

DML Series - Low Cost Digital MEMS Inclinometer



Making Sense out of Motion...

The Jewell Instruments model DML is a low cost digital MEMS inclinometer for industrial applications. Units are available with RS232, RS485 and UART TTL output options. All DML series inclinometers are rated IP67 for waterproofing up to 1m. Custom ranges and output types are also available on request.



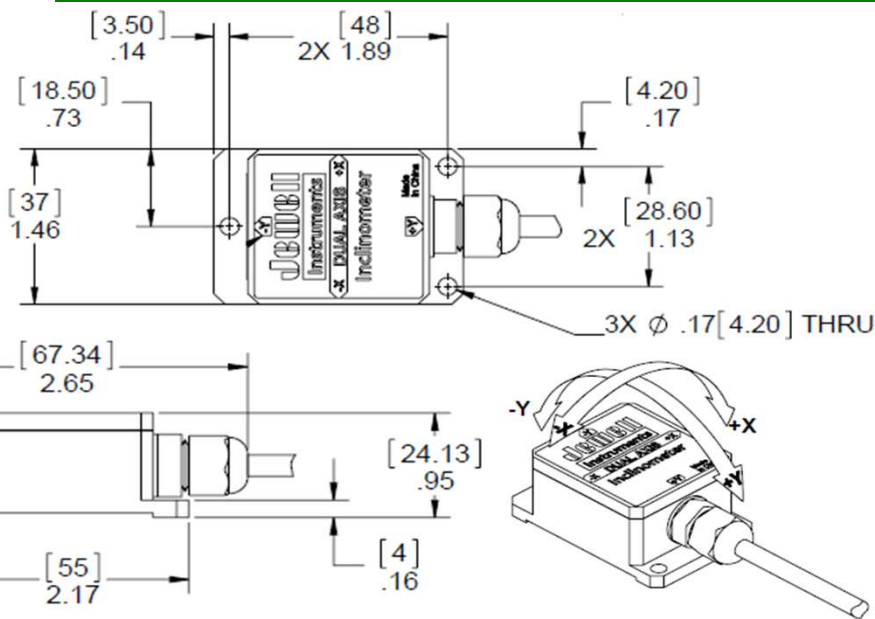
Outline Diagram

Features & Benefits:

- Single-Axis and Dual-Axis Available
- Resolution: 0.05°
- Zero Temperature Coefficient: $\pm 0.02^{\circ}/^{\circ}\text{C}$
- -40° to $+85^{\circ}\text{C}$ Operation and Storage
- Digital RS232, RS485 or UART TTL Outputs
- 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	RS232 (Rx), RS485 (D+)
Green	RS232 (Tx), RS485 (D-)
Black	Ground

Performance Specifications

STATIC/DYNAMIC

* Angular Range, °	±10°	±30°	±60°	±90°
Resolution, °	0.05	0.05	0.05	0.1
Hysteresis, °	0.1	0.1	0.2	0.2
Zero 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

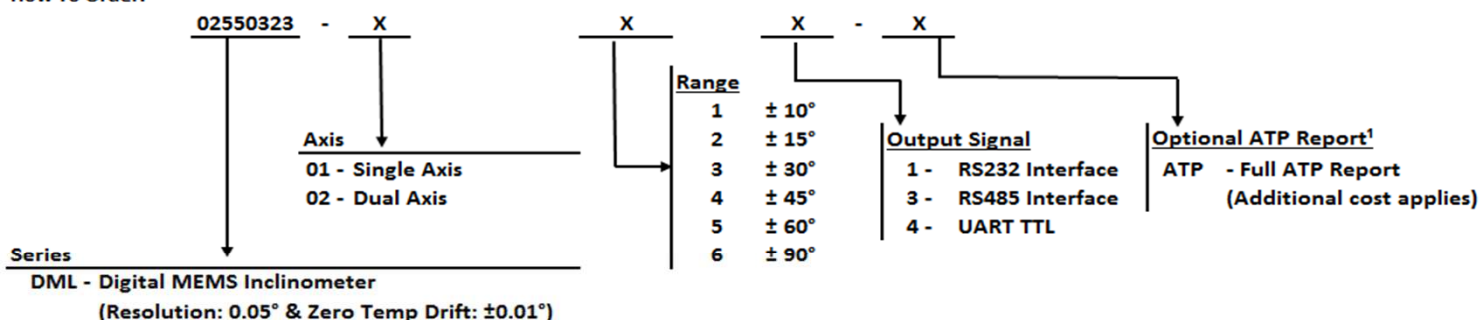
ELECTRICAL AND ENVIRONMENTAL

Output Rate	5Hz, 15Hz, 35Hz, 50Hz
Output Type	RS232/RS485/TTL
Electromagnetic Compatibility	EN61000 and GBT17626
Impact Resistance	100g@11ms, 3 Times/Axis (1/2 sinusoid)
Vibration Resistance	10grms, 10~1000 Hz
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:

02550323-0123-ATP

DML Single Axis, +/- 15 degrees, RS485 Interface, 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.