



NETIX.AI



DATA SHEET

DUO S SERIES / NDS-N12-XX-DNXXX ULTRASONIC HEAT METER

The high-precision Ultrasonic Heat Meter, developed for every application qp 0.012 –20 m./h

Product Description

The DUO S Series is NETIX.AI Second generation Smart series metes. We build highly coordinated metering solution for our esteemed customers. The N12 range of Ultrasonic Heat Meter is an innovative heat meter with static flow sensor based on the ultrasonic measuring principle. It is designed for measuring the use of heat energy in which water is the heat/cool bearing medium.

It utilizes ultrasonic measuring methodology and micro processor technology. All calculation and flow measuring circuits are designed on one single board, thus offering exceptional accuracy and reliability. N12 range gives importance to flexibility with its programmable functions and install-uninstall communication units.

With its size options from DN15 to DN40, it enables flow rate metering from 0.03m./h to 20m./h. and Bulk size available from DN50 to DN400 flow rate metering from

Key Features

- Advanced function
- Low pressure drops
- No metering of air
- Leading to long lasting metrology
- Wide dynamic metering range
- Pin point measuring accuracy
- Pre-equipped for communication
- Mounting in any installation position
- In sensitive against lime & sand
- Long product life, because there is no moving parts
- Automatic self diagnosis and fault detection

IoT Ready

N12 meter range supports multiple communication interfaces for both wired and wireless which suitable for any type of installation environment, like

- M-Bus
- RS485 (Modbus)
- Pulse
- LoRaWAN (433MHz, 868MHz, 915MHz, 923MHz)
- NB-IoT
- Sigfox

For further information

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Tel: +31 68 543 6139

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Battery life

The N12 range of meters has no moving parts, presents as IP65, and its body is fabricated from durable brass material. This robust design makes it maintenance-free and highly precise throughout its flexible 6 or 10 or 15 years battery life depends up on customers' needs.



3 main units in N12

Ultrasonic Flow Meter Unit

Measures by the transfer of ultrasound signals between transducers with the help of mirrors.

Temperature Metering Unit

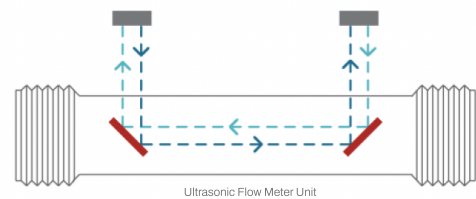
PT1000 type heat sensors are used which they are calibrated, certified. If input water temperature metering prob is integrated with the meter body where flow meter is, thus the output water temperature metering prob is mounted to a suitable point on the network return water direction. Also meter could be installed in out flow position.

Default cable length is 1.5m, but 3m length is also available as per request.

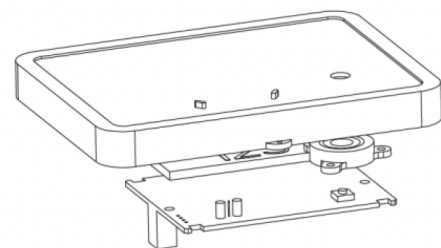
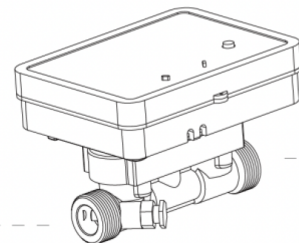
Calculator Unit

It is the unit that process consumption calculation by the flow rate data received from flow rate metering unit. Its calibration is performed in software at factory.

Calculated flow, Consumption and other information's are displayed on the LCD when button is pushed. These information may be remotely read via optical port and communication unit.



