

## A2C-TRI-C / A2C-TRI-M12

### Features

- Selectable Bandwidth: 25Hz 50Hz 250Hz 340Hz
- Programmable number of sample averages
- Programmable alarms for acceleration on all axis
- Heartbeat CAN messages with programmable periods
- Periodic CAN messages with programmable data and time periods
- Logic alarm output (open drain) for standalone mode without the use of CAN bus
- Low power consumption
- Durable aluminum / stainless steel housing
- Software upgradable via CAN bus

### Applications using CAN bus data

- Acceleration measurements on industrial machines
- Tilt measurements on industrial machines
- Low frequency machine vibration<sup>1</sup>
- Crane boom angle measurements
- Vehicle accelerations measurements
- Mobile lift boom angle and acceleration alarms
- Wind turbine blade acceleration measurements
- Wind turbine blade movement expressed in mm (experimental)
- Rotating equipment speed measurement<sup>2</sup>

### Application without CAN bus<sup>3</sup>

- Machine angle too high or low
- Machine vibration too high or low<sup>4</sup>
- Vehicle turn over alarm
- Mobile lift or crane chassis not level
- Wind turbine blade movement too large<sup>5</sup>
- Elevator vibration too high



### General Description

The A2CTRI sensor measures accelerations in 3 planes and communicates the measurements to a host via CAN Bus. The A2CTRI contains a high performance processor and can be programmed to report both accelerations and or tilt angles. Alarms can be programmed to trigger when a given acceleration or angle limit is passed. After initial programming the sensor can be used in a standalone mode without any CAN bus connected. On an alarm event the open drain line is activated, which can be used to drive a relay or plc input. An optional USB programmer simplifies programming and no knowledge of CAN bus communication

### Specifications

- 3-Axis  $\pm 2g$  MEMS sensor
- 7-30V supply voltage
- 30mA supply current
- CAN interface (2.0A & B)
- CAN driver ISO 11898 compatible
- Open drain output maximum current 500mA
- Cable or standard industrial M12 connector
- CNC machined aluminum / stainless steel housing
- Housing size 35x35x29.7mm (M12 version), 35x35x12.7mm (Cable version)

<sup>1</sup> Experimental. FFT analysis available in future firmware

<sup>2</sup> Experimental. Using FFT frequency analysis

<sup>3</sup> The sensor must be programmed first with separate programmer

<sup>4</sup> Experimental. FFT analysis available in future firmware

<sup>5</sup> Experimental using AC distance calculations. Future firmware.

## 1 Ordering information

Part Number	Package	Interface	CAN Bus	Logic Output
A2C-TRI-M12-A	35x35x29.7mm Anodized aluminum	M12, 5pin Male connector.	Yes	Yes (pin 1)
A2C-TRI-M12-S	35x35x29.7mm Stainless steel 316	M12, 5pin Male connector.	Yes	Yes (pin 1)
A2C-TRI-C-A	35x35x12.2mm Anodized aluminum	1m cable, 4 wires and 1 shield	Yes	Yes
A2C-TRI-C-S	35x35x12.2mm Stainless steel 316	1m cable, 4 wires and 1 shield	Yes	Yes

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

For the complete datasheet please visit [www.lilliesystems.com](http://www.lilliesystems.com)