

Superaqua 3 - Datasheet EN

Superaqua 3

Compact Ultrasonic Water Meter



The *Superaqua 3* ultrasonic meter with integrated data communication is designed for domestic drinking water networks as well as smart metering applications. Based on its innovative mirror-free sensor technology, the ultrasonic measurement ensures excellent long-term stability, enabling precise billing and reliable monitoring of water consumption (e.g., for leak detection) while maintaining minimal pressure loss. The *Superaqua 3* features multi-protocol wireless technology, and enables remote data reading via mobile or fixed systems with maximum interoperability.



Further information can be found at
www.sontex.ch

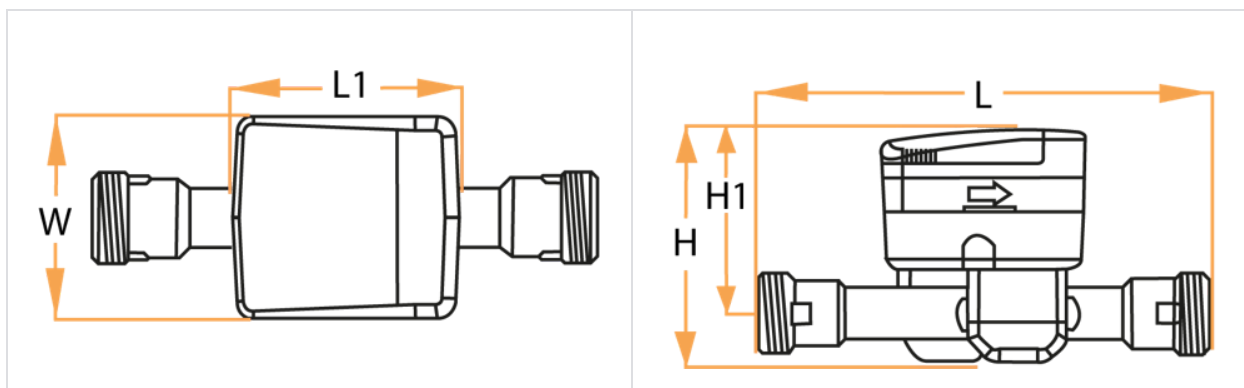
Main Features

- Mirror-free ultrasonic water meter
- Available in Q₃ 2.5 to Q₃ 25, with 110 to 300 mm lengths and DN 15 to DN 50
- Suitable for horizontal / vertical installation
- MultiCom Mode - transmits LoRaWAN® and wireless M-bus / OMS® simultaneously
- LoRaWAN®, wM-Bus / OMS® 868 MHz or wireless M-Bus 434 MHz
- App-based configuration via ParamApp
- Battery life up to 16 years

Technical data

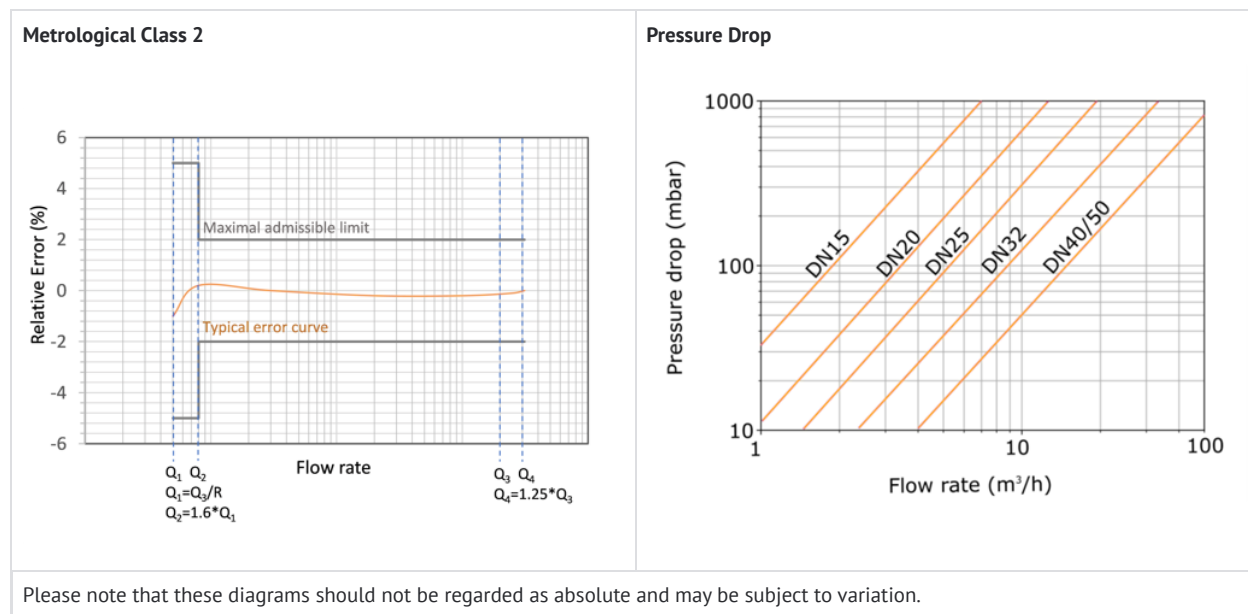
General	
Application	<ul style="list-style-type: none"> ■ Water Metering (domestic, municipal utilities, and commercial applications)
Temperatures	<ul style="list-style-type: none"> ■ Ambient: +1°C...+70°C ■ Storage: -10°C...+70°C maximum (maximum 4 weeks at T>35 °C)
Protection rating	<ul style="list-style-type: none"> ■ IP68
Electromagnetic class	<ul style="list-style-type: none"> ■ E2
Mechanical class	<ul style="list-style-type: none"> ■ M1
Measuring accuracy class	<ul style="list-style-type: none"> ■ 2
Medium	<ul style="list-style-type: none"> ■ Potable water
Nominal Pressure	<ul style="list-style-type: none"> ■ PN 16
Temperature Class	<ul style="list-style-type: none"> ■ T50 (+0.1°C to +50°C)
Measuring Frequency	<ul style="list-style-type: none"> ■ 1 Hz
Environment Class	<ul style="list-style-type: none"> ■ B (indoor installation) / O (outdoor installation)
Sensitivity	<ul style="list-style-type: none"> ■ U0D0
Measurement Flow Rate	<ul style="list-style-type: none"> ■ Bi-directional

