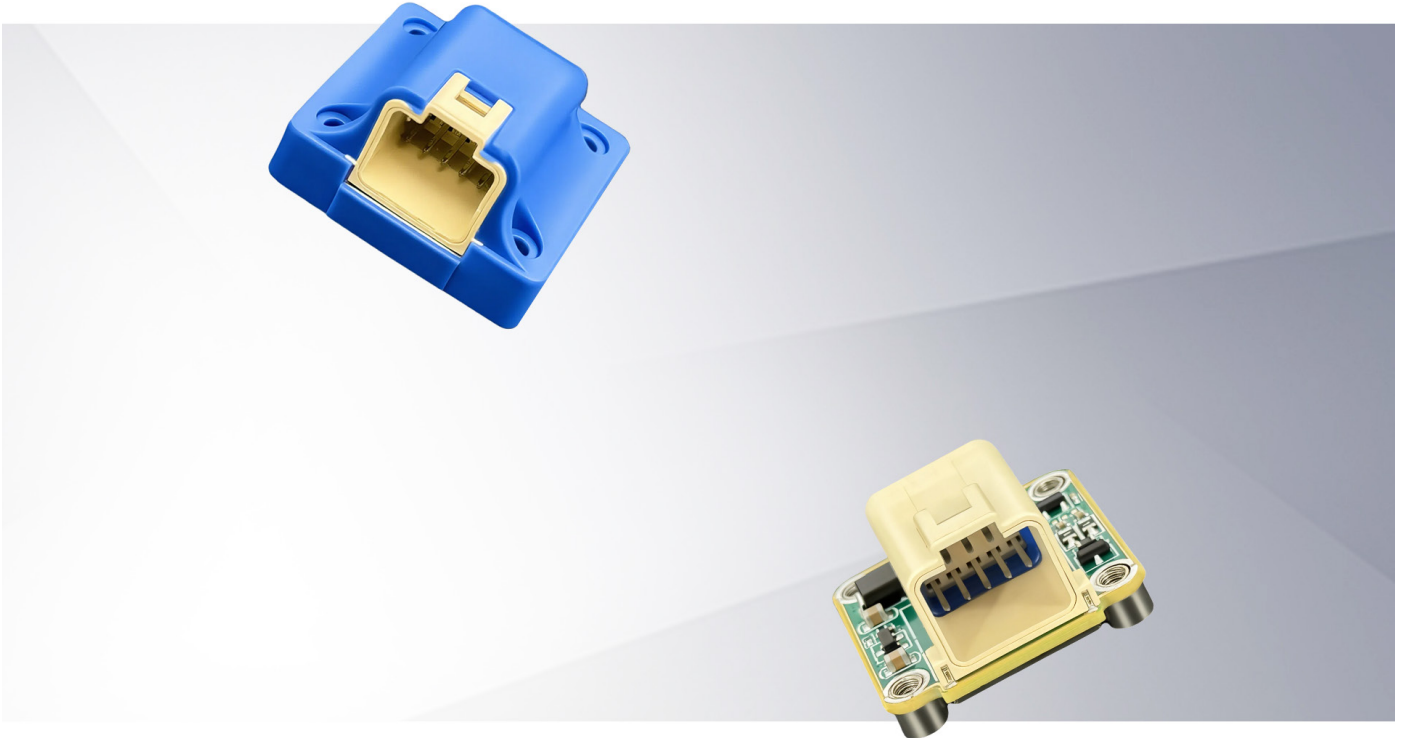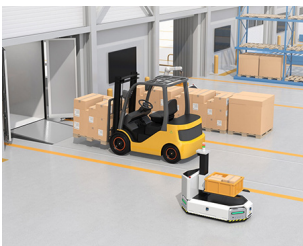# HI16 Series

Low-cost, miniature MEMS IMU/VRU

HI16 series is an IMU/VRU sensor built on MEMS-IMU technology. It integrates our self-developed adaptive Extended Kalman Filter, dynamic IMU noise analysis, and motion state analysis algorithms to deliver precise IMU and attitude information to users.

FEATURES

- Compact, high-performance
- Robust and easy-to-use automotive connector
- Temperature compensation and turntable calibration
- Extended Kalman fusion for high-accuracy IMU/VRU
- Maintains high accuracy under high vibration

APPLICATIONS

AGV/AMR

Inspection robot

Humanoid

Unmanned delivery

PRODUCT

MODEL

HI16a-b-cde					
Company	Series	a-Sensor	b-Interface	c-Synchronization	c-Shell	c-OEM
HI	16	M0 6DoF 3° /h 0.03mg	232 2XRS232	1 Supported	0 BOX	00 Default
		R2 6DoF 1.7° /h 0.012mg	URT 2XUART(TTL)		1 PCBA	XX OEM
			MI1 RS232+CAN			

Note1:Model Sample:HI16R2-232-100

SPECIFICATIONS

Gyroscope

Range	HI16M0	Up to ± 2000° /s
	HI16RX	Up to ± 4000° /s
Bias Instability	HI16M0	3° /h
	HI16RX	1.7° /h
Bias Stability	HI16M0	10° /h
	HI16RX	4° /h
Noise Density	HI16M0	0.015 ° /s/ $\sqrt{}$ Hz
	HI16RX	0.025 ° /s/ $\sqrt{}$ Hz
Bandwidth(3dB)	HI16M0	Up to 200Hz
	HI16RX	Up to 400Hz

Accelerometer

Range	HI16M0	Up to ± 24g
	HI16RX	Up to ± 32g
Bias Instability	HI16M0	0.03mg
	HI16RX	0.012mg
Bias Stability	HI16M0	0.07mg
	HI16RX	0.015mg
Noise Density	HI16M0	0.175 mg/ $\sqrt{}$ Hz
	HI16RX	0.05 mg/ $\sqrt{}$ Hz
Bandwidth(3dB)	HI16M0	Up to 200Hz
	HI16RX	Up to 400Hz

Interface

Communication	UART(RS232/TTL)/CAN
Protocols	Binary/CANopen/J1939
Output Frequency	Up to 1000Hz

Physical & Environmental

Input Voltage	5V-24V
Power Consumption	<310mW
Dimension	26.7X25X17mm
28.2X28.2X17mm
Weight	<12g
Certification	Supports Rohs CE
Temperature	Supports -40-85℃

Software Suite

GUI	CHCenter
SDK	C、STM32、Matlab、Python、Ros
Support	User manuals
Data sheet
Online communication

QUICK START

The HI16 can connect to the PC-side GUI via a USB-to-RS-232 cable, and the GUI helps users quickly evaluate the product.

HiPNUC SERVICE

We provide free technical support and offer free firmware upgrades throughout the product's entire lifecycle. The HI16 series comes with a 2-year warranty, giving users complete peace of mind.

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