

A2C-IMU-C / A2C-IMU-M12

Features

- 1kHz maximum data rate
- CAN FD 1.0 (flexible data rate up to 4Mbps), 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 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 and gravity vector
- 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. Alarms can be programmed to trigger when a given value limit is passed.

Specifications

- 3-Axis $\pm 2\text{g}$ - 16g MEMS sensor
- 7-30V supply voltage
- 25mA supply current @ 24V
- CAN interface (2.0A, 2.0B, FD 1.0)
- Cable or standard industrial M12 connector
- CNC machined aluminum / stainless steel housing
- Housing size 55x55x17mm (Cable version)
- Housing with M12 connector planned for 2020 release. Please contact Lillie Systems.