Mechanical Data (Dimensions)



Nominal diameter [mm]	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
Connection	G3/4" B	G1" B	G1" 1/4 B	G1" 1/2 B	G2" B	G2" 1/2 B
Total meter weight [kg]	0.8	1	1.4	1.5	1.9	2.4
Height (H1) [mm]	77	77	77	77	77	77
Total Height (H) [mm]	98	98	98	101	107	115
Width (W) [mm]	76	76	76	76	76	76
Housing Length (L1) [mm]	87	87	87	87	87	87
Length (L) [mm]	110 165 170	105 130 165 190 220	175 200 260	260	300	300

Metrological Data



Nominal diameter [mm]	DN 15	DN 15	DN 15	DN 20	DN 20	DN 20	DN 20
Connection	G3/4" B	G3/4" B	G3/4" B	G1" B	G1" B	G1" B	G1" B
Material	CW617N	CW617N	CW617N	CW617N	CW617N	CW617N	CW724R
Overall Length [mm]	110	165	170	190	105	130	165
Continuous Flow Rate Q_3 [mm]	2.5	2.5	2.5	4	4	4	4
Overload Flow Rate Q_4 [m ³ /h]	3.125	3.125	3.125	5	5	5	5
Transitional Flow Rate Q_2 [m ³ /h]	8	8	8	13	13	13	13
Min. Flow Rate Q_1 [L/h]	5	5	5	8	8	8	8
Starting Flow Rate Q_{START} [L/h]	2.5	2.5	2.5	4	4	4	4
Pressure Drop Class @ Q_3 [ΔP]	25	25	25	25	25	63	63
Measuring range [R]	500	500	500	500	500	500	500

Nominal diameter [mm]	DN 25	DN 25	DN 25	DN 25	DN 25	DN 32	DN 40	DN 50
Connection	G1" 1/4 B	G1" 1/4 B	G1" 1/4 B	G1" 1/4 B	G1" 1/4 B	G1 1/2" B	G2" B	G2" 1/2 B
Material	CW617N	CW617N	CW617N	CW617N	CW617N	CW617N	CW617N	CW617N
Overall Length [mm]	175	260	200	175	260	260	300	300
Continuous Flow Rate Q_3 [mm]	4	10	10	10	6.3	10	16	25
Overload Flow Rate Q_4 [m ³ /h]	5	12.5	12.5	12.5	7.9	12.5	20	31
Transitional Flow Rate Q_2 [m ³ /h]	13	32	32	32	21	32	51	80
Min. Flow Rate Q_1 [L/h]	8	20	20	20	13	20	32	50
Starting Flow Rate Q_{START} [L/h]	4	10	10	10	6	10	16	25
Pressure Drop Class @ Q_3 [ΔP]	25	25	25	25	25	25	25	25
Measuring range [R]	500	500	500	500	500	500	500	500

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, OverTemperature, No Consumption

