

aquaradio® Mobile Receiver

Tecnical datasheet

Usage

The aquaradio® Mobile Receiver is used for mobile reading of consumption meters using wireless M-Bus modes T1/T2, C1/C2, and S1/S2 (electricity, gas, water, heat) on foot or by vehicle. With a suitable laptop (Windows 10) or smartphone (Android), a powerful and mobile reading system is achieved.

Features

- Radio transceiver for wireless M-Bus modes (EN13757-4) T1/T2, C1/C2, and S1/S2.
- Bluetooth 4.1 interface (classic) Class 2 (10 m).
- External SMA antenna connector for high-performance antenna.
- Lithium-ion battery approximately 20 hours of autonomy.



Specifications

Name:	aquaradio® Mobile Receiver	
Application:	Radio receiver with Bluetooth interface	
Place of operation:	Non-weather protected portable applications	
Protection rating:	IP 64	
Receiver frequency:	868 MHz / 434 MHz	
Receiving range:	Depending on environment up to 400 m (outdoor) or up to 30 m (indoor)	
Receiver memory:	150 radio frames	
Power supply:	3.7 volt lithium ion rechargeable battery	
Autonomy:	20 hours (without using the serial interface)	
Battery life time expectancy:	> 300 charging cycles	
Battery Charger:	Input:	100 V to 240 V AC 50 to 60 Hz 1.0 A max.
	Output:	5 V DC 3.0 A max.
	The charging device may only be used in dry and weather-protected environments.	
Operating conditions:	-5° C to +55° C (not during battery charging) 0° C to +40° C (during battery charging) 10% to 95% humidity	
Storage conditions:	-20° C to +45° C (less than 3 months)	
	-20° C to +25° C (less than 1 year) for keeping at least 80% of the battery capacity	

Dimensions:	Approximately 160 x 85 x 40 mm (without antenna) length of antenna approximately 180 mm
Weight:	Approximately 300 g
Interface:	Bluetooth 4.1 (classic) Class 2 (10 m) Microchip BM77SPPx3MC2 module Bluetooth SIG QDID: B021961 EIRP: 4 dBm (2.5 mW) / Antenna gain: 0 dBi

Radio parameters receiver (868 version)

Frequency:	T1/C1: 868.95 MHz, S1: 868.3 MHz
Bandwidth:	200 kHz
Frequency deviation:	T1/S1: 50 kHz, C1: 45 kHz
Chip rate:	T1/C1: 100,000 Chip/s, S1: 32,768 Chip/s
Coding:	T1: 3 of 6 code, C1: none, S1: Manchester

Radio parameters receiver (434 version)


Frequency:	T1/C1: 434.475 MHz, S1: 433.5 MHz
Bandwidth:	200 kHz
Frequency deviation:	T1/S1: 50 kHz, C1: 45 kHz
Chip rate:	T1/C1: 100,000 Chip/s, S1: 32,768 Chip/s
Coding:	T1: 3 of 6 code, C1: none, S1: Manchester

Radio parameters transmitter (868 version)

Frequencies:	T2/S2: 868.3 MHz / C2: 869.25 MHz
Frequency deviation:	T2/S2: 50 kHz, C2: 25 kHz
Chip rate:	T2/S2: 32,768 Chip/s, C2: 50,000 Chip/s
Coding:	T2/S2: Manchester, C2: none
Max. Output Power:	8 dBm (6.3 mW)
Antenna gain:	5 dBi
EIRP:	13 dBm (25 mW)

Radio parameters transmitter (434 version)

Frequencies:	T2/S2/C2: 433.5 MHz
Frequency deviation:	T2/S2: 50 kHz, C2: 25 kHz
Chip rate:	T2/S2: 32,768 Chip/s, C2: 50,000 Chip/s
Coding:	T2/S2: Manchester, C2: none
Max. Output Power:	5 dBm (3.2 mW)
Antenna gain:	5 dBi
EIRP:	10 dBm (10 mW)

Approved directives / norms:	ETSI EN 301 489-1 V1.8.1 (2008-04) class 2 ETSI EN 301 489-3 V1.4.1 (2002-08) class 2 ETSI EN 301 489-17 V2.1.1 (2009-05) Non-specific Short Range Device (SRD) ETSI EN	
	ETSI EN 300 220-1 V2.1.1 (2006-04) ETSI EN 300 220-2 V2.1.2 (2007-06) Receiver class 3	
	EN 60721-3-2	classes 2M2 / 2K2
	EN 60721-3-7	classes 7M3 / 7K2 / 7Z14
	IP 64	
Test laboratory:	TÜV Süd Senton GmbH / Straubing / Germany	

