Horizon Lan Inclinometer

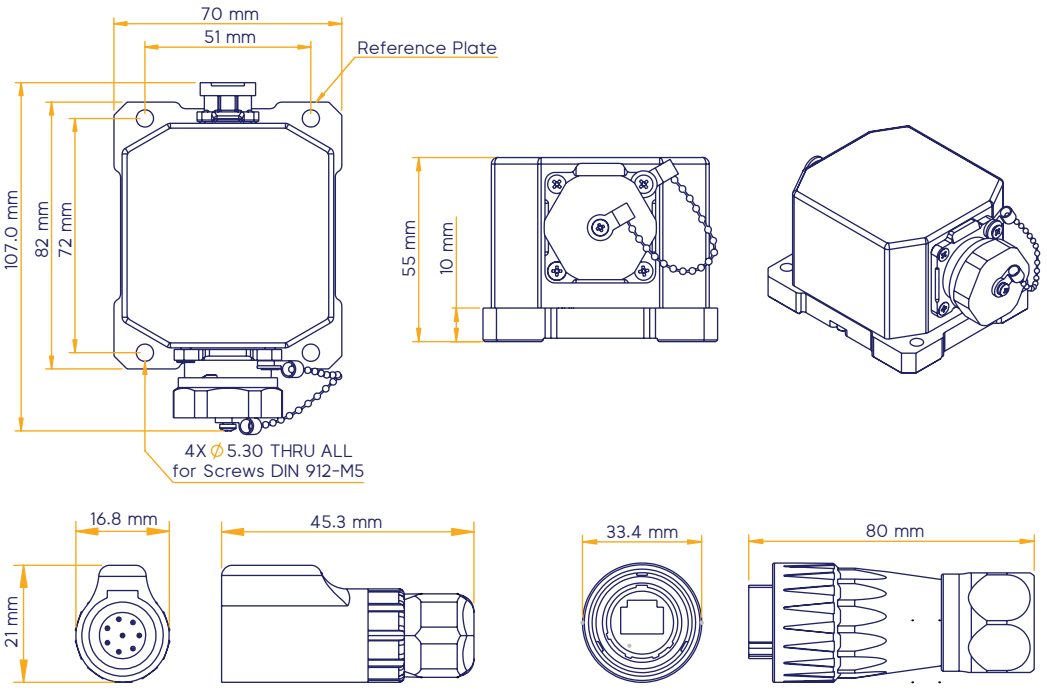
DESCRIPTION

The HORIZON LAN is a high precision, dual-axis inclinometer based on advanced MEMS (Micro-Electro-Mechanical Systems) technology.
It measures tilt relative to the local horizon over ±5°,± 30°, and ±90° ranges with an absolute accuracy better than ±0.015°.
Equipped with an internal temperature sensor and advanced thermal calibration, the HORIZON LAN offers excellent temperature stability, limiting temperature induced error to within ±0.030° across its wide operating temperature range (–30°C to +70°C).
Designed for harsh and demanding environments, it provides robust immunity to electromagnetic interference, shock, and vibration, making it ideal for industrial applications and non-accelerating (static) platforms.
The HORIZON LAN integrates easily into monitoring and control systems, providing continuous, real-time angle and tilt measurements.
Its three-dimensional acceleration processing ensures consistent accuracy across the entire measurement range.
This sensor is widely used in construction, mining, power generation, oil and gas facilities, telecommunications infrastructure, power transmission systems, and geological and structural monitoring where precise inclination and orientation measurements are required.

FEATURES

- Dual-axis (X, Y) measurement with ranges of ±5 , ±30 , and ±90 (LS, MS, FS)
- Absolute accuracy better than ±0.015
- Resolution of 0.001
- Maintains accuracy across the full measurement range using 3D acceleration data processing.
- Wide operating temperature range with temperature compensation
- Maximum temperature induced error within ±0.030 over the copensated range.
- IP67-rated environmental protection.
- MEMS-based sensor design.
- Supports RS485 and Ethernet communication interfaces.

Dimension Specifications:



Technical SPEC

Parameter	Value
Axis	Dual-Axis (X,Y)
Range	LS : ±5° , MS : ±30° , FS : ±90°
Resolution	0.001°
Repeatability	0.001°
Absolute Accuracy @20℃	0.015°
Temperature Drift (Delta From 20℃) *Mv:Measured Value	FS , MS : ±0.0006 °/°c LS : ±(0.01 % Mv +0.0001)°/°c
Compensated Temperature	-30°c ~ +70°c
Response Time	0.35 s
Long Term Stability (After 1 Year) *Mv:Measured Value	FS : ±(0.037°-0.05% I Mv-45°I) MS : ±(0.015 °+ 0.03 % Mv) LS : ± 0.015°

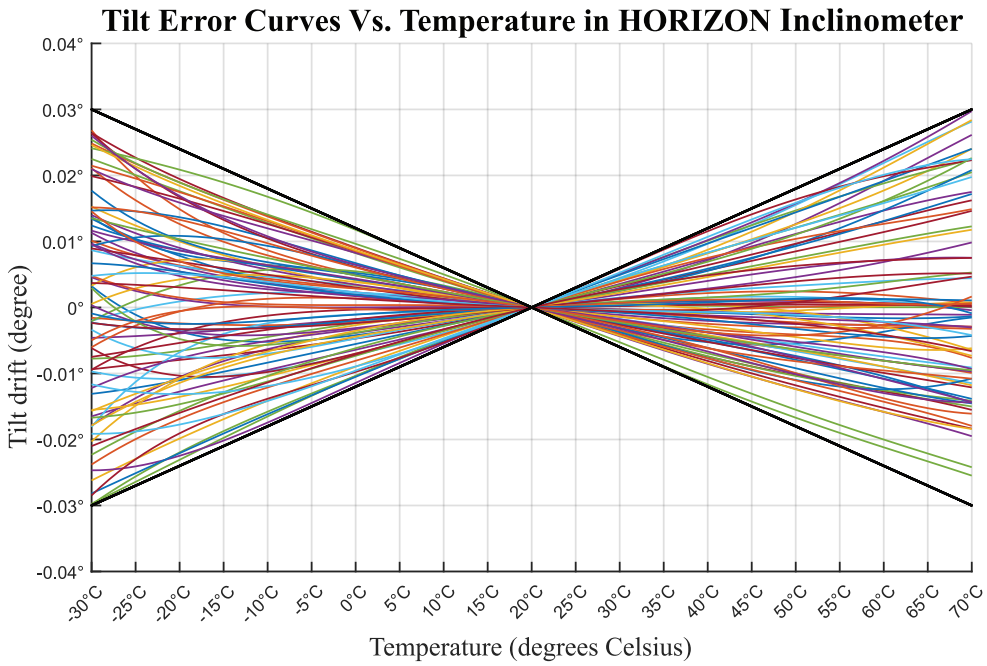
Electronic SPEC

Parameter	Value	Unit
External Power Supply	7 ~ 36	V
Current Consumption	45 ~ 65 @24V	mA
Startup Time	1	s
Digital Output	RS485 , LAN	
Sampling Rate	RS485 /LAN 50 Hz (Default) in continuous mode	
Output Data Rate	115200 bit/sec (Default)	
Frame Data Structure	Hex / ASCII Modbus / RTU Modbus / String	
Connector	CNLINKO female 8 pin , CNLINKO LAN CAT6	
Cable Specifications	Shielded AWG 1x8x24 (17 cm) , LAN CAT6 (17 cm)	

Mechanical & Environmental SPEC

Parameter	Value	Unit
Dimensions	82x70x55	mm
Material	Hard Anodized Aluminum	-
Weight	430	gr
Installation Method	Bolt and Nut (M5)	-
Operating Temperature	-30 ~ +70	°c
Storage Temperature	-50 ~ +90	°c
Ingress Protection	IP67	-

TEMPERATURE SPECIFICATIONS



APPLICATIONS

- Measuring the inclination of surfaces relative to the local horizon or other reference surfaces.
- Monitoring axes in industrial robots.
- Adjusting installation angles relative to the local horizon for radio transmitters and receivers.
- Calibration, monitoring, and leveling of multi-degree-of-freedom tables.
- Calibration of sensitive medical equipment.
- Measuring deviation in large pipelines.
- Installation and monitoring of railway structures.
- Checking the flatness of machined surfaces using the meshing method.