

SVT Series Wireless Vibration Sensors



The SVT series wireless vibration sensors are industrial-grade sensors designed for equipment condition monitoring and fault diagnosis applications. Each sensor integrates vibration and temperature sensing capabilities, featuring low noise, high accuracy, ultra-low power consumption, and robust durability, making them ideal for long-term use in harsh industrial environments.

The sensors support both periodic data collection and low-power wakeup-triggered data acquisition. With powerful edge computing capabilities, they can process 24-dimensional feature vibration data to detect mechanical anomalies and faults. The collected feature and waveform data is wirelessly transmitted to a remote monitoring platform. Users can remotely monitor equipment vibration and temperature, quickly detecting abnormal operating conditions. Through detailed waveform analysis, users can diagnose faults such as loosening, imbalance, misalignment, bearing faults, gear faults, and blade faults in rotating equipment.

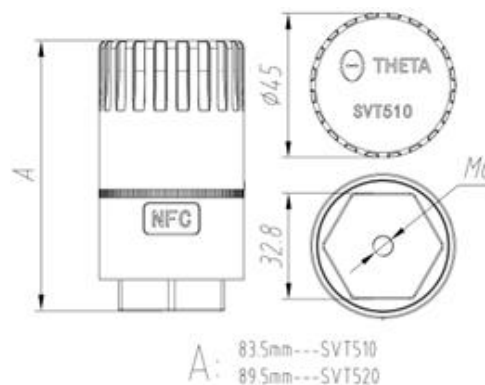


Features and Advantages

Accurate	⇒	Low noise, high-performance sensing, and high frequency response.
Easy-to-install	⇒	Cable-free with stud, adhesive, or magnetic mounting options.
Wireless	⇒	Reliable transmission of both feature data and waveform data via LoRa, or LoRaWAN.
Low-powered	⇒	Built-in battery with 2-10 years of life for normal usage.
Ruggedized	⇒	Waterproof, dustproof, shockproof, corrosion-resistant, and intrinsically safe; suitable for harsh industrial environment.
Flexible	⇒	Configurable measurement range, sampling frequency, sampling points, and sampling period to meet specific requirements.
Accessible	⇒	Remotely accessible anytime, with automatic alerts and maintenance-free operation.
Convenient	⇒	Can be connected via mobile app.

Specifications

Product Model	SVT510-L	
Accelerometer Type	Triaxial MEMS	
Acceleration Resolution	16 bits	
Acceleration Range	±16g	
Velocity Range (@80Hz)	200mm/s	
Acceleration Sensitivity	0.5mg/LSB	
Acceleration Frequency Response (Z)	10Hz-2kHz (±5%), 0Hz-6kHz (±15%)	
Acceleration Frequency Response (XY)	0Hz-5kHz	
Resonant Frequency	-	
Temperature Drift	1%/°C	
Nonlinearity	2%	
Noise (µg/√Hz)	75	
Acceleration Sampling Frequency (Z)	0.417-26.67k	
Acceleration Sampling Frequency (XY)		
Feature Data Sampling Number	1k/2k/4k	
Velocity Frequency Range	10Hz-1kHz	
Displacement Frequency Range	10Hz-1kHz (Low: 10Hz-200Hz; High: 200Hz-1kHz)	
Envelope Acceleration	Sampling rates of 25.6/26.67/32/51.2/64ksps: 500Hz-10kHz (SKF ENV3); other sampling rates: 500Hz high-pass filter	
Acceleration FFT	2048 lines	
24-dimension Vibration Feature Data	Frequency, peak acceleration, acceleration RMS, velocity RMS, peak-to-peak displacement, envelope acceleration, skewness, skewness index, variance, margin factor, crest factor, kurtosis, kurtosis index, pulse factor, fundamental frequency amplitude, 2 nd harmonic amplitude, 3 rd harmonic amplitude, half harmonic amplitude, spectral variance, spectral mean, spectral RMS, inclination angle, pitch angle, roll angle	
Temperature Range	-40~125°C	
Temperature Precision	±1°C	
Data Acquisition Period	1/2/5/10/15/20/30/60/120 minutes	
Waveform Data Acquisition Time	10-20000ms	
Data Storage	64MB	
Communication	LoRa/LoRaWAN, line-of-sight range 3000m	
Battery	8500mAh; Li/SOCL2 ER26500+SPC, replaceable	
Dimensions	See the diagram below	
Weight	211g	
Operating Temperature	-40~85°C	
Operating Humidity	10%~90% RH	
Enclosure	Stainless steel and polyamide with fiberglass	
Explosion Protection	EX ia IIC T4 Ga; Ex II 1G Ex ia IIC T4 Ga (ATEX)	
Ingress Protection	IP67	
Mounting	Stud, adhesive, or magnetic mounting	



SVT510/SVT520

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference

(2) this device must accept any interference received, including interference that may cause undue operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This device meets the FCC requirements for RF exposure. The device is designed for normal indoor use and complies with applicable FCC exposure limits.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.