Broadsens

PRESENTATION

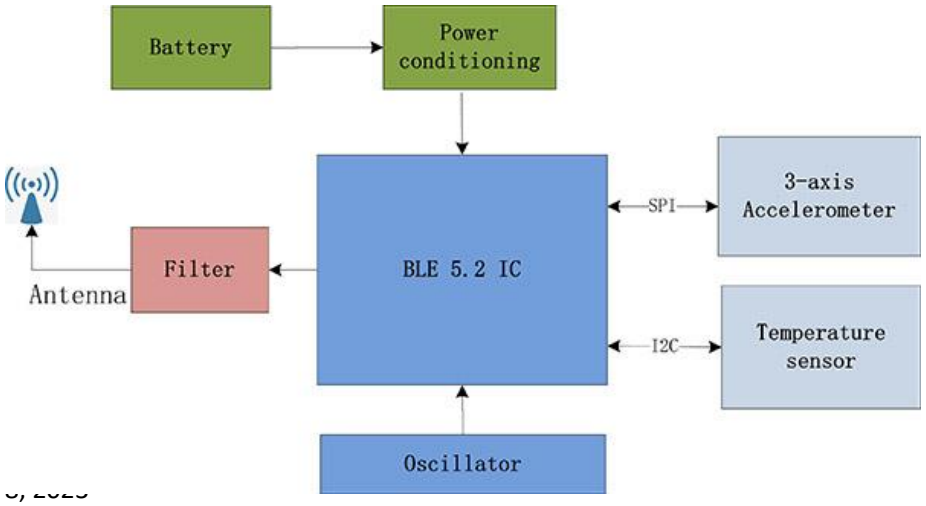
PRODUCT

Ultra-low power wireless vibration & temperature sensors SVT200-V, SVT30-V and SVT400-V provide true real-time machine condition monitoring continuously 24/7 non-stop. The sensor samples x, y and z axes acceleration continuously, and switches to 6.4kHz sampling rate immediately if the acceleration exceeds 0.1g in any of the axes. The sensor acquires a fixed number of samples, calculates velocity RMS and acceleration RMS value, and sends the result plus temperature to the wireless gateway.



True real-time wireless vibration sensor SVT200-V

Parameters	Description
Acceleration range	SVT200-V: up to 8g; SVT300-V: up to 16g; SVT400-V: up to 64g
Sampling rate	6.4kHz in high-speed mode; 3.13Hz in low-speed mode
Resolution	16 bit; ±2g:0.06mg/bit; ±8g:0.24mg/bit
Nonlinearity	< 0.6%
Noises	SVT200V/SVT300V: 130ug/$\sqrt{Hz}$ density; SVT400-V: 330 ug/$\sqrt{Hz}$
Sampling method	Fixed 320 sample points at x, y and z axis in high-speed mode
Temperature sensor range	-40 - 85 ^{0}C (-40 – 185 Fahrenheit)
Temperature accuracy	-25-85^{0}C: ±0.3 ^{0}C; -40- -25^{0}C: ±0.4 ^{0}C; no calibration needed
Measurement & transmit mode	Continuous low-speed sampling, periodic high-speed sampling & transmission, and triggered high-speed sampling & transmission
Power consumption	12uA at periodic high-speed sampling & transmission, and 72uA at continuously triggering & transmitting
Power supply	14250 intrinsic safe battery, 1200mA capacity, Replaceable
Wireless protocol	2.4GHz ultra-low power proprietary
FCC ID/IC ID	X8WBC833M / 4100A-BC833M
Transmission distance	Up to 300m (900 ft) line of sight, open space
Size	Diameter 33mm (1.30 in); height 26mm (1.02 in)
Weight	37 g (1.3oz) for two-screw hole enclosure; 53 g (1.9oz) for M6 enclosure
Mounting method	Magnet mount; Pad mount; epoxy mount; screw mount; wire mount
Environment	Working temperature: -40 - 85 ^{0}C; Storage temperature: -55 - 85 ^{0}C; IP68 waterproof; Explosive atmosphere rating: Ex ia IIC T4



SVT-V Series Sensors' Advantages

SVT-V series sensors are the only compact true real-time wireless vibration sensors that monitor machine condition continuously with more than 3-year battery life typically. SVT-V sensors have two sampling modes: continuous low-speed sampling mode and high-speed sampling mode. They acquire x, y and z axis data in 16-bit resolution continuously. When the sensor detects a vibration event, it switches to high-speed 6.4kHz sampling rate, takes a fixed amount of data, calculates velocity RMS and acceleration RMS value, and sends the result plus temperature to the wireless gateway. When there is no vibration event, the sensor still switches to high-speed 6.4kHz sampling rate every 10 seconds, calculates the velocity RMS and acceleration RMS value, and sends the result to the wireless gateway.

The smart algorithm inside SVT-V series sensors adjusts the sampling mode dynamically and optimizes the energy usage. It can capture both high frequency and low frequency defects from the machine and structures. SVT-V series sensors can be mounted with magnet, pad (single M6 screw hole enclosure), epoxy, screws or wire (double screw hole enclosure).

Note: SVT-V series vibration sensors require to be used with Broadsens's wireless gateway

Monitoring Software

Software at wireless gateway is based on open-source software node-RED. No software installation is required. It can be accessed with all major web browsers.





Software advantages

. True real-time vibration monitoring
. Intuitive data visualization
. Alarm & threshold setup
. Scheduled data acquisition
. Time-series database
. Vibration trend charts
. FFT analysis
. OTA firmware upgrade
. Easy expansion
. Secure data transmission

"Broadsens, sense the broader world"

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SVT200-V BROADSCAN D200 ACE-V-PAD-02