

# DMH Series - Digital MEMS Inclinometer

Making Sense out of Motion...

The Jewell Instruments model DMH is a high precision MEMS inclinometer. Units are available with RS232, RS422, RS485 and UART TTL options. All DMH series inclinometers are rated IP67 for waterproofing up to 1m. Custom ranges and output types are also available on request.



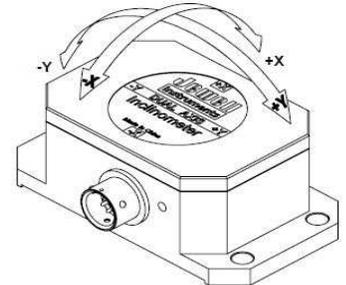
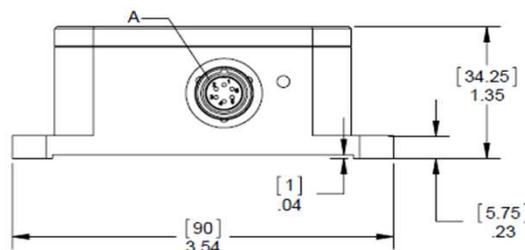
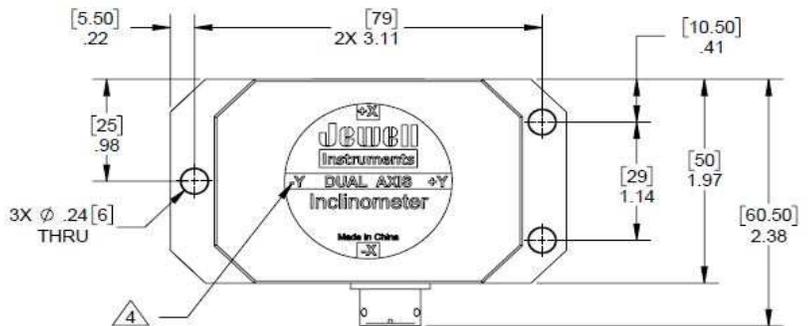
## Outline Diagram

### Features & Benefits:

- Single-Axis and Dual-Axis Available
- Resolution <math><0.001^\circ</math>
- Zero Temperature Coefficient:  $\pm 0.006^\circ/\text{C}$
- Up to  $\pm 90^\circ$  Angular Range
- $-40^\circ$  to  $+85^\circ\text{C}$  Temperature Range
- 1m cable whip included

### Applications:

- Antenna Deflection Measurement
- Radar & Vehicle Platform Positioning
- Drill Rig Alignment
- Offshore Platform Pitch & Roll
- Industrial Measurement & Control
- Railway Track Alignment & Maintenance



\*Dimensions in Inches [mm]

### Pin Out



DETAIL A  
FACE VIEW  
SCALE 1.5 : 1

Pin	Function
1	+VDC 9V~36V
2	RS232 (Rx), RS485 (D+)
3	RS232 (Tx), RS485 (D-)
4	Ground
5	Factory Use Only

Consult Factory for RS422

## Performance Specifications

### STATIC/DYNAMIC

* Angular Range, °	±10°	±15°	±30°	±60°
Resolution, °	0.001	0.001	0.001	0.001
Hysteresis, °	0.005	0.007	0.008	0.01
Zero Tolerance (°)	0.01	0.01	0.01	0.01
Zero Temperature Coefficient, (°/°C)	±0.006	±0.006	±0.006	±0.006
Scale Factor Tolerance (%)	0.7	1.1	1.4	2.8
Scale Factor Temperature Coefficient, (ppm/°C)	≤200	≤200	≤200	≤200
Warm up, s	0.5	0.5	0.5	0.5
Time Constant, s	0.05	0.05	0.05	0.05

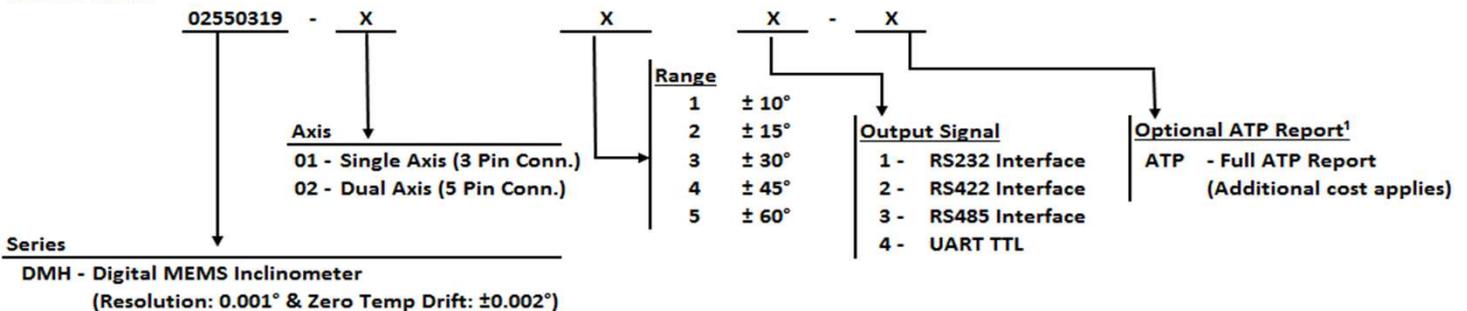
### ELECTRICAL AND ENVIRONMENTAL

Output Rate	5Hz, 15Hz, 35Hz, 50Hz
Output Type	RS232, RS422, RS485, UART 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
Enclosure	Anodized Aluminum
Cables	1m 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

#### How To Order:



#### Example:

02550319-0221-ATP

DMH Dual Axis, +/-15 degree, RS232 Interface, Full ATP Report

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.