WATTECO

SMART INDUSTRY

BoB ASSISTANT®
Predictive maintenance assistant

LoRaWAN

BoB ASSISTANT makes a thorough analysis of the vibration signature of an industrial piece of equipment, ensuring its remote condition 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 use
- > 3,5 years of autonomy
- AtEx zone 2 approved (zone 1 exists)
- Measuring ranges / accuracies:
  - Vibration: 0-400Hz/± 3Hz and 0-12.4kHz/± 100Hz
  - Temperature: -20°C to +55°C / ± 1°C

CERTIFICATION

- RED, UKCA, RoHS
- ATEX Zone 2 according to marking:
  - Ex II 3 GD
  - Ex ic IIC T4 Gc
  - Ex ic IIIC T135°C Dc
  - -20 ≤ Tamb ≤ +50°C

MADE IN FRANCE

BoB ASSISTANT® monitors the vibration signature of a piece of equipment (pump, ventilation, etc...). After a learning period of 7 days, the sensor alerts in case of vibration drift, allowing maintenance teams to intervene before a breakage or failure. Data transmission over the LoRaWAN® network is done periodically or immediately in case of alert:

- Exceeding the vibration drift threshold (adjustable)
- Machine on/off (adjustable)

Installation and commissioning are quick and easy.

The sensor is equipped with:

- A button for activation and deactivation,
- An RGB LED to monitor configuration and pairing to the network,
- 2 magnets to facilitate 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 over 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/2100mAh battery, the autonomy of the sensor is more than 3 years with a configuration of 8 transmissions per day.

Machine vibration knowledge is stored in flash, and applied back when the device is restarted, or battery is replaced.

Machine vibration knowledge and battery values can be reset either through the HMI interface or network Downlink command.

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

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

WATTECO is a LoRa Alliance® member.

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BoB ASSISTANT®

TECHNICAL DATA

RADIOFREQUENCY	Frequency (MHz)	Transmit Power (dBm)	Receiver Sensitivity (dBm)
	EU: 863 - 870	+14	-140

FIRMWARE	
Protocol	LoRaWAN®, Class A
Activation method	Over-The-Air Activation (OTAA)
Data encryption	AES128
Sampling period	10 minutes (configurable)
Transmission cycles	Every 180 minutes

MEASUREMENTS	Vibrations	Temperature
Range	Low frequency: 0 - 400Hz High frequency: 0 - 12800Hz	-20°C to +55°C
Accuracy	± 3,125Hz (0 - 400Hz) ± 100Hz (0 - 12800Hz)	± 1°C

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

POWER SUPPLY	
Voltage	3.6V / 2100mAh – Replaceable lithium battery Transmitted battery voltage level in remaining percentage
Autonomy (in a range of +10°C to +25°C)	> 3 years: sampling every 10 minutes and 8 transmissions per day

USER INTERFACE	
QR Code	Product code, serial number, batch number
Push button + RGB LED	Configuration, network pairing and sensor status

ENCLOSURE	Size (mm)	Weight (g)	Fastenings	IP rating	Material	Fire resistance
	76 x 79 x 23	75	Supplied with 2x magnets and nuts	IP68	ABS	UL94-HB

ENVIRONMENT	
Operation	0°C / +55 °C ; +0% rH / +95% rH (non-condensing)
Storage	10°C / +30 °C ; +0% rH / +60% rH

STANDARDS & REGULATIONS	
Radio Equipment Directive 2014/53/EU, RoHS	

PRODUCT NUMBER

REFERENCE	HS Code	MODEL DESCRIPTION
50-80-004	85 17 62	BoB Assistant ATEX zone 2 - LoRaWAN® EU868
71-80-006		Battery replacement kit

LoRaWAN® BoB ASSISTANT ATEX zone 2 EU868 – V03.00 modified on 18/07/2025 - This document is the property of WATTECO. The characteristics presented are given for information only, they are in no case contractual and are subject to change.