

Sampols

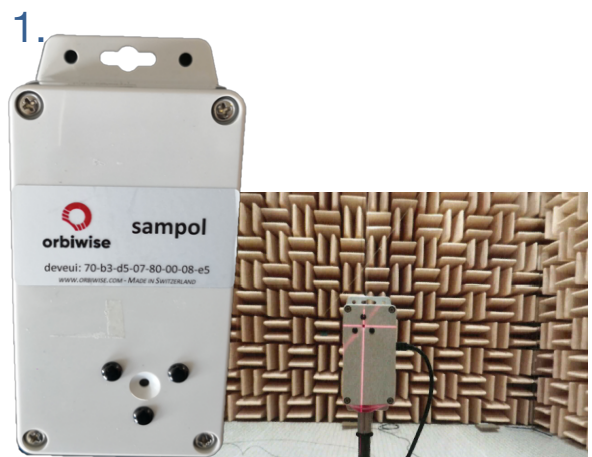
Wireless Acoustic Noise Measurement

Model: OW-0004-01.06

Features

The OrbiWise **Sampols** noise sensor is a high-performance and low-cost remote wireless sensor for acoustic noise measurement.

- Measuring all relevant noise parameters (Leq , L10, L50, L90, L95, Lmin, Lmax) .
- Battery operated, continuous measurements for 10-12 months (depending on battery capacity).
- Outdoor, IP 67 waterproof enclosure.
- Easy installation and maintenance.
- Unattended real-time measurements transmitted wirelessly.
- Configurable reporting period in 1-minute steps.
- Configurable measurement schedule.
- Temperature and humidity monitoring for device health.
- Local backup storage of up to 10 years of measurement data, which can be retrieved remotely.
- LoRaWAN 1.0.2 or 1.0.4 compliant.
- Easy LoRaWAN device registration from claim code
- OTAA device, can be ABP configured upon request.



Applications

The Sampols noise sensor is part of the OrbiWise noise measuring and monitoring solution **Sampols**, which includes a comprehensive application, suitable for applications such as:

- Noise cadaster
- Industrial noise surveillance
- Activity detection

General Description

The OrbiWise **Sampols** noise sensor is a high-performance and low-cost remote wireless sensor for acoustic noise measurement.

It continuously measures and compute the equivalent noise level averaged over 1 second in dBA (Leq1s) and periodically transmits reports containing noise level distribution information (by default mean, minimum, maximum of Leq1s, L10, L50 L90 and L95) and meta data such as temperature or battery level.

Sampols noise sensor is autonomous, easy to deploy and can perform continuous measurements over long periods of time.

Device Specification

Measurements	Parameter
Acoustic parameters	Leq, L95, L90, L50, L10, Lavg, Lmin,
Sensitivity (Typical)	30dB SPL, typical
Linearity	±1.5 dB (30dB SPL – 95dB SPL)
Frequency response error (*)	
100Hz - 1kHz	<4 dB
1kHz – 10kHz	<7 dB
Directivity (Typical)	≤0.5kHz 1kHz 2kHz 4kHz ≥8kHz
90°	1.5dB 4.0dB 3.5dB 7.0dB 7.0 dB
180°	2.0dB 3.5dB 4.5dB 10dB ≤ 20dB
Measurement periods	15 minutes, programmable in 1m steps, Configurable measurement schedule
Device parameters	Temperature, Humidity, Battery level
Wireless Protocol	Description
Standard	LoRaWAN 1.0.4: EU, US, AU, 1.0.2: AS, IN
Device Class	Class A, OTAA
Transmit Power**	Output power level up to +20 dBm depending on region
Receive sensitivity**	Sensitivity down to -137 dBm
Transmission distance	Typical 2km (Urban); > 5 km (Rural)
Operating	Parameter
Temperature Range	Operating: -10°C – +60°C Storage: -20°C – +70°C, recommended max 30°C due to battery
Battery	D size, non-rechargeable, Lithium Thionyl Chloride (Li-SOCl ₂), 3.6V, 17-19Ah e.g. Tadiran SL-2780 , Saft LS33600
Measurement Logging	All measurements are logged in internal memory, 128 Mb for more than 10 years measurement data

Mechanical	Description
Enclosure	Grey Polycarbonate with mounting brackets
Dimensions	115 x 65 x 55 mm
Weight	315, g with D type battery
Rating	IP67, UV resistant
Button	Power button with LED indicating wireless transmissions

* As measured in the direction of the microphone at 1m distance from the sound source, in a certification testing facility.

** Conducted Measurement

Device Variants

Name P/N	Region / Usage
OW-0004-01.6-EU868	EU region
OW-0004-01.6-US915	America region
OW-0004-01.6-IN865	India Region
OW-0004-01.6-AS923	Asia region
OW-0004-01.6-AU915	Australia region

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