

TS-1 High Accuracy Tilt Sensor





High accuracy $\pm 0.1^\circ$ industrial dual axis tilt sensor, suited to earth moving and mining applications where space limitations are a consideration. To simplify system integration, the 3-axis sensor offers the flexibility of twelve mounting orientations.

Designed to operate in rugged environments, the TS-1 high accuracy tilt sensor reports $\pm 180^\circ$ pitch and $\pm 90^\circ$ roll to $\pm 0.1^\circ$ accuracy maintained over the full angle and temperature range.

Features:

- High degree of accuracy over the full angular range, and across the full operating temperature range. Every TS-1 is fully profiled during calibration to realise maximum sensor accuracy.
- High-level shock protection (10,000g) for survivability in harsh operating conditions.
- Engineering support available for firmware customisation to suit machine positioning systems. TS-1 supports deployment of firmware upgrade over CANbus.
- Designed and assembled in Australia.



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Technical Specifications

Measurement Range	Pitch Roll	±180° ±90°
Sensor Accuracy	Angular precision Resolution Repeatability Refresh rate Base sensor cycle Hysteresis	±0.1° over the full angle range ±0.01° ±0.1° 10–100Hz, software selectable 5ms ±0.1°
Interface	Protocol Profile Transmission rate Connectors Input voltage Optional USB version Firmware customisation upgrades installed over CANbus.	CANopen DSP-410 Default 20kBaud. Readily customisable M12 maie, 5-pin, a-code Automotive power supply 12V/24V DC
Electrical	Supply Voltage Current	5.5 – 30VDC ≤ 10mA @ 24VDC
Environmental	Operating temp. Storage temp. Ingress protection	-40°C to 85°C; -40°F to 185°F -40°C to 85°C; -40°F to 185°F IP68 / IP69K
Size and weight	Dimensions Weight	L 155mm x W 106mm x D 30mm; L 6.1" x W 4.17" x D 1.18" 680g; 24oz
Materials	Housing Connectors Fully encapsulated electronics	Steel plate Nickel-plated zinc
Markings	Human readable sequential serial number and QR code Permanently engraved orientation marker	
Regulations	RCM	RoHS