

A2C-IMU-C / A2C-IMU-M12

Features

- 1kHz maximum data rate
- CAN 2.0A and 2.0B compatible.
- Ultra-low noise accelerometer of $100\mu\text{g}/\sqrt{\text{Hz}}$
- Selectable full-scale range of $\pm 2 / 4 / 8 / 16\text{g}$
- Selectable BW of 420/220/100/45/21/10/5Hz
- Ultra-low drift gyro of $4\text{mdsp}/\sqrt{\text{Hz}}$
- Selectable full-scale range of $\pm 250 / \pm 500 / \pm 1000 / \pm 2000\text{dps}$
- Selectable BW of 176 / 92 / 41 / 20 / 10 / 5Hz
- Sensor fusion for linear accelerations, tilt and roll angles, predictive quaternion.
- Programmable alarms
- Programmable heartbeat CAN messages
- Periodic CAN messages with programmable data and time periods
- Logic alarm output (open drain) for standalone mode without the use of CAN bus (M12 version)
- Software upgradable via CAN bus

Applications

- Ground based robotics
- Underwater robotics
- Electrical carts
- Mining vehicles
- Vehicle developments
- Acceleration measurements on industrial machines
- Tilt measurements on industrial machines
- Low frequency machine vibration
- Crane boom angle measurements
- Vehicle accelerations measurements
- Mobile lift boom angle and acceleration alarms
- Wind turbine blade acceleration measurements



General Description

The A2C-IMU sensor is a 6 DOF sensor with a 3-axis accelerometer and a 3-axis gyro. It contains a high-performance DSP processor to combine the data with sensor fusion to provide many types of measurements which are sent to a host via CAN Bus.

Specifications

- 3-Axis $\pm 2\text{g}$ - 16g MEMS sensor
- 7-30V supply voltage
- 10mA supply current @ 24V
- CAN interface (2.0A, 2.0B)
- Cable or standard industrial M12 connector
- CNC machined aluminum / stainless steel housing
- Housing size 55x55x17mm (Cable version)
- Housing with M12 connector planned for 2021 release. Please contact Lillie Systems.

1 Ordering information

Part Number	Package	Interface	CAN Bus	Logic Output
A2C-IMU-M12-A-O	TBD	M12A, 5pin Male connector.	Yes	Yes (pin 1)
A2C-IMU-M12-A-N	TBD	M12A, 5pin Male connector.	Yes	No (pin 1 is connected to housing internally)
A2C-IMU-M12-S-O	TBD	M12A, 5pin Male connector.	Yes	Yes (pin 1)
A2C-IMU-M12-S-N	TBD	M12A, 5pin Male connector.	Yes	No (pin 1 is connected to housing internally)
A2C-IMU-C-A-N	55x60x17mm Anodized aluminum	1m cable, 4 wires and 1 shield	Yes	No
A2C-IMU-C-S-N	55x60x17mm Stainless steel 316	1m cable, 4 wires and 1 shield	Yes	No

For a customer specific package please contact us. We have other materials / coatings available not listed here.