Instrumentteam PLUSS as
post@instrumentteampluss.no

Sontex

Superaqua 5 - Datasheet EN

Superaqua 5

Utility Ultrasonic Water Meter

LoRaWAN M-Bus M-Bus MultiCom PULSE OUT



The *Superaqua 5* ultrasonic bulk water meter with integrated data communication is suitable for commercial applications, water supply systems, and smart metering. The ultrasonic measurement, based on its innovative mirror-free sensor technology, provides high long-term stability and ensures highly accurate water consumption measurement. In addition, continuous monitoring of the meter's condition is performed. The Superaqua 5 features multi-protocol wireless technology, and enables remote data reading via mobile or fixed systems with maximum interoperability. The free-flow design also ensures minimal pressure loss.

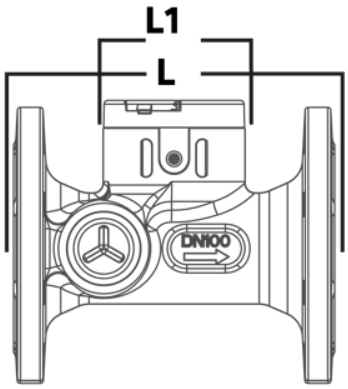
Main Features

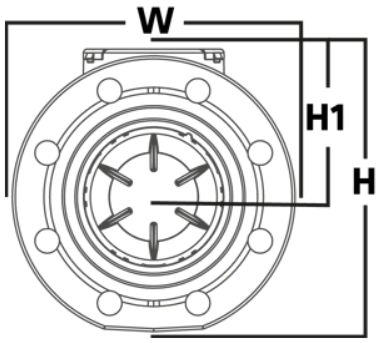
- Mirror-free ultrasonic water meter
- Available in Q_3 40 to Q_3 400, with 200 to 350 mm lengths and DN 50 to DN 200
- Suitable for horizontal / vertical installation
- MultiCom Mode - transmits LoRaWAN® and wireless M-Bus simultaneously
- LoRaWAN® and wM-Bus 868 MHz / optional pulse out or wireless M-Bus
- App-based configuration via ParamApp
- Battery life up to 16 years

Technical data

General	
Application	▪ Water Metering (especially municipal utilities and commercial applications)
Temperatures	▪ Ambient: +1°C...+70°C ▪ Storage: -10°C...+70°C
Protection rating	▪ IP68
Electromagnetic class	▪ E2
Mechanical class	▪ M1
Measuring accuracy class	▪ 2
Medium	▪ Potable water
Nominal Pressure	▪ PN 16 (PN 10 DN200: PN10)
Temperature Class	▪ T50 (+0.1°C to +50°C)
Measuring Frequency	▪ 1 Hz
Environment Class	▪ B (indoor installation) / O (outdoor installation)
Sensitivity	▪ U0D0
Measurement Flow Rate	▪ Bi-directional

Mechanical Data (Dimensions)

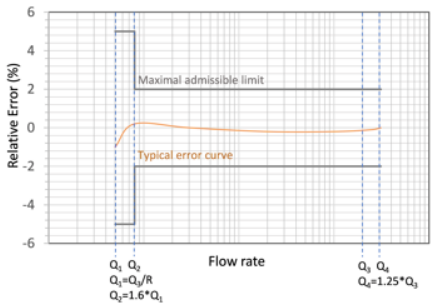




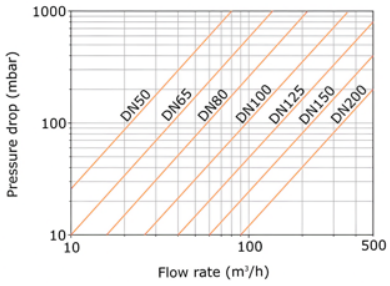
Nominal diameter [mm]	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
Connection	2	2" 1/2	3	4	5	6	8
Total meter weight [kg]	10	12	13	15	18	25	35
Total length (L) [mm]	200	200	225	250	250	300	350
⚠ WS length	on request						
Height (H1) [mm]	97	103	108	115	127	134	152
Total height (H) [mm]	182	198.5	215.5	233.5	259.5	275.5	312
Width (W) [mm]	165	185	200	220	240	260	340
Housing Length (L1) [mm]	110	110	110	110	110	110	110

Metrological Data

Metrological Class 2



Pressure Drop



Please note that these diagrams should not be regarded as absolute and may be subject to variation.

Nominal diameter [mm]	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
Connection	2	2" 1/2	3	4	5	6	8
Continuous Flow Rate Q_3 [mm]	40	63	63	100	160	250	400
Overload Flow Rate Q_4 [m^3/h]	50	78.755	78.75	125	200	313	500
Transitional Flow Rate Q_2 [m^3/h]	0.13	0.2	0.2	0.32	0.51	0.8	1.28
Min. Flow Rate Q_1 [L/h]	0.08	0.13	0.13	0.2	0.32	0.5	0.8
Starting Flow Rate Q_{START} [L/h]	0.04	0.065	0.065	0.1	0.15	0.25	0.4
Pressure Drop Class @Q_3 [ΔP]	ΔP16	ΔP16	ΔP16	ΔP16	ΔP16	ΔP16	ΔP16
Measuring range [R]	500	500	500	500	500	500	500
Flange Standard*	ISO ANSI BSI	ISO	ISO ANSI BSI	ISO ANSI BSI	ISO	ISO ANSI BSI	ISO ANSI BSI

* The standards for flanges may vary depending on the market. For more information, please contact our sales department.