Ultrasonic Flow Meter Unit



Calculator Unit

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Ordering Information

Model	NDS-N9-VI-DN15	NDS-N9-VI-DN20	NDS-N9-VI-DN25	NDS-N9-VI-DN32	NDS-N9-VI-DN40
Pipe Diameter	DN15	DN20	DN25	DN32	DN40
Minimum Flow Rate, q_i (m ³ /h)	0.012	0.05	0.07	0.12	0.2
Permanent Flow Rate, q_p (m ³ /h)	1.5	2.5	3.5	6	10
Maximum Flow Rate, (m ³ /h)	3.0	5.0	7.0	12	20
Overload Flow Rate, (m ³ /h)	4.5	6.5	10	18	24
Connection	G3/4'	G1'	G1'1/4	G1'1/2	G2'
Length (mm)	110	130	160	180	200
Width (mm)	96	105	114	120	130

Model	Diameter DN (mm)	Nominal Flow Rate Q3 (m ³ /h)	Maximum Flow Rate Q2 (m ³ /h)	Minimum Flow Rate Q1 (m ³ /h)	Flange Outer Diameter in mm	Length in mm	Connections
NDS-N12-VI-DN50	50	15	30	0.3	165	200	4×M16
NDS-N12-VI-DN65	65	25	50	0.5	185	200	4×M16
NDS-N12-VI-DN80	80	40	80	0.8	200	225	8×M16
NDS-N12-VI-DN100	100	60	120	1.2	220	250	8×M16
NDS-N12-VI-DN125	125	100	200	2.0	250	250	8×M16
NDS-N12-VI-DN150	150	150	300	3.0	280	300	8×M20
NDS-N12-VI-DN200	200	250	500	5.0	335	345	12×M20
NDS-N12-VI-DN250	250	400	800	8.0	405	445	12×M24
NDS-N12-VI-DN300	300	600	1200	12	460	500	12×M24
NDS-N12-VI-DN350	350	800	1600	16	520	500	12×M24
NDS-N12-VI-DN400	400	1000	2000	20	580	600	16×M27

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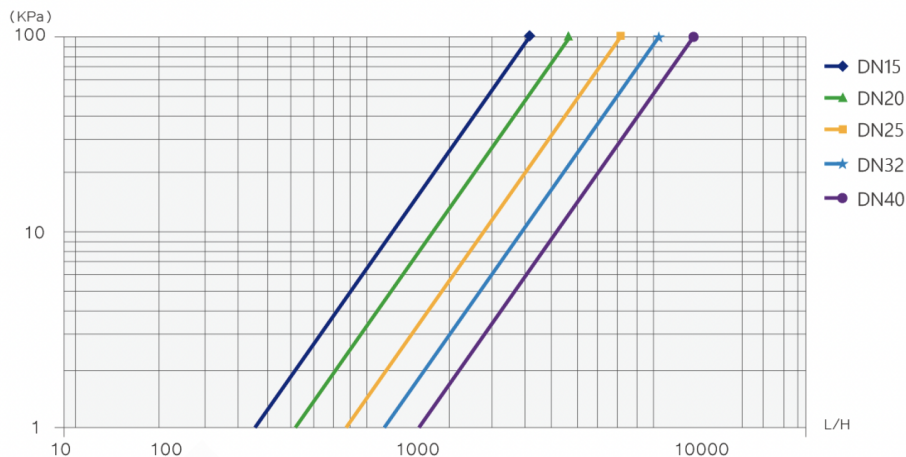
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Technical Specification

Temperature	Range: 4°C - 95°C, T: 3k - 65k
Temperature Sensor	A pair of PT1000 platinum resistor
Metrological Class	Class 2, (EN1434)
Maximum Operation Pressure	1.6Mpa
Pressure Loss	P<25kPa at qp
Pressure Stage	PN16
Protection Class	IP65 or IP68
Battery	DC3.6V, lithium battery, 6-10-15 years lifetime option. *Optional: 230V Power interface module available
Data Storage	24 months history data, including accumulated heat energy and volume, etc. Total heat energy, volume, running hours, etc.
Operating Temperature	-30°C - 55°C
Interface & Communication	M-Bus, Optical port, Pulse Output / Pulse Input, RS-485 (Modbus), LPWAN (LoRaWAN, Sigfox, NB-IoT)
Installation	Horizontal or Vertical
Display and Indication	Unit: kWh, MWh, GCal (optional) LCD: 8-digit (back illumination) Accumulated: 0.1kWh-9999999.9kWh.
Standard Compliance	EN13757

Ultrasonic Water Meter Pressure Loss



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