



MTLT105S-R

Static Tilt Sensor Module

The ACEINNA MTLT105S-R series is a static tilt sensor with programmable tilt threshold alarm and RS232 Interface. The MTLT105S.R integrates highly reliable MEMS inertial sensors, microprocessor, and algorithms to compute tilt angles under static conditions to achieve a 0.5° accuracy over a broad range of operating environments. The MTLT105S-R also includes a programmable tilt alarm for tilt safety applications. It can be programmed to be triggered to go active high when the tilt exceeds a specified threshold. The tilt alarm can be used to lock out controls or trigger an alarm or warning light. It is an all-in-one tilt safety solution eliminating the need for an external microprocessor to interpret tilt angles. The MTLT105S-R also includes a standard RS232 communication port to digitally sample the real-time angles. MTLT105S-R is available in a fully enclosed IP67 plastic enclosure.



Applications

- Construction (boom tilt measurement)
- Safety control systems for static Forklifts and Aerial Lifts
- Equipment lockout for unsafe tilted environments
- Platform Leveling
- Robotics Control



Tilt Safety



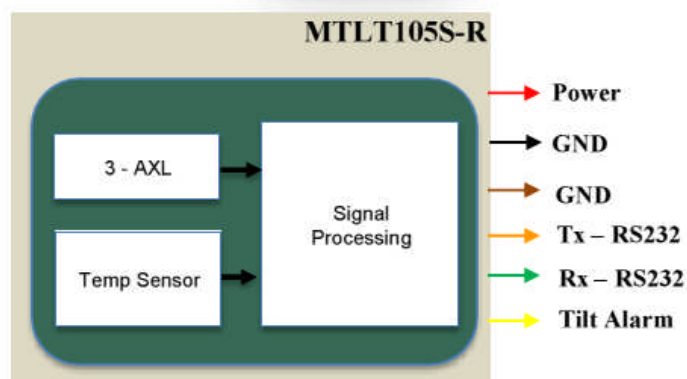
Aerial Lift Safety



Platform Leveling

Features

- High Performance 3 axis MEMS Sensors
- 0.5° accuracy in static conditions
- Programmable Tilt Alarm
- RS232 Interface
- Miniature IP67 enclosure (54 x 40 x 15 mm)
- Wide Temp Range, -40C to +70C
- High Reliability, MTBF > 50k hours
- ITAR- Free





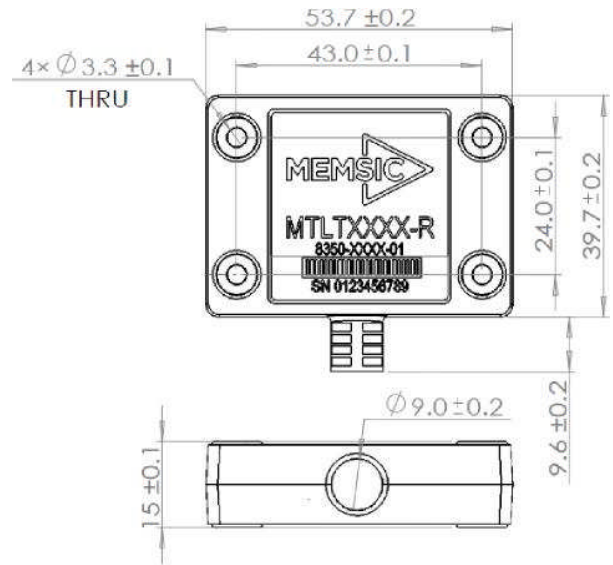
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Static Tilt Sensor Module

Performance Characteristics

Ta = 25°C, VDC = 15.0V, unless otherwise stated

| Sensor Performance | |
|----------------------------------|----------------------------|
| Axes | Pitch, Roll |
| Range | ±90°, ±180° |
| Resolution | 0.05° |
| Static Accuracy ¹ | 0.5° |
| Programmable Tilt Alarm Vout (V) | 3.3 |
| Bandwidth(Hz) | 5 - 50 (User Configurable) |
| Electrical | |
| Input Voltage (V) | 9 to 32 |
| Power Consumption (mW) | < 400 |
| Interface | RS232 |
| Environment | |
| Operating Temperature (°C) | -40 °C to 70°C |
| Non-Operating Temperature (°C) | -55 °C to 85 |
| Physical | |
| Enclosure | Plastic |
| Size (mm) | 54 x 40 x 15 |
| Protection Class | IP67 |



* All dimensions in mm

Tools and Support

NAV-VIEW provides an easy to use graphical interface to display, record, playback, and analyze all of the MTLT105S-R parameters.

NAV-VIEW can also be used to set a wide range of user-configurable fields in the MTLT105S-R to optimize the system performance for highly dynamic applications.

NAV-VIEW software is available for download from ACEINNA's website at: www.aceinna.com/support

Pin Out Description

| Pin Number | Flying Lead Color | Pin Description |
|------------|-------------------|-----------------|
| 1 | Red | Power |
| 2 | Black | GND |
| 3 | Brown | GND |
| 4 | Orange | RS232 Tx |
| 5 | Green | RS232 Rx |
| 6 | Yellow | Tilt Alarm |

Part Ordering Information

| | |
|------------|---|
| MTLT105S-R | 0.5° High Performance Static Tilt Sensor Module |
|------------|---|

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¹ RMS Error