Power Supply	
Type	Lithium battery
Lifetime	Up to 16 Years*

* Depending on sending interval of radio telegram, telegram length and operating temperature.

Display Characteristics	
Display Indication	LCD 10 Digits
Units	m^3, L, hour
Value Display	Volume, Flow, Reverse Flow, Display Test, Events and Alarms Status, F/W Version
Events Codes and Alarms	Reverse Flow, Low Battery, Leakage, Air bubbles, Burst, Frost, Heat, Dry, Over Temperature, No Consumption

Communication Systems

Global View of Communication Systems

For more information, please contact our sales department or see price list.

Wireless	Connector
MultiCom: simultaneous LoRaWAN® 868 MHz and wireless M-Bus 868 MHz	wired M-Bus and Pulse Output (without cable cut tamper)
no radio functionality	wired M-Bus and Pulse Output (without cable cut tamper)
no radio functionality	Pulse Output (with cable cut tamper)

Data Collection Interfaces

Radio communication		
	Wireless M-Bus 868 MHz	**LoRaWAN®**
Radio protocol	▪ OMS® V4 (OMS® V3 compliant / EN13757)	▪ LoRaWAN Certified® EU (acc. to Specification V1.0.3)
Transmission mode / class	▪ T1	▪ Class A
Encryption mode	▪ Profile A (security mode 5) or Profile B (security mode7)	▪ AES-128, OMSV4, LoRaWAN 1.03 (1.02 certified)
Encryption options	▪ Individual key	▪ Individual key
Radio frequency	▪ 868.95 MHz	▪ 868.95 MHz
Transmission power	▪ Max. 25 mW (14 dBm)	▪ Max. 25 mW (14 dBm)
Communication	▪ Unidirectional	▪ Bidirectional
Radio telegrams	▪ long by default	▪ Histogram or OMS® over LoRa
Transmission intervals	▪ 16 seconds by default, Profile A (security mode 5) (configurable for drive-by or walk-by)	▪ 4 per day
Radio activity	▪ Configurable (at factory)	▪ Configurable (at factory)
Radio activity standard	▪ 24/7	▪ 24/7
Readout Interval	▪ Permanent	▪ Permanent
MAC Commands (1.0.3)	-/-	▪ TimeReq
Connection Mode	-/-	▪ Over-The-Air Aktivierung (OTAA)
Telegram Content by default	▪ Net or Forward Volume, Reverse Volume, Medium Temperature Data / Time, Target Monthly Value, Target Date, Events / Alarms, Remaining Battery Lifetime	▪ Histogram: Time Stamp, Instant Volume Net or Forward, Instant Alarm or Event, 12 hourly Volumes ▪ OMS® over LoRa: Net or Forward Volume, Reverse Volume, Medium Temperature Data / Time, Target Monthly Value, Target Date, Events / Alarms, Remaining Battery Lifetime

M-Bus Details	
Standard	OMS® V4 (OMS® V3 compatibility) / EN13757
Readout Interval	Permanent
Baud Rate	2400 by default
Telegram Content by default	Net or forward volume, reverse volume, medium temperature data / time, target monthly value, target date, events / alarms, remaining battery lifetime

Pulse Output Details	
Pulse Output Type	Open Collector
Pulse Max Frequency	25 Hz
Pulse Weight	100 L / Pulse by default
Pulse Length	500 ms

Software Tools

- ParamApp®: An App for Diagnostics and Configuration

ParamApp® is a powerful and user-friendly Android application developed by Sontex France SAS dedicated to commissioning and diagnostics of smart devices or smart meters directly on site, with a smartphone and through NFC.

Editable Parameters	
Display	Net or Forward Volume, Reverse Volume, Flow Rate decimals, Sequence timings
Communications	Pulse configuration, M-Bus Communication parameters, LoRaWAN® force join or message

Diagnostics	
Recorded Parameters	Temperature (minimum, average, maximum) Flow Rate (minimum, average, maximum) Volume (minimum, average, maximum) Events and Alarms
Recording Granularity	Hourly, Daily, Monthly, Yearly
Data Export	CSV
Data reading	Superaqua 5 allows data collection even with an empty battery

Download the app on Google Play Store



Legal and Compliance Information

Approvals, Certificates, and Regulations	
EU Directives Compliance	MID 2014/32/UE, RoHS 2 2011/65/EU, REACH
Drinking Water Approvals	ACS, SVGW, WRAS, DVGW
Market Approval	CE Marking
Other Certifications	OMS® V4 (wM-Bus), LoRa certified (LoRaWAN®)

Hereby, Sontex declares that the product is in compliance with Directive 2014/53/EU, 2014/32/EU and 2011/65/EU.

The full text of the CE Declaration of Conformity can be found on our website.

Support & Warranty Information

- For technical support, please contact your local agent.
- Warranty and guarantee claims are only valid if the device has been used in accordance with their intended use and if the technical requirements and any applicable technical regulations have been observed.
- Links to online documentation, declaration of conformity, manuals, or support forums: