



DAVISOL DVS-WT780 Ex Smart Wireless Temperature & Vibration Monitor

Eliminate complex cabling and costly downtime. The DAVISOL DVS-WT780 Ex delivers continuous, tri-axis acceleration, velocity, and temperature monitoring in one zero-configuration device. Powered by intelligent diagnostic algorithms, it detects machinery faults before failures happen, giving you total asset visibility in even the harshest industrial fields and Zone 0 explosive atmospheres.



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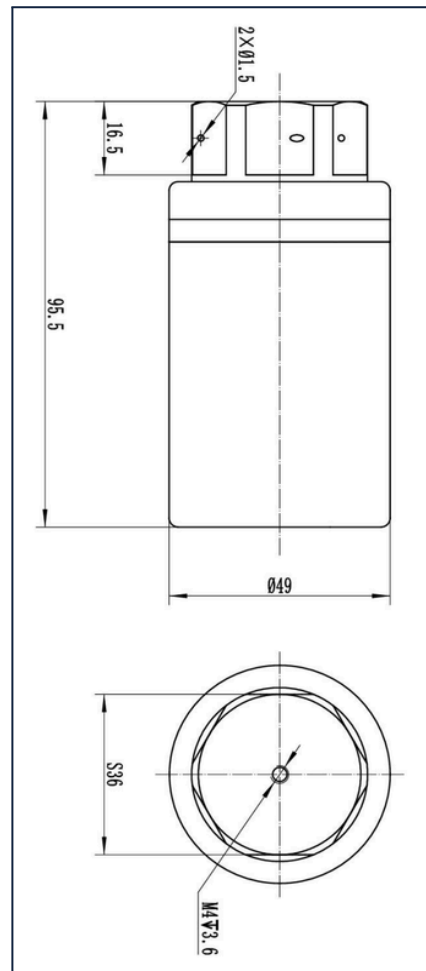


Principle and Characteristics

This intrinsically safe sensor integrates 3-axis vibration and temperature monitoring for real-time equipment fault diagnosis. Powered by a 24-bit ADC with up to 50KHz sampling and embedded algorithms, it ensures reliable data collection by automatically caching and retransmitting data during network interruptions. Its ultra-low-power design provides up to 3 years of battery life, encased in a highly durable, IP68 waterproof Glass Fiber PC and 304 Stainless Steel body with seamless Zigbee communication.

Some Product Applications

- Petrochemical refineries (Zone 0)
- Power generation & wind turbines
- Water & wastewater treatment facilities
- Manufacturing & CNC machinery
- Air Compressors & Small Reciprocating Compressors
- Mixers & Centrifuges
- Ball Mills & Blowers
- Pumps and Cooling Towers
- Generators & Steam Turbines



Technical Specifications

Category	Parameter	Specification
Acceleration	Number of Axes	3 Axes
	Sensing Unit	Piezoelectric Ceramic or MEMS
	Amplitude Range	±50 g Peak (Z-axis) and ±16 g Peak (X and Y axes)
	Lateral Sensitivity	7% (at 100 Hz, Typical Value)
	Measurement Accuracy	±5% (at 160 Hz) for Z, X, and Y axes
	Frequency Range	Z-axis: 0.1 Hz to 10 kHz (±3dB) X/Y axes: 0.5 Hz to 1.6 kHz (±3dB)
Data Acquisition	ADC Accuracy	24-bit ADC
	Sampling Rate	1 KHz to 50 KHz
	Sampling Length	2 KB to 2 MB
	Measurement Interval	10-minute indicators and 2-hour time-domain waveforms
	Output Mode	Total value, RMS (Root Mean Square) value, and spectral time-domain waveforms
Temperature	Measurement Range	-40°C to 120°C
	Accuracy	±1°C
Speed Frequency	Monitoring Range	0 - 100 Hz
	Measurement Accuracy	±0.5 Hz (Applicable to motor equipment)
Wireless Communication	Network Topology / RF	Star / IEEE 802.15.4 (2.4 GHz ISM band)
	Encryption / Security	128-bit AES encrypted transmission
	RF Output Power (Peak)	5 dBm (Maximum)
	Communication Range	250 meters line-of-sight unobstructed range

Category	Parameter	Specification
	Protocol	Compatible with Zigbee®
Environmental & Hazardous Area	Hazardous Area Approval	Zone 0, Group IIC gas environments (Ex ia IIC T4)
	Operating Environment	-40°C to 70°C
	Protection Rating	IP68
	Material	304 Stainless Steel (Base) and Glass Fiber PC (Enclosure).

A full suite of operational accessories, including gateways, antennas, batteries, and mounting hardware, is available through DAVISOL.

R&D and Customization

At **DAVISOL**, we understand that standard off-the-shelf solutions don't always meet the rigorous demands of specialized industrial applications. Our dedicated R&D engineering team stands ready to deliver bespoke configurations of the DVS-WT790 Ex tailored precisely to your operational needs.

From modified enclosures for extreme environments to custom firmware and direct SCADA/IoT integration, we adapt our technology to fit your exact operational requirements.

DAVISOL — Engineering that delivers.