SVT SERIES

WIRELESS VIBRATION TEMPERATURE SENSOR

SVT series wireless vibration temperature sensors are industrial grade sensors designed for equipment condition monitoring and fault diagnosis applications. The sensor has the characteristics of low noise, high precision, ultra-low power consumption and durability, suitable for long-term use in a variety of harsh industrial environments.

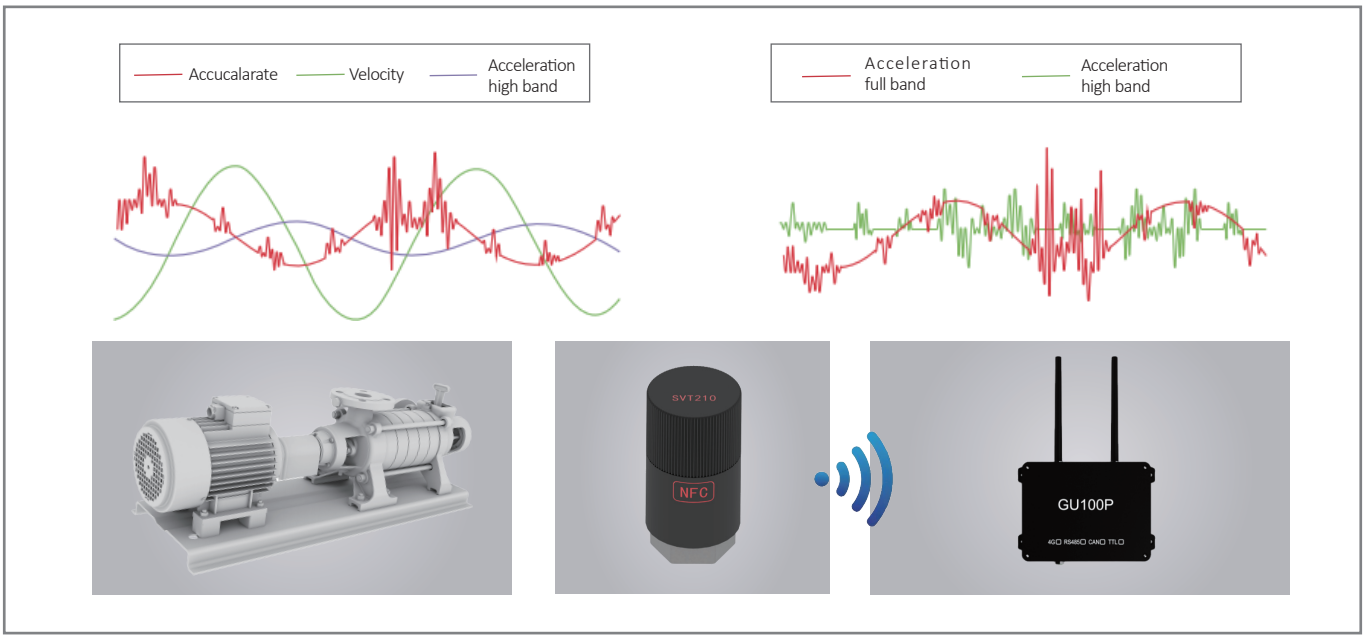
High-performance 3-axis acceleration sensor was used to measure the vibration signal of the device. SVT210 and SVT510 integrate 3-axis MEMS sensors, SVT220 and SVT520 integrate high-performance piezoelectric sensors for the main axis (Z-axis), and MEMS sensors for the auxiliary axis (X-axis and Y-axis).

The sensor adopts industrial grade structural design, which can collect the temperature and vibration signals of the equipment under test. At the same time, the sensor has a powerful edge computing capability, by analyzing these signals, calculate 24-dimensional characteristic data, which is used to find a variety of mechanical anomalies and failures, including the imbalance of rotating equipment, loosening, bearing pitting and wear, gearbox failure, gear failure, etc.

Features and waveforms data of the sensor are transmitted to the remote monitoring platform through the wireless sensor network. Users can remotely monitor the vibration and temperature parameters of the equipment, detect the abnormal operating status of the equipment in time, ensure the safe operation of the equipment, avoid unplanned downtime, and reduce the operation and maintenance time and cost.

