



SVT L series wireless vibration & temperature sensors have ultra long range to the edge computing gateways. The sensors can reach up to 1km (0.6 mile) in open space, with high data rate for real time monitoring and advanced vibration analysis.

SVT L series wireless vibration & temperature sensors have two sub categories: SVT LA and SVT LV, which match the functions of SVT A series sensors and SVT V series sensors respectively.

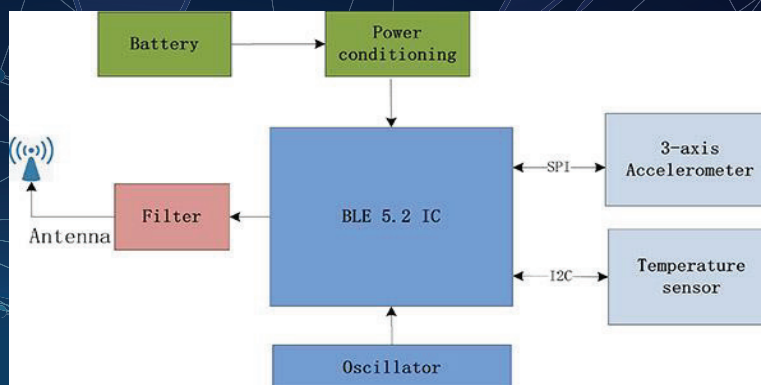


SVT-L series long-range wireless vibration & temperature sensor

Parameters	Description
Acceleration range	SVT200-L: up to 8g; SVT300-L: up to 16g; SVT400-L: up to 64g
Sampling rate	SVTx00-LA: 50Hz to 25.6kHz adjustable; SVTx00-LV: 6.4kHz in high-speed mode; 3.13Hz in low-speed mode
Resolution	16 bit; $\pm 8g$: 0.24mg/bit; $\pm 16g$: 0.48mg/bit; $\pm 64g$: 1.95mg/bit
Nonlinearity	< 0.6%
Noises	SVT200-L/SVT300-L: 130ug/ $\sqrt{}$ density; SVT400-L: 330 ug/ $\sqrt{}$
Temperature sensor range	-40 - 85 $^{\circ}C$ (-40 - 185 Fahrenheit)
Temperature accuracy	-25-85 $^{\circ}C$: ± 0.3 $^{\circ}C$; -40- -25 $^{\circ}C$: ± 0.4 $^{\circ}C$; no calibration needed
Measurement & transmit mode	Continuous low speed sampling, periodic high speed sampling & transmission, and triggered high speed sampling & transmission
Power consumption	<10uA idle; < 3mA with data transmission and DAQ
Power supply	ER18505 battery, 4000mAh, replaceable
Wireless protocol	2.4GHz ultra-low power proprietary
FCC ID/IC ID	X8WBC833M / 4100A-BC833M
Transmission distance	Up to 1km (0.6 mile) line of sight, open space
Size	37x71 mm (1.46x2.80 inch) diameter x height
Material & weight	Material: Aerospace aluminum 7075 industrial plastic cover; weight: 117g (4.1 oz)
Mounting method	Epoxy, stud, pad or magnet mount
Environment	Working temperature: -55 - 85 $^{\circ}C$; storage temperature: -55 - 85 $^{\circ}C$; IP68 waterproof (IP69K optional)

Sensor block diagram

Revision date: April 8, 2024



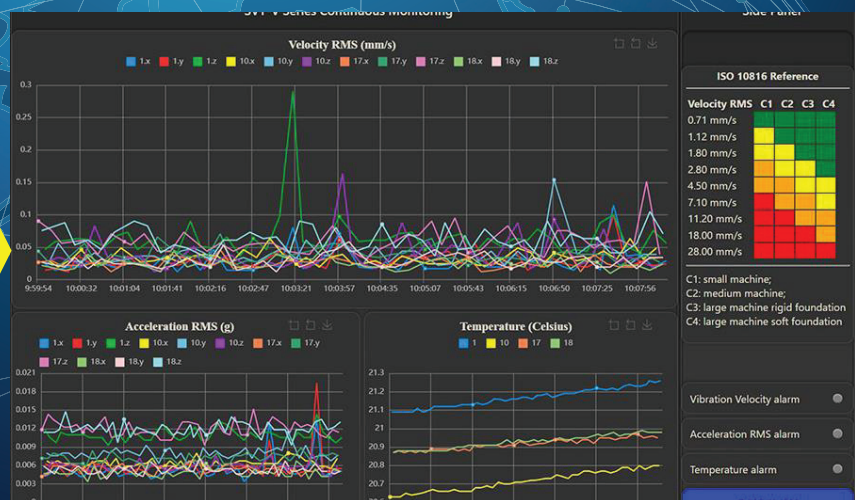
SVT L Series Sensors Details

SVT L series sensors have unmatched long range, high data rate and battery life. SVT L series wireless vibration sensors integrate seamlessly with existing Broadsens's edge computing gateways. SVT LA sub series include: SVT200 LA, SVT300 LA and SVT400 LA; SVT LV series include SVT200 LV, SVT300 LV and SVT400 LV.

Besides ultra long range, SVT L series sensors measure surface temperature, since the temperature sensor is located at the bottom. The SVT L series sensors are ideal for applications that require longer distance, or in locations where there is strong interference from structures. Users can directly use the long range SVT L sensors to replace the standard sensors for these applications. SVT LV series sensors have auto range adjustment ability, which have high sensitivity for low vibration machines, and high dynamic range at the same time.

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