Data Collection Interfaces

Radio communication			
	Wireless M-Bus 868 MHz	Wireless M-Bus 434 MHz	LoRaWAN®
Radio protocol	<ul style="list-style-type: none"> OMS® V4 (OMS V3 compliant / EN13757) 	<ul style="list-style-type: none"> OMS® V4 (OMS V3 compliant / EN13757) 	<ul style="list-style-type: none"> LoRaWAN Certified® EU (acc. to Specification V1.0.3)
Transmission mode / class	<ul style="list-style-type: none"> T1 	<ul style="list-style-type: none"> T1 	<ul style="list-style-type: none"> Class A
Encryption mode	<ul style="list-style-type: none"> Profile A (security mode 5) or Profile B (security mode7) 	<ul style="list-style-type: none"> Profile A (security mode 5) 	<ul style="list-style-type: none"> AES-128, OMSV4, LoRaWAN 1.03 (1.02 certified)
Encryption options	<ul style="list-style-type: none"> Individual key 	<ul style="list-style-type: none"> Individual key 	<ul style="list-style-type: none"> Individual key
Radio frequency	<ul style="list-style-type: none"> 868.95 MHz 	<ul style="list-style-type: none"> 434 MHz 	<ul style="list-style-type: none"> 868.95 MHz
Transmission power	<ul style="list-style-type: none"> Max. 25 mW (14 dBm) 	<ul style="list-style-type: none"> Max. 10 mW (10 dBm) 	<ul style="list-style-type: none"> Max. 25 mW (14 dBm)
Communication	<ul style="list-style-type: none"> Unidirectional 	<ul style="list-style-type: none"> Unidirectional 	<ul style="list-style-type: none"> Bidirectional
Radio telegrams	<ul style="list-style-type: none"> long by default 	<ul style="list-style-type: none"> long by default 	<ul style="list-style-type: none"> Histogram or OMS® over LoRa
Transmission intervals	<ul style="list-style-type: none"> 16 seconds by default, Profile A (security mode 5) (configurable for drive-by or walk-by) 	<ul style="list-style-type: none"> 16 seconds by default, Profile A (security mode 5) (configurable for drive-by or walk-by) 	<ul style="list-style-type: none"> 4 per day
Radio activity	<ul style="list-style-type: none"> Configurable (at factory) 	<ul style="list-style-type: none"> Configurable (at factory) 	<ul style="list-style-type: none"> Configurable (at factory)
Radio activity standard	<ul style="list-style-type: none"> 24/7 	<ul style="list-style-type: none"> 24/7 	<ul style="list-style-type: none"> 24/7
Readout Interval	<ul style="list-style-type: none"> Permanent 	<ul style="list-style-type: none"> Permanent 	<ul style="list-style-type: none"> Permanent
MAC Commands (1.0.3)	-/-	-/-	<ul style="list-style-type: none"> TimeReq
Connection mode	-/-	-/-	<ul style="list-style-type: none"> Over-The-Air Activation (OTAA)
Telegram Content by default	<ul style="list-style-type: none"> Net or Forward Volume, Reverse Volume, Medium Temperature Data / Time, Target Monthly Value, Target Date, Events / Alarms, Remaining Battery Lifetime 	<ul style="list-style-type: none"> Net or Forward Volume, Reverse Volume, Medium Temperature Data / Time, Target Monthly Value, Target Date, Events / Alarms, Remaining Battery Lifetime 	<ul style="list-style-type: none"> 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

Software Tools

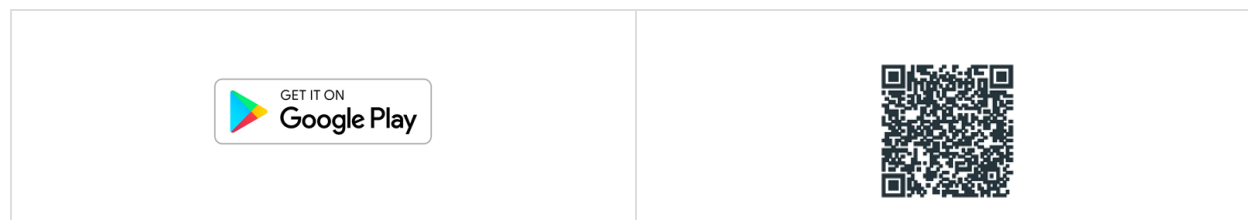
- ParamApp®: An App for Diagnostics and Configuration

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, Index Decimals, Flow Rate Decimals, Sequence Timings
Communications	wireless 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 3 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, RED 2014/53/EU, RoHS 2 2011/65/EU, REACH
Drinking Water Approvals	ACS, SVGW, WRAS, DM 174, DVGW
Market Approval	CE Marking
Other Certifications	OMS [®] V4 (wireless M-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:

