

AML Series - Low Cost Analog MEMS Inclinometer

Making Sense out of Motion...

The Jewell Instruments model AML is a low cost analog MEMS inclinometer for industrial applications. Standard units are available with 0-5V, 0.5-4.5V and 4-20mA output options. All AML series inclinometers are rated IP67 waterproof up to 1m. Custom ranges and output types are also available on request.



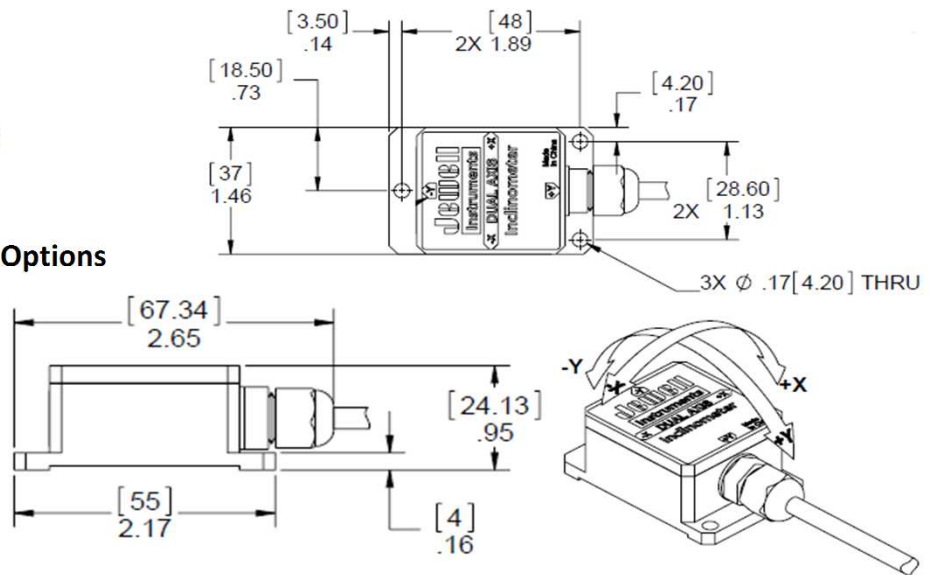
Outline Diagram

Features & Benefits:

- Single and Dual-Axis Available
- Resolution: 0.05°
- Zero Temperature Coefficient: $\pm 0.02^\circ/\text{C}$
- High Shock & Vibration Tolerance
- -40° to $+85^\circ\text{C}$ Temperature Range
- Analog 0-5V, 0.5-4.5V & 4-20mA Output Options
- 1m cable whip included

Applications:

- Solar Tracking & Panel Positioning
- Vehicle Wheel Alignment
- Industrial Automation & Control
- Radar/Antenna Mast Alignment
- Platform Leveling
- Navigation Pitch/Roll Measurement



*Dimensions in Inches [mm]

Wiring Code

| Wire | Function |
|--------|-------------|
| Red | +VDC 9V~36V |
| Yellow | X-Axis Out |
| Green | Y-Axis Out |
| Black | Ground |

Performance Specifications

STATIC/DYNAMIC

| | | | | |
|--|-------|-------|-------|-------|
| * Angular Range, ° | ±10° | ±30° | ±60° | ±90° |
| Resolution, ° | 0.05 | 0.05 | 0.05 | 0.05 |
| Hysteresis, ° | 0.1 | 0.2 | 0.2 | 0.2 |
| Zero Offset Tolerance (°) | 0.56 | 0.56 | 0.56 | 0.56 |
| Zero Temperature Coefficient, °/°C | ±0.02 | ±0.02 | ±0.02 | ±0.02 |
| Scale Factor Tolerance (%) | 0.7 | 1.4 | 2.8 | 3 |
| Scale Factor Temperature Coefficient, ppm/°C | ≤350 | ≤350 | ≤350 | ≤350 |
| Warm Up, s | 0.5 | 0.5 | 0.5 | 0.5 |
| Time Constant, s | 0.05 | 0.05 | 0.05 | 0.05 |

