BoB Assistant

The sensor analyzes the vibration signature of an industrial equipment, ensuring its remote monitoring.
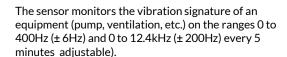The data is transmitted via a public or private LoRaWAN® radio frequency network.

APPLICATIONS

- Supervision of industrial installations equipped with motors (pumps, ventilation, cooling unit, ...).
- Optimization of maintenance operations.

BENEFITS & FEATURES

- LoRaWAN®, Class A
- Easy to install and ease of use
- > 2 years of autonomy
- Measuring ranges / accuracies:
  - Vibration: 0-400Hz / ± 6Hz and 0-12.4kHz / ± 200Hz
  - Temperature: -20°C to +55°C / ± 1°C

CERTIFICATION

- RoHS, CE

The sensor monitors the vibration signature of an equipment (pump, ventilation, etc.) on the ranges 0 to 400Hz (± 6Hz) and 0 to 12.4kHz (± 200Hz) every 5 minutes adjustable).

After an automatic learning period of 7 days, the sensor alerts in case of vibration drift, allowing maintenance teams to intervene before a breakage or failure.

The data transmission on public or private LoRaWAN® network is done periodically or immediately in case of alert:
- Exceeding the vibration drift threshold (adjustable).
- Machine on/off (adjustable).

Installation and commissioning is quick and easy.

The sensor is equipped with:
- A button for activation and deactivation,
- An RGB LED to monitor configuration and association on the network,
- 2 magnets facilitating the installation of the sensor on the equipment (also possible by gluing, riveting, screwing...).

Each sensor is identified by a QR code on the label.

The data pre-processed by the on-board artificial intelligence is gathered in a report transmitted on the LoRaWAN® network every 180 minutes.

The sensor periodically reports the machine's operating time over the last 180 minutes, the rate of vibration drift recorded over this period, the battery level, the temperature, and a predictive failure probability.

Machine status alerts (Start/Stop) are also available (can be inhibited by Downlink control).

Powered by a 3.6V/2000mAh battery, the autonomy of the sensor is more than 2 years with a configuration of 8 transmissions per day.

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

nke WATTECO is a European leader in the design and manufacture of intelligent IoT devices to fit to all remote reading and data collection solutions.

nke WATTECO is a LoRa Alliance® member.

TECHNICAL SPECIFICATIONS

RADIO FREQUENCY	
Frequency	EU: 863-870 MHz
Transmitted power	+14 dBm
Sensitivity	-137 dBm

FIRMWARE	
Protocol	LoRaWAN®, Class A
Sampling frequency	5 minutes (configurable)
Transmission interval	Every 180 minutes
Data compression	None
Activation method	Over-The-Air Activation (OTAA)
Data encryption	AES128

MEASURES	Vibration	Temperature
Range	Low frequency: 0 - 400Hz High frequency: 0 - 12800Hz	-20°C to +55°C
Accuracy	± 6Hz (0 - 400Hz) and ± 200Hz (0 - 12800Hz)	± 1°C

ALARMS	
Vibration	Vibration drift of 25% by default (configurable as Downlink at 10, 15 or 20%)
State	Switching on / off (status frames can be inhibited by downlink control)

POWER SUPPLY	
Voltage	Lithium battery 3.6V / 2000mAh on holder (battery can be changed after removing the cover) Transmitted battery voltage level in steps of 0.1V
Autonomy (within a range of +10°C to +25°C)	> 2 years: 2 samples (low frequency and high frequency) every 5 minutes and 8 transmissions per day

USER INTERFACE	
Push button + RGB LED	Association in the network; sensor status visible via lexan

BOX	
Dimensions / weight - Sealing	76x79xep.23mm / 75grs - IP68
Fixation	2 magnets and 2 nuts (supplied)

TEMPERATURE	
Operating temperature	-20°C / +55°C+0%rH / +95%rH (non-condensing)
Storage	+10°C / +30°C+0%rH / +60%rH

STANDARDS & REGULATIONS	
CE: EN 301489-3 V2.1.1, EN 61000-6-2:2005, EN 300-220-2 V3.1.1, 2014/53/UE(RED), EN 60950-1:2006, EN60950-22:2006, EN62479:2008 RoHS (2011/65/EU)	

PRODUCT REFERENCE

REFERENCE	DESCRIPTION
50-80-001	BoB ASSISTANT EU 868 MHz SENSOR