TECHNICAL DATA SHEET

COMPACT WIRELESS VIBRATION SENSOR

ORDER CODE: AT-105
PRODUCT CATEGORY: SENSORS

Smart Vibration Sensing – Safeguard Your Equipment.

PRODUCT OVERVIEW

General Description

E4A's AT-105 Wireless Vibration 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 battery, the AT-105 ensures long-lasting performance and seamless connectivity via Bluetooth® 5.

MEASURED PARAMETERS

VIBRATION

Monitors 6-axis vibration of equipment and structures.

TEMPERATURE

Tracks thermal variations to prevent equipment overheating.

HUMIDITY

Monitors humidity levels to prevent asset corrosion.

AMBIENT LIGHT

Measures light levels to detect environmental changes.

TECHNICAL SPECIFICATIONS

Power Supply	
Main Power	Internal Battery CR2450 coin cell
Nominal Voltage	3VDC
Typical Capacity	600mAh
Current Consumption	24µA (avg.)

Operating Specifications	
Operating Temperature	-20°C to +60°C
Storage Temperature	-20°C to +70°C (with battery) -20°C to +70°C (without battery)
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 to 100% relative light Up to 220 lux
Temperature	-40°C to +120°C ±0.5°C accuracy (15°C to 40°C)
Humidity	0 to 100% relative humidity ±3.5 accuracy

Physical Characteristics	
Housing Material	Flame Retardant Polycarbonate/ABS
Physical Dimensions	Height: 15mm / 0.6inch Width: 75mm / 2.9inch Depth: 50mm / 1.9inch
Weight	35g
Mounting	Screw mount Magnetic mount Double sided adhesive

Communications	
Wireless Module	2.4GHz Bluetooth® 5 transceiver
Communication Range	125m line of sight
Reporting Interval	User programmable in 30s increments

Security	
Encryption	AES 128-bit crypto accelerator ECC and RSA public key accelerator (PKA) SHA2 accelerator (full suite to SHA-512) True Random Number Generator (TRNG)

User Interface	
Pushbuttons	1 pushbutton (device reset and device pairing)
Status LED	2 status LED's (red, green)

PRODUCT CERTIFICATIONS

FCC ID	2AXVKWAT01
Industry Canada	26661-WAT01
Safety Standards	UL 61010-1 3rd Edition: 2023 CSA C22.2 No. 61010-1-12 UPD 1: July 2015, UPD 2: April 2016; UPD 3: June 2023; and AMD 1:2018

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