Vibration
AND TEMPERATURE WIRELESS SENSOR

TECHNICAL DATA SHEET

ELECTRONICS 4 ALL

ORDER CODE: AT-105
CATEGORY: Sensors

Smart Vibration Sensing - Safeguard Your Equipment.

PRODUCT OVERVIEW
General Description

The AT-105 Wireless Sensor is a compact, lightweight, battery-powered device designed for versatile environmental monitoring. Equipped with a robust 6-axis accelerometer, it accurately measures vibration, making it ideal for monitoring equipment health. Additionally, the sensor features integrated ambient light, temperature, and humidity sensors to provide comprehensive insights into environmental conditions. Simple mounting options make it easy to place on a wide range of equipment, enabling real-time data collection from virtually any location. Powered by a reliable CR2450 coin cell, the AT-105 ensures long-lasting performance and seamless connectivity via Bluetooth 5.0

PRODUCT BENEFITS

01 Versatile Monitoring

Combines vibration, ambient light, temperature, and humidity sensors to deliver comprehensive environmental insights, suitable for diverse industrial applications.

02 Compact and Lightweight

Designed for easy integration, it mounts seamlessly on various equipment, enabling monitoring in tight or mobile setups without adding significant weight.

03 Low Maintenance

The energy-efficient design reduces battery replacements and maintenance intervals, keeping operational costs low.

04 Vibration Measurement

Features a high-precision 6-axis accelerometer to detect even subtle vibrations, providing crucial data for proactive equipment maintenance and health monitoring.

05 Equipment Longevity

By detecting early signs of vibration-related issues, the sensor helps prevent costly machinery breakdowns and prolongs equipment life.

06 Streamlined Scheduling

Accumulates performance data to support predictive maintenance, reducing unnecessary routine checks and minimizing operational disruptions.

MEASURED PARAMETERS

✓ Vibration ✓ Ambient Temperature ✓ Ambient Light ✓ Relative Humidity

FEATURES

✓ **24/7 Alarm Notifications**
Continuously monitors conditions and sends instant alerts when heat thresholds are exceeded

✓ **Automatic Data Logging**
Securely records all measurements and events for traceability, audits, and long-term trend analysis

✓ **Simple Installation**
Compact design mounts easily utilizing screws, magnets, or adhesive, simplifying installation and reducing setup time

✓ **Extended Battery Operation**
Ultra-low-power design, delivering over 1 year of continuous use at a 5-minute reporting interval

✓ **Customizable Alarm Limits**
Allows users to set specific thresholds for alerts

✓ **Fast, Scalable Deployment**
Compact and easy to mount—ready for rapid rollout across enterprise-wide operations

✓ **6-Axis Accelerometer**
Tracks motion and orientation, providing detailed insights into the assets movement and behaviour

✓ **Wireless Data Transmission**
Tracks motion and orientation, providing detailed insights into the asset's movement and behaviour

✓ **Accessible Data**
Sends data through a secure gateway to a central dashboard for real-time viewing and trend analysis

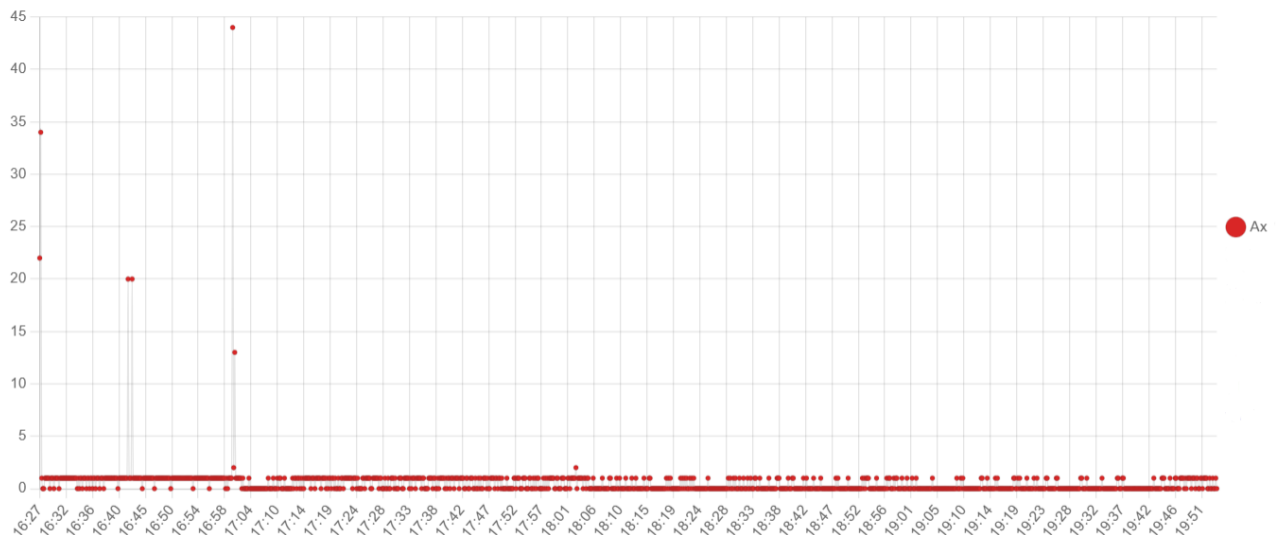## Real-Time Alarm Level Display and Historical Data