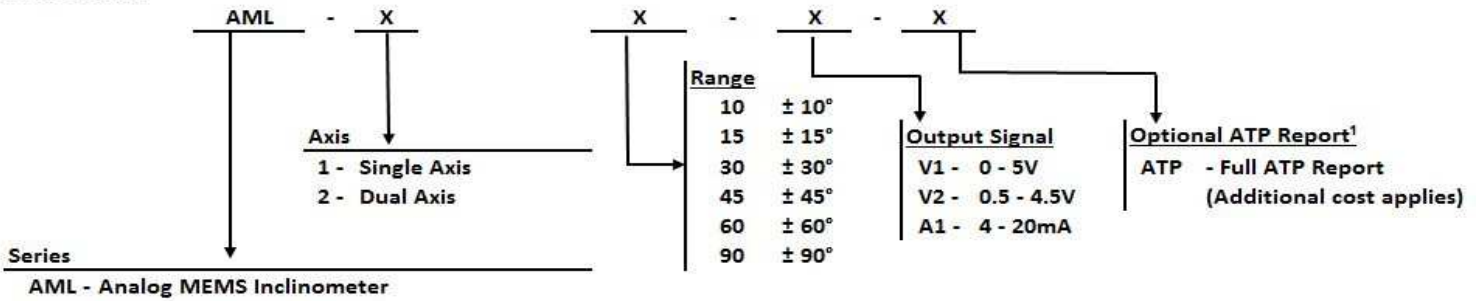
ELECTRICAL AND ENVIRONMENTAL

| | |
|--------------------------------|--|
| 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 |
| Seal | IP67 |
| Cables | 1m Cable (standard) |
| Weight | 90g (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

How To Order:



Example:

AML - 1 - 60 - V1 - ATP

AML, Single Axis, +/- 60 degree range, 0-5V output, Full ATP Report

1 - Note: "ATP" must be added to the end of the part number for a full ATP report. An additional cost will apply.

ATP Report Includes: Scale Factor, Axis Misalignment, Bias, Linearity, Input Current.

Part Numbers

| | Single-axis | | Dual-axis | |
|--------------------------------|-------------|---------------|-------------|---------------|
| | Model # | Part # | Model # | Part # |
| Voltage output (0-5Vdc) | AML-1-10-V1 | 02550322-0111 | AML-2-10-V1 | 02550322-0211 |
| | AML-1-15-V1 | 02550322-0121 | AML-2-15-V1 | 02550322-0221 |
| | AML-1-30-V1 | 02550322-0131 | AML-2-30-V1 | 02550322-0231 |
| | AML-1-45-V1 | 02550322-0141 | AML-2-45-V1 | 02550322-0241 |
| | AML-1-60-V1 | 02550322-0151 | AML-2-60-V1 | 02550322-0251 |
| | AML-1-90-V1 | 02550322-0161 | AML-2-90-V1 | 02550322-0261 |
| Voltage output (0.5-4.5Vdc) | AML-1-10-V2 | 02550322-0112 | AML-2-10-V2 | 02550322-0212 |
| | AML-1-15-V2 | 02550322-0122 | AML-2-15-V2 | 02550322-0222 |
| | AML-1-30-V2 | 02550322-0132 | AML-2-30-V2 | 02550322-0232 |
| | AML-1-45-V2 | 02550322-0142 | AML-2-45-V2 | 02550322-0242 |
| | AML-1-60-V2 | 02550322-0152 | AML-2-60-V2 | 02550322-0252 |
| | AML-1-90-V2 | 02550322-0162 | AML-2-90-V2 | 02550322-0262 |
| Current output (4-20mA) | AML-1-10-A1 | 02550322-0116 | AML-2-10-A1 | 02550322-0216 |
| | AML-1-15-A1 | 02550322-0126 | AML-2-15-A1 | 02550322-0226 |
| | AML-1-30-A1 | 02550322-0136 | AML-2-30-A1 | 02550322-0236 |
| | AML-1-45-A1 | 02550322-0146 | AML-2-45-A1 | 02550322-0246 |
| | AML-1-60-A1 | 02550322-0156 | AML-2-60-A1 | 02550322-0256 |
| | AML-1-90-A1 | 02550322-0166 | AML-2-90-A1 | 02550322-0266 |

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