



ELAD[®] Dual Axis Inclinometer

The ELAD[®] Dual-Axis Inclinometer, is a Dual-Axis family of Inclinometers, well positioned at the hi-end dual-axis systems providing servo-level performances at a much lower price point. Unlike MEMS-based sensors, the ELAD[®] is based on well-proven micro-capillary capacitive technology, featuring superior long-term stability and non-Linearity to assure best performance possible at this level.

Dedicated Hi Performance Analog-to-Digital converter provides the necessary analog front-end in terms of hi-resolution, non-linearity and temperature compensated measurements. Built-In Hi Performance μ Controller handling all compensation and computation tasks along with the communication protocol. Dedicated mathematical modeling and calibration procedure taking care of Temperature compensation, Scale-Factor, Cross-Axis, to assure high-performance results at various changing environmental conditions.

Main Features

- Hi Precision System, down to $< 1\text{mRad}$ over Temp Range
- Exceptional long-term stability
- Wide Range of voltage supply (9-32 VDC)
- Low-Power consumption
- Mil-Spec Compliance

Applications

Antenna Alignment
Platform Leveling
Optical Observation systems
Radar leveling
Pedestals alignment

Specifications

The ELAD® Dual-Axis Inclinometer

Parameter	Value (Typical)		
Sensors Specifications			
Measuring range	±10°	±30°	
Resolution	< 0.001°	< 0.003°	
Accuracy	< 0.02°	< 0.03°	RMS, at room temp
	< 0.05°	< 0.06°	RMS, over -10°C to +60°C
Linearity deviation	< 0.05 %	< 0.03 %	
Repeatability	< 0.001°	< 0.003°	
Hysteresis	< 0.001°		
Frequency	3 Hz (-3dB, Typical)		
Temperature drift of sensitivity	< 50 ppm / °C (typical)		
Temperature drift of zero point	< 1 arc-sec / °C (typical)		
Electrical specification			
Supply Voltage	9V - 32V DC		
Current Consumption	< 150 mA		
Start Up Time	< 500 mSec		
Communication Interface	RS232 (optional RS422)		
Baud Rate	4,800 - 115,200 bps		
Output Rate	up to 10 frames / sec		
Mechanical			
Dimensions	150 x 110 x 70 mm		
Weight	< 1.4 Kg		
Power/Data Connectors	Deutsch DTS24W15-35PN		
Environmental Compliance (Design-to-Spec)			
Temperature	-40° C to +85° C	Mil-Spec 810-G Method 501.5 Procedure II	
Humidity	95% non-condensing	Mil-Spec 810-G Method 507.5 Procedure II	
Shock	20g, 11 msec ½ Sine	Mil-Spec 810-G Method 516.6 Procedure V	
Vibration	6.5 Grms, 5-800 Hz	Mil-Spec 810-G Method 514.6 Procedure I	
Enclosure	IP67	EN 529	
Rain	Mil-Spec 810-G Method 506.5 Procedure I		
Dust	Mil-Spec 810-G Method 510.5 Procedure I		
Salt/Fog	Mil-Spec 810-G Method 509.5		
Power Supply	MIL-STD-1275B		
EMI/RFI	MIL-STD-461C/D		
MTBF	> 100,000 hours according to Mil-HDBK 217		

* arazim Ltd reserve the right to change the Specifications without notice at any time

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