



AMI Analog MEMS Inclinometer

Features

- Single-Axis and Dual-Axis Available
- Resolution: 0.001°
- Zero Temperature Coefficient: $\pm 0.002^\circ/\text{°C}$
- Analog 0-5V, 0.5-4.5V & 4-20mA Output Options
- -40° to +85°C Operating Range
- High Shock & Vibration Tolerance
- 2m cable whip included

Application

- Geotechnical Monitoring
- Radar & Vehicle Platform Leveling
- Drill Rig Alignment
- Offshore/Subsea Platform Pitch & Roll
- Industrial Measurement & Control
- Railway Track Alignment & Maintenance
- Antenna Position Control



Introduction

The model AMI is a high precision MEMS inclinometer with built-in thermal compensation. Standard units come with 0-5V, 0.5-4.5V or 4-20mA output options. All AMI series inclinometers are rated IP67 for waterproofing up to 1m. Custom ranges and output types are also available on request.

Performance specifications

Static/dynamic

* Angular Range, °	± 10	± 30
Resolution, °	0.001	0.001
Hysteresis, °	0.003	0.005
Zero Tolerance (°)	0.1	0.1
Zero Temperature Coefficient, °/°C	± 0.002	± 0.002
Scale Factor Tolerance (%)	0.7	1.4
Scale Factor Temperature Coefficient, ppm/°C	≤ 50	≤ 50
Warm Up, s	0.5	0.5
Time Constant, s	0.02	0.02

Electrical and environmental

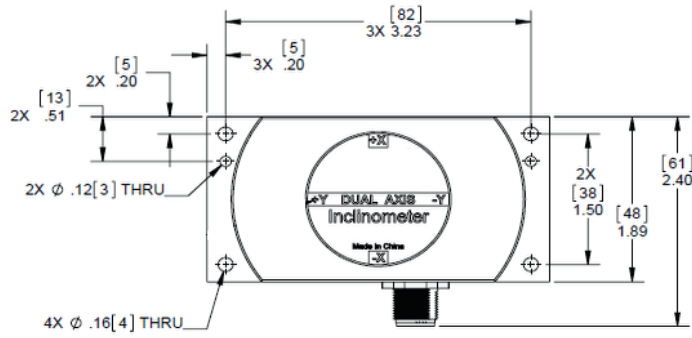
Output	0-5V, 0.5 - 4.5V or 4-20mA
Electromagnetic Compatibility	EN61000 and GBT17626
Impact Resistance	100g@11ms, 3 times/axis (1/2 sinusoid)
Vibration Resistance	10grms @ 10-1000Hz
Temperature Rating, Operation	-40 to +85°C
Temperature Rating, Storage	-55 to +100°C
Enclosure	Anodized Aluminum
Seal	IP67
Cables	2m Cable (standard)
Weight	150g (without cable)
Power Requirements	9-36 VDC @ 60mA

Notes

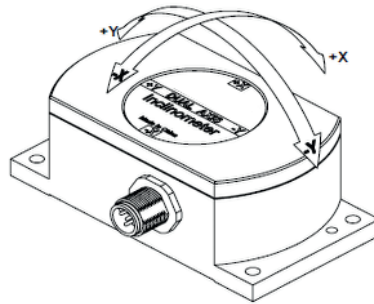
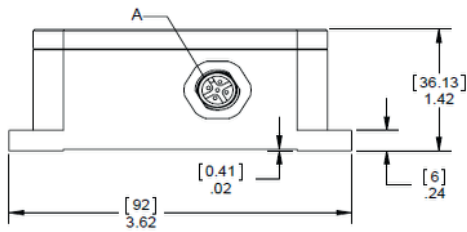
* - Custom ranges available, please see model number structure below.

Specifications subject to change without notice on account of continued product development

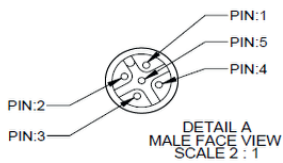
Outline Diagram



Dimensions in inches [mm]

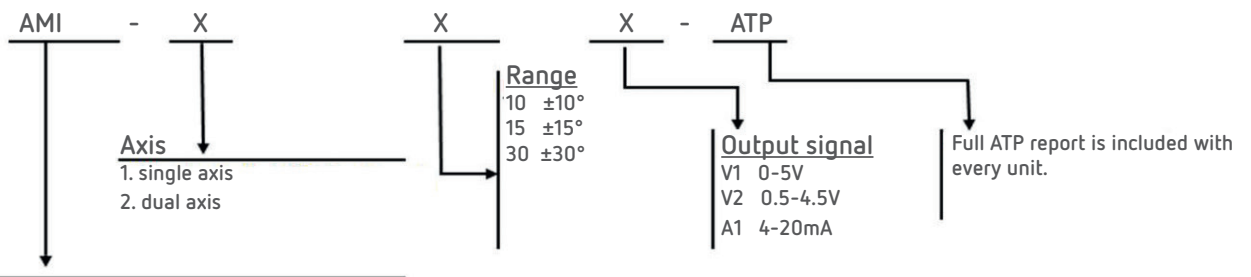


Pin Out



Pin	Function
1	+VDC 9V~36V
2	X-Axis Out
3	Y-Axis Out
4	Ground
5	Factory Use Only

Ordering information



Series

AMH - Analog MEMS Inclinometer

Example:

AMI - 1 - 10 - A1 - ATP

AMI Single axis, +/- 10 degrees, 4-20mA output, ATP report

Note

ATP report is included with every unit.

ATP report includes: Scale factor, Axis misalignment, Bias, Linearity, Input current, Thermo data points

Part numbers

	Single axis		Dual axis	
	Model #	Part #	Model #	Part #
Voltage output (0-5Vdc)	AMI-1-10-V1-ATP	02550316-0111-ATP	AMI-2-10-V1-ATP	02550316-0211-ATP
	AMI-1-15-V1-ATP	02550316-0121-ATP	AMI-2-15-V1-ATP	02550316-0221-ATP
	AMI-1-30-V1-ATP	02550316-0131-ATP	AMI-2-30-V1-ATP	02550316-0231-ATP
Voltage output (0.5-4.5Vdc)	AMI-1-10-V2-ATP	02550316-0112-ATP	AMI-2-10-V2-ATP	02550316-0212-ATP
	AMI-1-15-V2-ATP	02550316-0122-ATP	AMI-2-15-V2-ATP	02550316-0222-ATP
	AMI-1-30-V2-ATP	02550316-0132-ATP	AMI-2-30-V2-ATP	02550316-0232-ATP
Current output (4-20mA)	AMI-1-10-A1-ATP	02550316-0116-ATP	AMI-2-10-A1-ATP	02550316-0216-ATP
	AMI-1-15-A1-ATP	02550316-0126-ATP	AMI-2-15-A1-ATP	02550316-0226-ATP
	AMI-1-30-A1-ATP	02550316-0136-ATP	AMI-2-30-A1-ATP	02550316-0236-ATP

Note

If ATP report is required, please add "-ATP" to model & part numbers. Additional charges will apply.