit	K	0.15 K		
Permissible temperature in flow sensor	°C	5...90 °C (transient: 110 °C)		
Flowrate at 0.1 bar pressure loss	m^3/h	0.5	1.2	1.7
Pressure loss at qp	bar	0.15	0.17	0.21
kvs value (flowrate at 1 bar pressure loss)	m^3/h	1.53	3.65	5.45
Update times for:				
temperature	sec.	2		
output and flowrate	sec.	4		
energy and volume	sec.	16		
Permissible operating pressure	bar	16		
Overall length	mm	110	110	130
Nominal size	inch	R 1/2	R 1/2	R 3/4
Connecting thread	inch	G 3/4 B	G 3/4 B	G 1 B
Cable length for split instrument	m	approx. 0.3 m		
Weight	kg	app. 0.8	app. 0.8	app. 0.86
Permissible ambient temp.	°C	5...55		
Ambient class		C acc. to EN 1434		
Protection class		IP 54		
Power supply		batterie, via M-Bus or 24 VDC		
Current consumption of M-Bus interface		max. 1.5 mA, acc. to EN 1434 corresponding to 1 M-Bus load unit		

Type designation initials	
...B5..., ...B10...	Battery life 5+1 or 10+1 years
...S...	Split totalizer which can be mounted separately from the flowmeter
..M..	M-Bus
..MEE..	M-Bus and 2 pulse inputs
...A...	Remote output with energy pulses in kWh, combined with data logger with 1260 data records.
ws/c	Instrument for heat applications with mounting on the cold side = supply flow or for cooling applications with mounting on the warm side= return flow
h&c	Combined heating and cooling operations

Pulse inputs (...EE...)

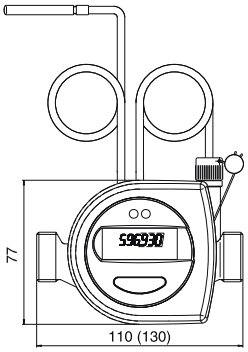
- Min. Pulse length: > 125 ms
- Max. Pulse frequency: < 3 Hz
- Terminal voltage: 3 V

Pulse output (...A...)

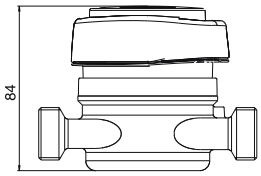
- Pulse value: 1 kWh
- Contact time: 125 ms
- Bounce none
- Max. voltage 28 V DC or AC
- Max. current: 100 mA

Dimensional drawings

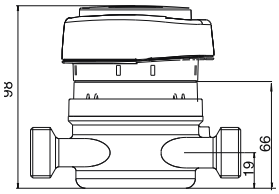
Top view



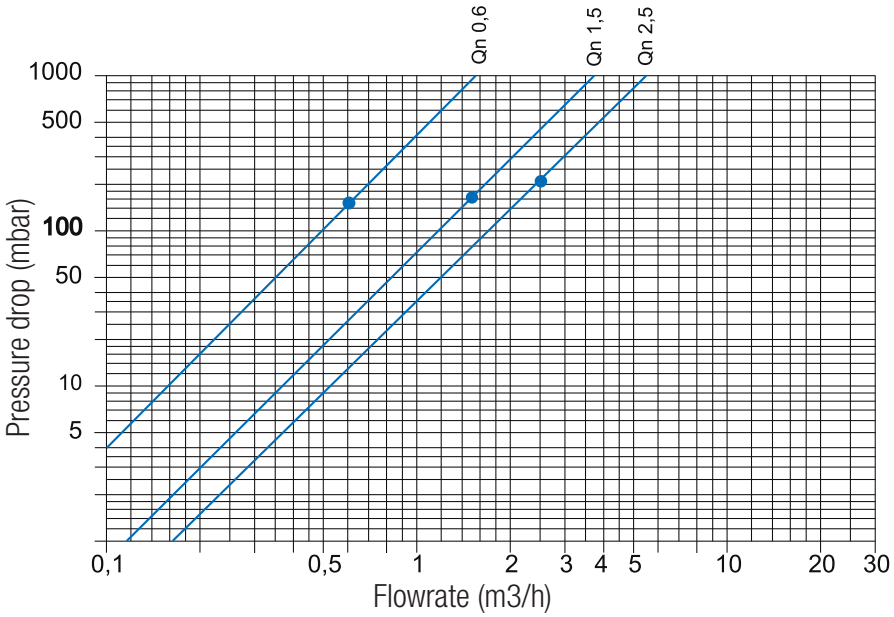
Side view



Side view of split instrument



Nomogram of pressure loss



Approvals

The instruments are approved according to the MID directive 2004/22/CE (not cooling and combined version). Instruments for commercial heat measurement are subject to commercial verification in most countries. Equipment subject to this obligation must be recalibrated after expiry of the calibration period. The operator is responsible for compliance with the regulations.

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