Supercom W1-R / W1-O / W1-L

Radio modules for Modularis water meter

The retrofittable radio modules of the *Supercom W1* (SMW1) family are adapted to a wide range of water meter variants from E. Wehrle GmbH:

- Modularis single-jet and multi-jet dry meters
- Modularis rotary piston meters
- As well as the different variants of the EAS Modularis capsule meter serie

They can be retrofitted at any time without violating the verification of the water meter and can be used for water meters with flow rates from Q3 2.5 m3/h to 25 m3/h.

The module is available in the following three radio versions:

- *W1-R* (SMW1R) - replace the Supercom 581 - with bidirectional SONTEX radio system
- *W1-O* (SMW1O) - replace the Supercom 587 - with unidirectional wM-Bus (OMS certified)
- *W1-L* (SMW1L) with the bidirectional LoRaWAN (LoRaWAN certified)

The radio modules *W1-R/O* are suitable for walk-by readout or readout via data concentrators or gateways. The *W1-L* module is read by a LoRaWAN gateway. All *Supercom W1* modules can be integrated into the *Sonexa Superlink* platform and are equipped with an optical interface for parameterization.

Sontex
your link to innovative metering

Features

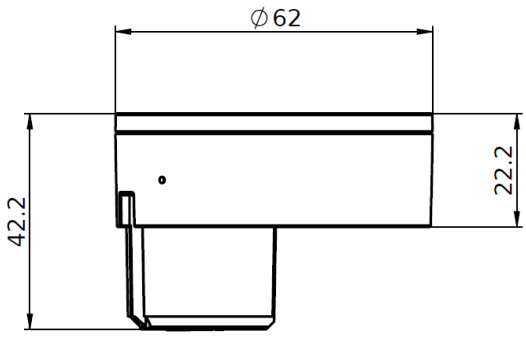
- Recording of the counting pulses (inductive measuring principle) of the mechanical water meter and transmission via a corresponding radio system
- Backflow detection
- Fraud detection: dismantling, magnetic influence
- Storage of current and historical consumption data, set day values and errors
- Automatic activation after adjustable volume
- Simple parameterization of the devices via optical interface with *Superprog V1.3.1* or higher
- Readout via walk-by or integration with gateway *Superlink C* in the *Sonexa Superlink* platform
- Password protection for secure programming access

Installation & configuration

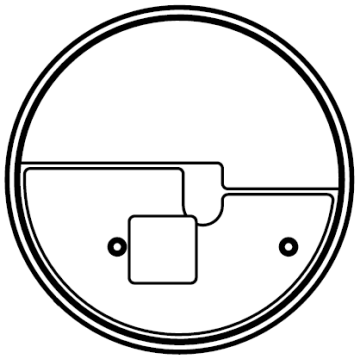
Further information on installation and confirguration can be found on the following website:

Dimension drawings

W1-R and W1-O

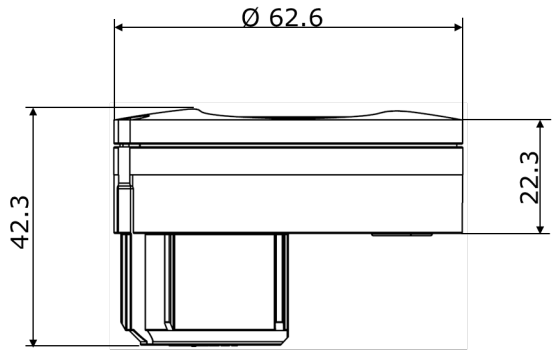


Side view [mm]

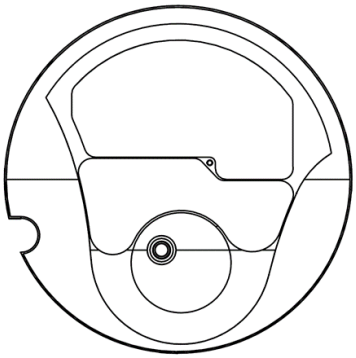


Top view

W1-L



Side view [mm]



