

DATASHEET



Wireless Battery-Powered Vibration Sensor



SKU: IVIB161010-ACC3-016

Category: Sensors

Description

Industrial Wireless Battery-Powered Vibration Sensor

The iQunet Vibration Monitoring Sensor is a device that monitors asset health of rotating equipment which fits well in the predictive maintenance and asset reliability strategy.

The iQunet wireless battery-powered machine condition sensor combines a sensor, data collector and radio into one compact, battery-powered device that measures **both vibration and temperature data**. The sensor collects **triple axis** time series vibration data. The sensor is powered with **2 standard CR2032 coin cells** (included) which assures function for several years in standard operation mode (>5 years with one measurement a day). Sensor parameters can be set remotely such as sampling rate, samples number, dynamic range, automatic measurement interval, etc.

The sensor makes a network direct to the central Base Station node or via the optional Repeater. Sensor data is visualized in the iQunet **Sensor Dashboard** on the iQunet Data Server, offering temperature graphs, time series in acceleration (g) and velocity (mm/s), spectrum graphs in (g) and (mm/s) including waterfall plots, RMS trend values and graphs in (g) and (mm/s), crest factor, peak values, etc.

Used in: condition monitoring of bearings, misalignment, unbalance, ... of rotating equipment

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Technical specifications

- **Physical:**
 - **Dimensions (mm):** 57 x 47 x 14
 - **Weight:** 35g
 - **Case material:** thermoplastic
 - **Sealing:** IP65 (IP68 with upgrade set)
- **Installation:** M3 screws (epoxy adhesive for permanent mount)
- **Operating temperature:** -20°C to +70°C
- **Recommended storage temperature:** +30 °C maximum
- **Certifications:**
 - CE
 - FCC
 - KC
 - ATEX / IECEx certification (available 2020)
- **Wireless communications range:** up to 50 m typically in plant (actual range depends on specific site topology and device placement)
- **Power supply:**
 - 2 x 3V (replaceable CR2032 battery)
 - Up to 10 year battery life (depending on settings, usage and operating temperature)
- **Measurements:**
 - **Amplitude range:** 2G, 4G, 8G or 16G
 - **Measurement axis:** X, Y and/or Z (3 axis)
 - **Sampling rate:** 12 to 3200 Hz
 - **Number of samples:** 32 to 8192 samples
 - **Units:** g or mm/s
 - **Activity threshold:** 0G to 1G
- **Postprocessing:**
 - Time series, frequency or waterfall plots
 - 1/f flicker noise detrending (for velocity spectra)
 - DFT averaging for noise reduction
 - Trend tracking: RMS or Kurtosis
 - Configurable high pass cut off filter
- **Temperature sensor on board:** yes
- **Start data acquisition:**
 - Manual trigger (REC button in Sensor Dashboard)
 - Automatic measurements (programmable time interval)
 - Conditional automatic measurements (programmable threshold level)
- **Communication protocols:**
 - Subscribe to sensor parameters and data with OPC UA
 - Control sensor settings and start measurements using GraphQL mutations
 - Read out sensor parameters and data using GraphQL queries
- **Data storage:** on iQunet Data Server
- **Compliance:**
 - RoHS: 2011/65/EU and 2015/863
 - EMC: EN 301 489-1 / EN 301 489-3
 - SPECTRUM: EN 300 220-2
868.8 Mhz, Max. EIRP < 10dBm (<10mW)