Characteristics and Advantages

Precise measurement	⇨	Low noise, industrial grade structural design enables accurate equipment vibration measurement.
Easy installation	⇨	Sensors can be easily mounted by thread fastening, pasting or magnetizing without wiring.
Wireless transmission	⇨	2.4GHz wireless sensor network can stably transmit feature data and waveform data.
Ultra-low power consumption	⇨	Microwatt power consumption, built-in battery can last 2-10 years.
Rugged design	⇨	Waterproof, dustproof, shock-proof, corrosion-resistant, intrinsically safe and explosion-proof, suitable for harsh industrial environment.
Flexible configuration	⇨	The range, sampling frequency, sampling points, sampling interval and other parameters can be set according to the needs.
Remote monitoring	⇨	Data can be obtained anytime and anywhere, automatic alarm, long-term maintenance free.
Bluetooth connection	⇨	Support Bluetooth 5.0 connection, it can directly connect to the mobile phone APP for device inspection.



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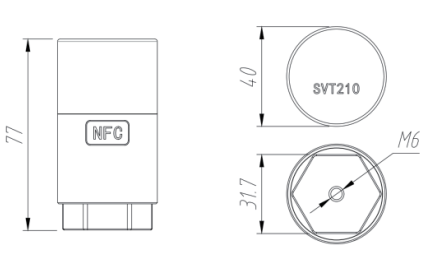
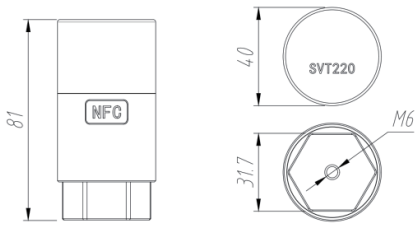
WIRELESS VIBRATION TEMPERATURE SENSOR

SPECIFICATIONS

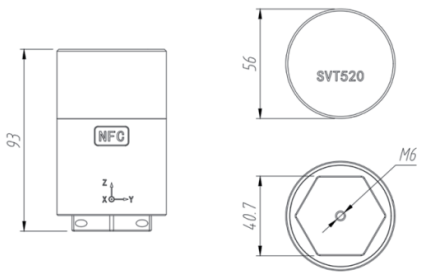
Product Model	SVT210/SVT510	SVT220/SVT520
Accelerometer Type	MEMS	Z: Piezoelectric; X/Y: MEMS
Acceleration Resolution	16 bits	Z: 24 bits; X/Y: 16 bits
Acceleration Range	±16g	Z: ±50g or ±100g; XY: ±16g
Acceleration Sensitivity	0.5mg/LSB	Z: Frontend 40mV/g, 0.006mg/LSB; X/Y: 0.5mg/LSB
Acceleration Frequency Response	Z: 0Hz-6kHz (±3dB), 10Hz-2kHz (±5%) X/Y: 0Hz-5kHz (±3dB)	Z: 2Hz-10kHz(±3dB),10Hz-9kHz (±10%) X/Y: 0Hz-5kHz(±3dB)
Resonant Frequency	-	Z: >50kHz
Temperature Drift	1%/℃	Z: ±10% (-40 to 125℃); XY: 1%/℃
Nonlinearity	2%	Z: ±1%; X/Y: 2%
Noise	75μg/ √ Hz	Z: μg/ √ Hz; X/Y: 75μg/ √ Hz
Acceleration Sampling Frequency	0.417/0.833/1.67/3.33/6.67/13.33/26.67ksps	Z: 0.4/0.8/1.6/3.2/6.4/12.8/25.6/51.2/64ksps X/Y: 0.417/0.833/1.67/3.33/6.67/13 .33/26.67kSos
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 25.6/26.67/51 .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, 2nd harmonic amplitude, 3rd harmonic amplitude, half harmonic amplitude, spectral variance, spectral mean, spectral RMS, indination angle, pitch angle, roll angle	
Temperature Range	-40 to 125℃	
Temperature Precision	±1℃	
Data Acquisition Period	1/2/5/10/15/20/30/60/120 minutes	
Waveform Data Acquisition Time	10-20000ms	
Data Storage	64MB	
Communication	2.4GHz Wireless Sensor Network (Bluetooth 5.0), line-of-sight range 300m; Optional NB (SVT510/SVT520)	
Battery	SVT210/SVT220:4000mAh Li/SOCL2; SVT510/SVT520: 19000mAh Li/SOCL2	
Dimensions	SVT210/SVT220: See the diagram below; SVT510/SVT520: 52mm x 90mm (D X H)	
Weight	SVT210: 185g; SVT220: 212g; SVT510/SVT520: 395g	
Operating Temperature	-40 to 85℃	
Operating Humidity	10%-90% RH	
Enclosure	Stainless steel and polycarbonate	
Explosion Protection	EX ia llC T4 Ga	
Ingress Protection	IP67	
Mounting	Stud, adhesive, or magnetic mounting	



SVT210



SVT220



SVT510/520

sales2@ae-ndt.com

+8619128609186

Room 601-9, Building 3, 232 Kezhu Road, Huangpu District, Guangzhou, Guangdong, China

WWW.AENDT.COM