

## BoB ASSISTANT® ATEX zone 1 Predictive maintenance assistant



**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 1 approved
- 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 1 according to marking:
  - Ex II 2 GD
  - Ex ib IIB, IIC T4 Gb
  - Ex ib IIIC T135°C Db
  - -20 ≤ Tamb ≤ +50°C

**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 3.0V/2000mAh 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.

## 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		3.0V / 2000mAh – 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		-20°C / +50 °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							<b>II 2 GD</b> <b>Ex ib IIC T4 Gb</b> <b>Ex ib IIIC T135°C Db</b> <b>-20°C ≤ Tamb ≤ +50°C</b> <small>CE 2900 UK CA</small> <small>W06/2023 QPS 24ATEX5004 X 50-80-006-000</small> <small>70:B3:D5:E7:5E:00:C2:CD 2100745650018</small> <small>WARNINGS - USE ONLY CELL TYPE VARTA CR AA - ELECTROSTATIC DISCHARGE RISK - SEE INSTRUCTIONS</small> <small>WATTECO - 165 Rue de la Montagne du Salut - 56600 Lanester - FRANCE</small>	

## PRODUCT NUMBER

REFERENCE	HS Code	MODEL DESCRIPTION	
50-80-006	85 17 62	BoB ASSISTANT ATEX ZONE 1 - LoRAWAN® EU868	
71-80-015		BATTERY REPLACEMENT KIT	