

Superaqua 3 Composite - Datasheet EN

Superaqua 3 Composite

Compact Ultrasonic Water Meter



The *Superaqua 3 Composite* ultrasonic with integrated data communication meter 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). The *Superaqua 3 Composite* features multi-protocol wireless technology, and enables remote data reading via mobile or fixed systems with maximum interoperability. Its state-of-the-art composite pipe housing already today meets the stricter lead limits starting by January 2028.



Further information can be found at
www.sontex.ch

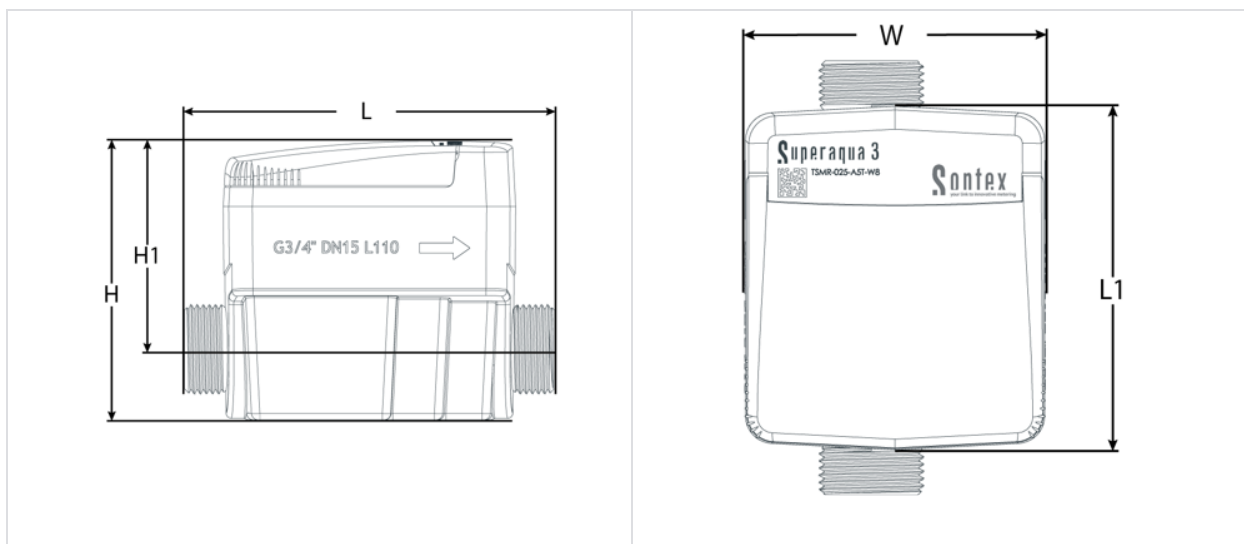
Main Features

- Mirror-free ultrasonic water meter
- Lead-free pipe (Composite)
- Available in Q₃ 2.5, with 110 mm lengths and DN 15
- Suitable for horizontal / vertical installation
- MultiCom Mode - transmits LoRaWAN® and wireless M-bus / OMS® simultaneously
- LoRaWAN®, wM-Bus / OMS® 868 MHz
- App-based configuration via ParamApp
- Battery life up to 15 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"> ■ Operating Ambient Temperature: min -10 °C up to max +55 °C In case of negative ambient temperatures, it is imperative to either flush the water network upstream to protect the meter, or ensure it is in its operating range and is circulating ■ Storage / transportation: Accidental authorized range: [-10 °C to 5 °C] and [35 °C to 70 °C] for no more than 72 consecutive hours, and 4 cumulated weeks ■ Operating Water Temperature: min 0.1 °C up to max +50 °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
Connection	G3/4" B
Total meter weight [kg]	0.5
Height (H1) [mm]	62
Total Height (H) [mm]	82.57
Width (W) [mm]	76.04
Housing Length (L1) [mm]	87
Length (L) [mm]	110

Metrological Data

Nominal diameter [mm]	DN 15
Connection	G3/4" B
Material	Composite
Overall Length [mm]	110
Continuous Flow Rate Q_3 [mm]	2.5
Overload Flow Rate Q_4 [m³/h]	3.125
Transitional Flow Rate Q_2 [m³/h]	8
Min. Flow Rate Q_1 [L/h]	5
Starting Flow Rate Q_{START} [L/h]	2.5
Pressure Drop Class @Q_3 [ΔP]	63
Measuring range [R]	500

Power Supply	
Type	3.6 VDC Bobbin C-size Li/SOCI2 Battery with Super Cap, Not Replaceable, Not Potted
Lifetime	Up to 15 Years*

* In normal operating conditions, in the communication configuration described in this document, and in mild climate conditions (proportion of time spent at each temperature: 10% at 0°C, 25% at 10° C, 30% at 20° C, 20% at 30° C, 10% at 40° C, 5% at 50° C). Depending on configuration, more details below.

Display Characteristics	
Display Indication	LCD 10 Digits
Units	m ³ , L, hour, min, sec
Value Display	Volume, Flow, Reverse Flow, Display Test, Events and Alarms Status; F/W Version
Events Codes and Alarms	Dry, Reverse Meter, Frost, Heat, Burst, Air Bubble, Service Flags, Reverse Flow, Battery Lifetime, Water Detection, Overload, Leakage

Data Collection Interfaces

Radio communication		
	Wireless M-Bus 868 MHz	LoRaWAN®
Radio protocol	<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"> 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"> 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
Radio frequency	<ul style="list-style-type: none"> 868.95 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. 25 mW (14 dBm)
Communication	<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"> 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"> 4 per day
Radio activity	<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
Readout Interval	<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"> 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

Configuration and Lifetime			
Configuring the Sending Frequency	<ul style="list-style-type: none"> ▪ Payload Type 	<ul style="list-style-type: none"> ▪ Messages per Day 	<ul style="list-style-type: none"> ▪ Lifetime
Wireless M-Bus every 16 seconds	<ul style="list-style-type: none"> ▪ Long 	<ul style="list-style-type: none"> ▪ 4 	<ul style="list-style-type: none"> ▪ 13 Years
Wireless M-Bus every 18 seconds	<ul style="list-style-type: none"> ▪ Short 	<ul style="list-style-type: none"> ▪ 4 	<ul style="list-style-type: none"> ▪ 15 Years

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	Superqua 3 Composite (TSM) allows data collection even with an empty battery

Download the app on Google Play Store

	
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Legal and Compliance Information

Approvals, Certificates, and Regulations	
EU Directives Compliance	MID 2014/32/UE, RED 2014/53/EU, RoHS 2 2011/65/EU amended by 2015/863, REACH 1907/2006
Drinking Water Approvals	ACS, SVGW, WRAS, DM 174
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:

