WISE-2461

6KHz@3-axis Smart Vibration Sensor



Features

- RS-485 Serial communication through Modbus/RTU protocols
- 6KHz@3-axis frequency detection range
- Supports 3-axis measurement of Velocity RMS, Acceleration RMS/Peak, Displacement, Crest Factor and others for full-spectrum machinery health monitoring
- Features a wide 6kHz detection range with up to 6 customizable frequency bands per axis for precise failure diagnosis
- ISO 10816/20816 compliant
- Supports wide temperature -40 ~ 85°C
- IP68 rating, internally potted design for outdoor applications
- Supports Time waveform and FFT data for 3rd party diagnosis software service

Introduction

WISE-2461 is a robust RS-485 smart vibration sensor integrated with an ARM Cortex-M33 processor, 6KHz@3-axis high detection range accelerometer and temperature sensor. This powerful computing device balances the bandwidth between edge devices and the application service on the user side.

WISE-2461 builds-in several measurements of vibration, such like velocity RMS, acceleration RMS, acceleration Peak, displacement and so on. By using Advantech WISE Studio utility, users can easily config all the setting, like to customize the 6 detection ranges between 5 ~ 6,000Hz and others.

Common Specification

General

Power Input	10 ~ 30V_{DC}
Configuration Interface	RS-485 (Modbus/RTU)
Connector	M12, D-code Male
Cable Length	1m
IP Class	IP68
Casing material	Stainless steel
Mounting	Stud mount, mounting pad with adhesives, magnetic base
Dimension (W x H x D)	30 x 30 x 13 mm
Certification	CE, FCC

Environment

Operating Temperature	-40 ~ 85°C
Operating Humidity	10% ~ 95% RH
Storage Temperature	-40 ~ 90°C
Storage Humidity	5% ~ 95% RH

3-Axis Accelerometer Sensor

Axis	X/Y/Z
Frequency Range	5~6000Hz
Amplitude Range	±16g
Time Waveform Record Length	16384 points
FFT Lines of Resolution	6400
Output Data Rate(Sample Rate)	26667Hz
Accuracy(Z-axis)	5-3000Hz (10%); 3001~6000Hz (20%)
Noise	75 μg/√Hz in ±16g@X/Y-axis 110 μg/√Hz in ±16g@Z-axis
Sensitivity Change Due to Temperature	±1%

Ordering Information

WISE-2461-MA	6KHz@3-axis Smart Vibration Sensor

Accessories

25F7000004N000	Magnet base D30XH9mm for WISE-2460 installation
WISE-2410-MTB01	Metal base for WISE-2460 installation
1700028162-01	M12, A-code, 4 pin, Female with 1M cable
1700037259-01	M12, A-code, 4 pin, Female with 5M cable

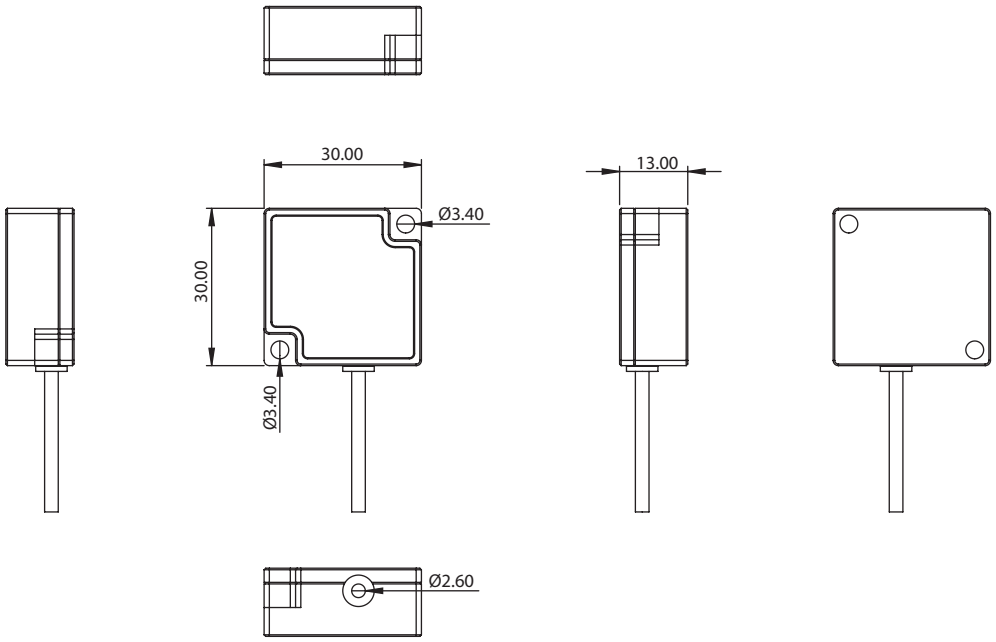
Wireless Module

WISE-4051-B	2.4G WiFi IoT Wireless I/O with 8DI/1RS-485
WISE-4250-S250-A	2.4/5GHz Wi-Fi IoT Wireless I/O with 6DI/2DO/RS-485
WISE-2200-M	LoRaWAN RS-485 Modbus I/O Module

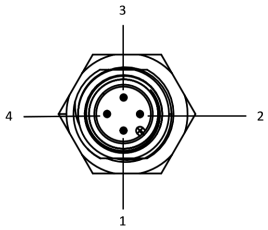
All product specifications are subject to change without notice.
Last updated: 11-Nov-2026

Dimensions

Unit: mm



Pin Define



WISE-2461 Pin Number	Pin Name	Pin Description
1	+VS	Input power V+
2	Data+	RS-485 Data+
3	-VS	Input power V-
4	Data-	RS-485 Data-

1700028162-01&1700037259-01 Pin Number	Wire Color
1	Brown
2	White
3	Blue
4	Black