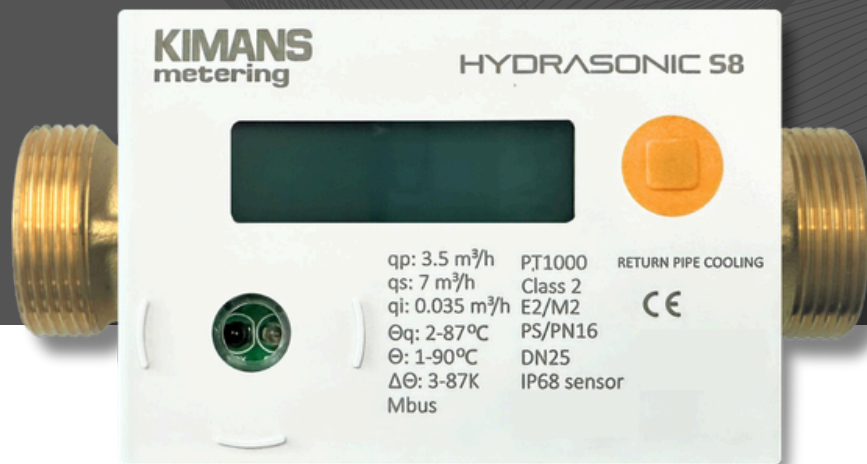


HYDRASONIC S8

Ultrasonic In-line BTU meters

Revolutionizing Flow



Hydrasonic S8 ultrasonic BTU meter is designed for measuring the energy consumption in heating/cooling application for billing purpose. Its static ultrasonic technology is based on the measurement of the transit time.

It offers benefits like easy battery replacement, IP68 protection, no straight run requirements, various communication options.

INTERCHANGABLE
BATTERY &
TEMPERATURE SENSOR



M-BUS & MODBUS
COMMUNICATION



IP68 PROTECTION



FLOW
CONDITIONING
MECHANISM



FEATURES

GENERAL

Application	-	Heating or bi-functional (heating/cooling) Heat-transfer fluid: glycol-free water
Approval	-	In compliance with MID (EN 1434:2022, OIML R75:2002) – Class 2, Environmental Class A
Accuracy class	-	Class 2
Ambient temperature	°C	+5 ... +55
Storage temperature	°C	+5 ... +55 max. –20...+60 (max. 4 weeks)
Humidity	%	95 maximum
Power supply	-	3.6 VDC ; 24 VDC (Optional)
Temperature sensor type	-	PT1000 , 2-wires: Ø 5.2 mm
Cable length of temperature sensor	m	1.4
Test possibilities	-	via display
Volume measuring cycle	s	2
Temperature measuring cycle	s	30
Power calculation cycle	s	2

CALCULATOR

Protection class	-	IP65 (Optional IP67)
Environmental class-mechanical	-	M1
Environmental class	-	E2
Calculator	-	Removable, with 1.5m cable to flow sensor
Absolute temperature range	°C	+1...+90 (+150 optional)
Starting temperature difference $\Delta\theta$	K	0.125
Min. temperature difference $\Delta\theta_{min}$	K	In compliance with MID
Max. temperature difference (heating) $\Delta\theta_{max}$	K	147 (In compliance with MID)
Extensive readable data memory	-	Monthly for 36 months (hourly, daily, yearly optional) values of energy, volume and error hours; additionally event memory (error log)
Battery life-time	-	Battery (Standard) – Up-to 13 years (16 years optional); interchangeable

FLOW SENSORS

Dynamic range (Qp/Qi) - 1:100

Mounting position flow sensor	-	Any position, no straight run requirements
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Temperature range (heating/ cooling) °C 2-87*

Protection class	-	IP68 (heating/cooling)
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*150 °C optional

INTERFACES

Optical ZVEI interface, for communication and testing.

Other Interfaces	NB-IoT, LoRaWAN, Cat.1, RS485 (Modbus RTU) and 4G (optional)
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M-Bus According to EN13757-3: 2013

Wireless M-Bus	According to EN13757-4; 2013
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DISPLAY

Display indication LCD-8 digit + special characters

Units	kWh - m ³ - °C - m ³ /h*
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Total values 99,999.999

Values displayed (main loop)	Energy - Volume - Flow - Power - Temperature - Differential temperature - Operating hours - Meter SN-Meter size-Meter time-Error Status - Display test
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*MWh-GJ optional

M-BUS / MODBUS

M-Bus Auto baud detect (300 and 2,400 bauds); galvanically insulated

M-Bus cable	24 AWG , 2 Core
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Data transmission Data reading via 2 non-polarized wire (1.5m)

Modbus (RS485)	Modbus RTU over RS485, 2-wire (optional)
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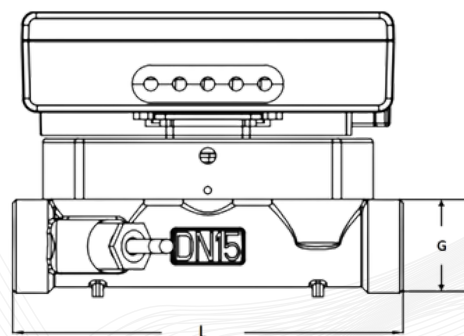
Additional remote modules (NB-IoT, LoRaWAN, Cat.1, 4G) available — see Interfaces section

