

Uniaxial Force Balanced Inclinometer Model IMU 110 XX

PROFILE

Sensor Technology s.r.l. announces the first sensor belonging to the family of MEMS force balance servo inclinometers. The sensor utilises a silicon micro-machined variable capacitance sensing element with the lowest noise and highest performance available on the market. The custom design results in a very low noise sensor with exceptional stability and robustness. The high immunity to thermal transients and transverse acceleration and very high resolution make it an ideal candidate to replace traditional servo-inclinometers in many applications.

PERFORMANCES

- Measuring ranges $\pm 5^\circ$ to $\pm 90^\circ$
- Voltage supply 7 to 15 VDC
- Optional temperature sensor
- New CMOS electronics
- Very long life
- 6000 G shock survival
- No mechanical moving part
- MEMS Sensor
- Low weights and dimensions
- Low current consumption



MAIN FEATURES

- Aluminium housing
- Resolution 0.0001 °(frequency dep)
- Current Consumption < 10mA
- Range $\pm 5^\circ$ a $\pm 90^\circ$
- Connector 4 pin LEMO or equivalent
- Mounting hole diameter 5mm

APPLICATIONS

- Platform leveling
- Measure pitch and roll
- Automatic levelling systems
- Wheel alignment
- Robotics
- Construction equipment
- Antenna positioning
- Machine tools and heavy machinery

TECHNICAL SPECIFICATIONS

Model IMU 110 XX

Measuring Ranges	°	+/- 5 , ± 10 , ± 20 , ± 30 , ± 90
Voltage Supply	Volt	± 6 to ± 15
Y-X out zero	Volt	0 +/- 100mV
Output Voltage	mV	± 5 Volt
Linearity	% FS	< 0,5 %
Resolution	°	0.00005 ° (0....10 HZ)
Hysteresis	% FS	< 0,01
Working Temperature compensated	° C	-40. + 85
Storage temperature	° C	-55 + 85
Frequency response	sec	Factory calibrated (1 HZ typical)
Temperature Zero Drift T 0- 60	µg/ °C	< 100
Temperature Sensitivity drift T 0 -60	ppm / °C	< 100
Cross axis error	% FS	< 1% at max tilt
Current consumption	mA	< 10 mA
Protection		IP65
Connector		4 Pin LEMO or equivalent
Materials		Anodised aluminium housing

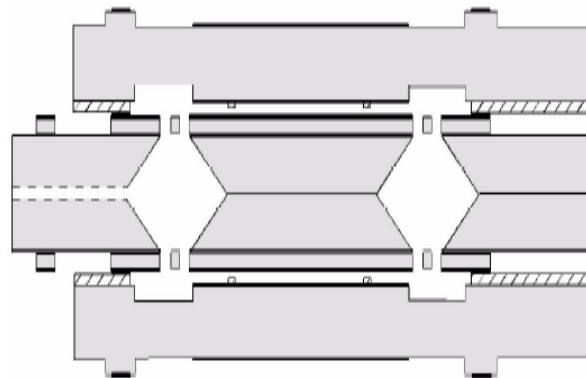
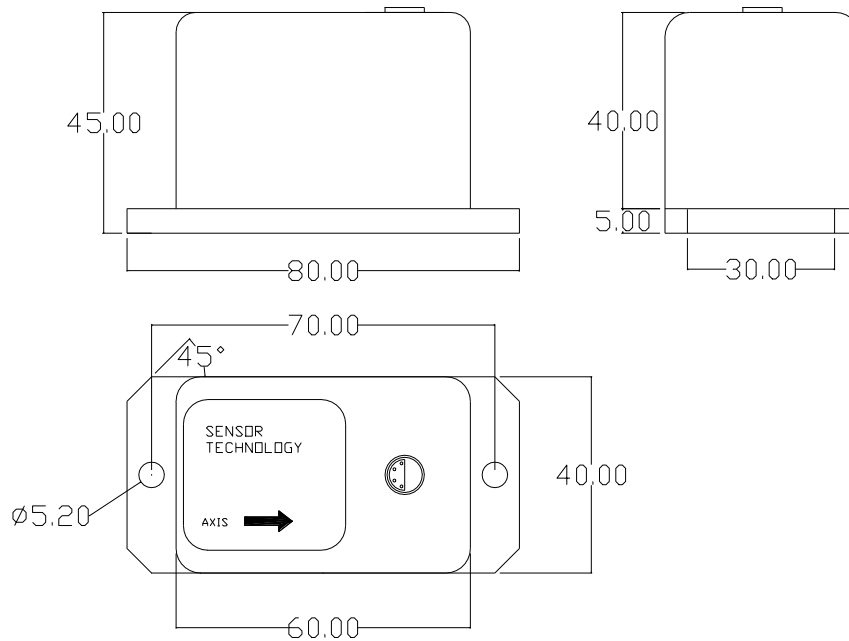


FIG. 1 - SENSOR CROSS-SECTION SHOWING THE FOUR-LAYER CONSTRUCTION

MECHANICAL DRAWING



SELECTION GUIDE

	5 Degree	10 Degree	20 Degree	30 Degree	90 Degree
IMU-110-	05	10	20	30	90