Top view

Technical Data

	Supercom W1-R Sontex Radio	Supercom W1-O wM-Bus/OMS	Supercom W1-L LoRaWAN
General			
Continuous flow rate according to MID	Q3 2.5 m3/h – 25 m3/h		
Nominal flow rate	EWG: Qn 1.5 m3/h – 16 m3/h		
Operating temperature	5°C to 55°C (< 95% relative humidity)		
Transport temperature	-20°C to +70°C (< 95% relative humidity)		
Storage temperature	-20°C to +70°C (< 95% relative humidity)		
Parameterization and Baud rate	■ Optical interface (Protocol EN 60870-5) ■ 2'400 Baud		
Protection Class	IP68		IP67
Weight	46 g (without packaging)		42 g (without packaging)
Energy supply			
Battery type	2/3A Lithium (lithium content ⩽ 1g)		
Operating voltage	3V DC		
Battery life	Up to 10+1 years[1)]	12+1 years[2)]	12+1 years[3)]
Radio			
Radio protocol	Radian V1.0	Wireless M-Bus (EN 13757-4)	LoRaWAN (Spec. V1.0.2)
Transmission mode / class	n.a.	■ T1 ■ C1A	Class A
Encryption mode	AES-128 CBC	AES-128 - Mode 5/7	AES-128 - AppKey
Encryption options	■ Individual key ■ General key ■ Unencrypted	■ Individual key ■ General key	■ Individual key
Radio frequency	433.82 MHz	868.95 MHz	ISM Frequency band EU863-870
Transmission power	■ Max. 10 mW (10 dBm) ■ Typ. -3 dBm (EIRP typ. 0.5 mW)	■ Max. 25 mW (14 dBm) ■ Typ. 5 dBm (EIRP typ. 3 mW)	■ Max. 25 mW (14 dBm) ■ Typ. 5 dBm
Communication	Bidirectional	Unidirectional	Bidirectional
Radio telegrams	■ Telegram 1 (current data) ■ Telegram 2 (historical data)	■ Telegram S (Short - OMS) ■ Telegram L (Long - walk-by)	■ Telegram S (SF7-9): 113 byte ■ Telegram L (SF10-12): 49 byte
Transmission intervals [4)]	When calling (after wake-up)	Programmable ■ OMS: 30 - 7200 s (120 s) ■ Walk-by: 30 - 14400 s (120 s)	Programmable ■ SF7-9: 30 - 540 min (60 min) ■ SF10: 30 - 540 min (120 min) ■ SF11: 30 - 540 min (240 min) ■ SF12: 30 - 540 min (360 min)
Radio activity	Configurable via calendar function	Configurable via calendar function	No calendar function
Radio activity standard [4)]	Daily, 06:00 up to 19:59 h	Telegram S: ■ 24 h/day ■ 7 Days a week Telegram L: ■ max. 14 h/day (06:00 - 19:59 h) ■ 7 Days a week	Periodic dispatch according to transmission intervals

1) Condition for 10+1 years: One readout per week with max. 500 devices

2) Condition for 12+1 years: Compliance with the standard transmission intervals according to the data sheet

3) Condition for 12+1 years: Compliance with the standard transmission intervals SF7-12 as per data sheet

4) Default values in brackets

Type of reading

Mobile (Walk-by)	Radio modem *Supercom 636*	Radio modem *Supercom 637*	n.a.
Automatic Meter Reading (AMR)	■ Data concentrator *Supercom 646* ■ Gateway *Superlink C*	■ Data concentrator *Supercom 647* ■ Gateway *Superlink C*	Commercially available LoRaWAN Gateway

Conformities

CE Conformity	RED Directive 2014/53/EU RoHS Directive 2011/65/EU		
Certifications		OMS certified Generation 4, Security profile A	■ LoRaWAN CertifiedCM Product (acc. to Specification V1.0.2) ■ LoRaWAN™ Swisscom IoT Qualified Product

Technical support

For technical support, please contact your local Sontex representative or Sontex SA directly.
The detailed declarations of conformity can be found on our homepage: www.sontex.ch.