FLOW SENSOR TECHNICAL DATA

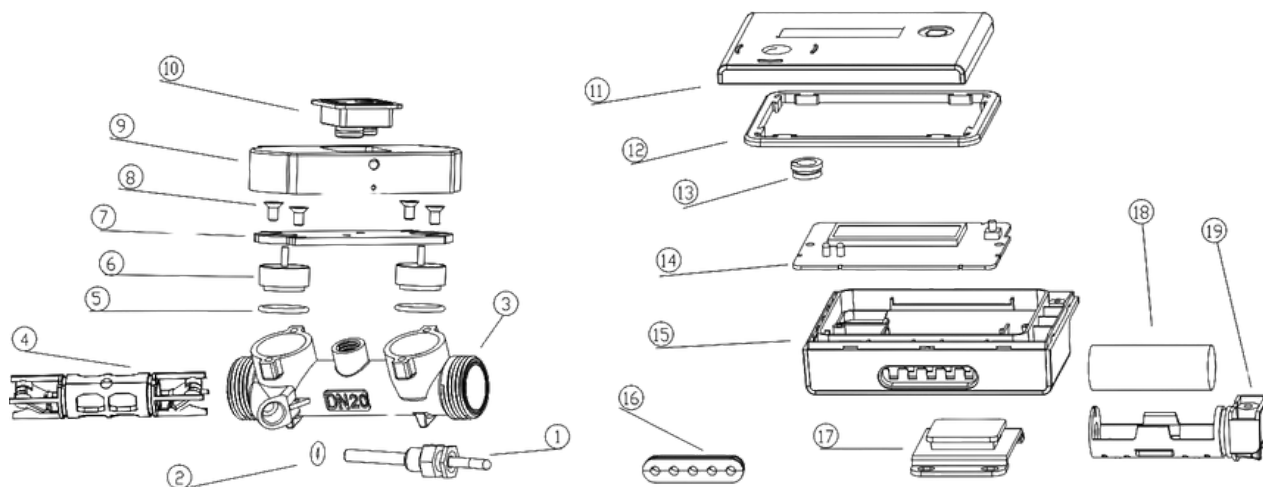
Measuring Method		Ultrasonic; Time of Flight				
Nominal Diameter	mm	DN15	DN20	DN25	DN32	DN40
Nominal flow q_p	m ³ /h	1,5	2,5	3,5	6,0	10,0
Low flow threshold	m ³ /h	0.006	0.012	0.014	0.03	0.05
Minimum flow q_i	m ³ /h	0.015	0.025	0.035	0.06	0.1
Maximum flow q_s	m ³ /h	3,0	5,0	7,0	12,0	20
Pressure drop Δp at q_p	mbar	120	100	128	128	140
Thread	-	G3/4B	G1B	G1 1/4B	G1 1/2B	G2B
Length	mm	110	130	160	180	200
Dynamic range Q_p/Q_i	-	1:100	1:100	1:100	1:100	1:100
Accuracy class (MID)	-	Class 2				
Nominal pressure PN	Bar	16 (standard) and 20/25 (Optional)				

DIMENSIONS

Nominal flowrate Q_p (m ³ /h) min	Maximum flowrate Q max	Nominal diameter (DN)	Thread G (in)	Length L (mm)	Approx. weight (kg)
1,5	3,0	DN15	G 3/4 B	110	0,720
2,5	5,0	DN20	G 1B	130	0,770
3,5	7,0	DN25	G 1 1/4 B	160	0,930
6,0	12,0	DN32	G 1 1/2 B	180	1,255
10,0	20,0	DN40	G2 B	200	1,580

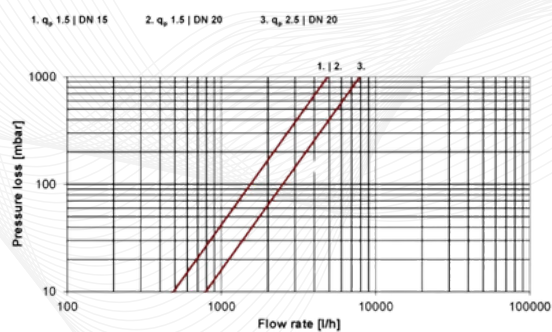
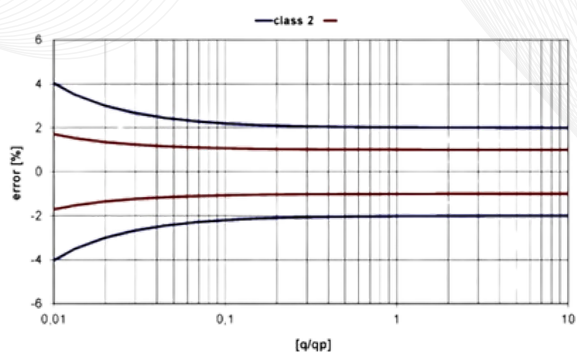


METER OVERVIEW



Item No:	Description	Item No:	Description
1	Temperature sensor	12	Gasket for calculator
2	Gasket for temperature sensor	13	Menu button
3	Brass body	14	Printed Circuit Board & Display
4	Reflector tube	15	Calculator body
5	Gasket for flow sensor	16	Cable gland tray
6	Ultrasonic flow sensor	17	Wall mounting bracket
7	SS Sensor support	18	Battery
8	SS Screws	19	Battery sleeve
9	Flow sensor cover		
10	Mounting bracket		
11	Calculator face cover		

PRESSURE LOSS & TYPICAL ERROR GRAPH



ORDERING CODE

HYDRASONIC S8	XX	-	XX	-	XX	-	XX	-	XX
Connection size									
G 3/4	3/4								
G 1	1								
G 1 1/4	1 1/4								
G1 1/2	1 1/2								
G2	2								
Flow sensor cable length									
1.5 m (Standard)			1.5						
3 m (Optional)			3						
Temperature sensor cable length									
1.5 m (Standard)					1.5				
3 m (Optional)					3				
Interchangeable components									
Battery (Standard)							B		
Battery & Temperature sensors							BT		
Power Supply							DC		
Temperature range									
1-90 °C								TS	
1-150 °C								TO	

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