E4A's IoT Manager software provides a fully customizable interface, allowing users to focus on the specific data points that matter most to them. Whether it's vibration, ambient light, temperature, or humidity, the software enables easy monitoring and visualization of key metrics. Users can tailor the dashboard to display real-time data in the most intuitive way and set up alerts and alarms to notify them if any sensor readings fall outside of pre-defined specifications, ensuring prompt action can be taken. With seamless customization and proactive monitoring, this software is designed to keep your assets secure and within optimal conditions at all times.

Attribute: Vibration_X-mm/s

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E4A IOT MANAGER

Unlock the full potential of your sensor network with E4A's IoT Manager — a powerful, web-based platform designed for real-time monitoring, control, and analysis of your IoT devices.

01 Real-Time Sensor Dashboard

02 Advanced Data Analytics

03 Customizable Alarm Thresholds

04 Remote Setpoint Configuration

05 Historical Data Review

06 Plus Much More!

SIGN UP HERE!

Just scan the QR code and follow the prompts. Once you contact us, we'll handle the setup and get you connected — quick and hassle-free.

ELECTRONICS4ALL Vibration and Temperature Sensor | www.electronics4all.ca

TECHNICAL SPECIFICATIONS

Power Supply

Main Power	Internal Battery (CR2450 coin cell battery)
Nominal Voltage	3VDC
Typical Capacity	600mAh
Average Current	24uA

Operating Specifications

Operating Temperature	-20ºC to +60ºC
Storage Temperature	-20ºC to +70ºC (battery installed)
	-20ºC to +70ºC (battery not installed)
Permissible Humidity	20-85% (operating and storage)
Ingress Protection Rating	IP30
Pollution Degree	2
Altitude	2000m

Measurement Characteristics

Accelerometer	6-axis, ±16g FSR
Light Exposure	0-100% relative light (up to 220 lux)
Temperature	-40ºC to +120ºC (±0.5ºC, 15ºC to 40ºC)
Humidity	0-100% relative humidity (±3.5 RH accuracy)

Physical Characteristics

Housing Material	ABS plastic
Physical Dimensions	Height: 50mm / 2.0 inches
	Width: 75mm / 3.0 inches
	Depth: 15mm / 0.6 inches
Weight	35g
Mounting	Magnetic mount
	Screw mount
	Double sided adhesive

Communications

Wireless Module	2.4GHz Bluetooth 5.0 transceiver
Communication Range	125m line of sight
Communication Interval	User programmable in 10 second increments
Security	AES 128-bit crypto accelerator
	ECC and RSA public key accelerator (PKA)
	SHA2 accelerator (full suite up to SHA-512)
	True Random Number Generator (TRNG)

Interface

Indicators	Pairing and broadcast (red, green LED)
User Interface	1 push button (device reset and pairing)
Alarm Range	User programmable

SPARE PARTS AND ACCESORIES

Part Description	E4A Part Number
Magnetic Mounting Feet	E4A-FAS-00048-00
Quad-Band Gateway	E4A-BFA-00005-01
Dual-Band Gateway	E4A-BFA-00004-01
Double Sided Adhesive	E4A-ADH-00011-00
Coin Cell Battery	E4A-BAT-00001-00

CERTIFICATIONS

FCC	2AXVKWAT01
Industry Canada	26661-WAT01
Safety	CSA C22.2 No. 61010-1-12
	UPD1: Jul 2015
	UPD2: APR 2016
	UPD3: Jun 2023 and AMD 1:2018
	UL61010-1 3rd Edition: 2023

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DISTRIBUTORS