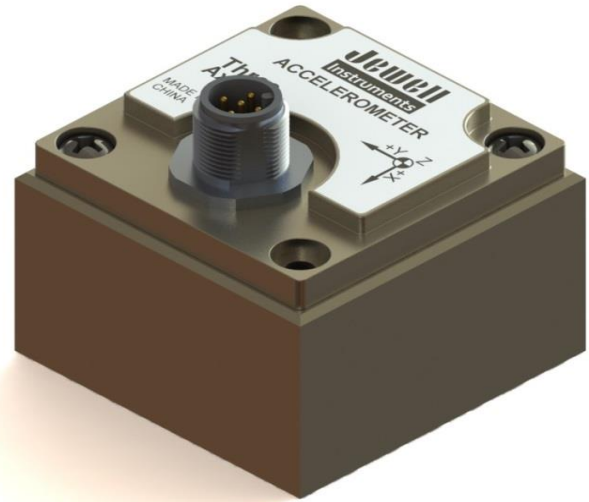


DMA Series - Digital MEMS Accelerometers

Jewell Instruments DMA Series Accelerometers are an excellent choice for cost to performance trade off. The DMA is based on silicon micro-machined MEMS Capacitive Accelerometer technology and designed for low power and high stability.



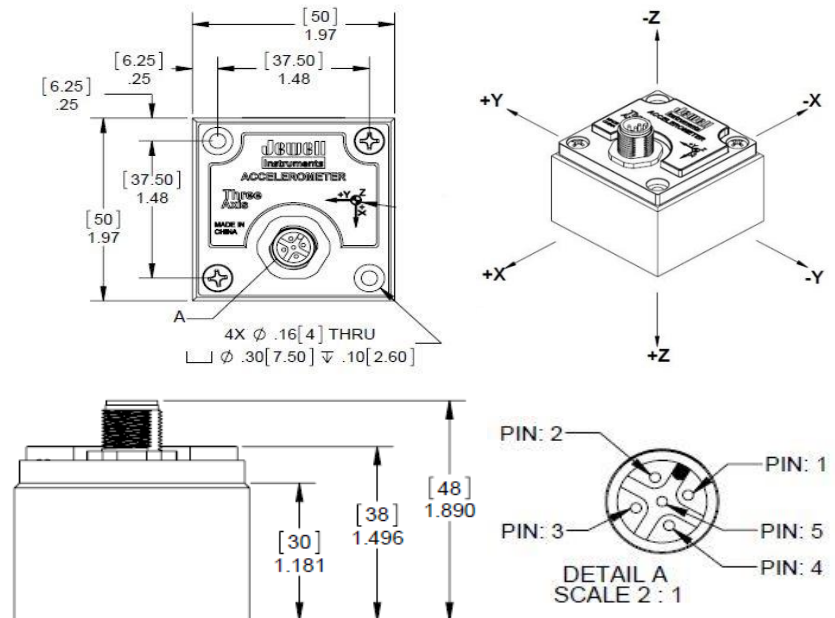
Features

- Single, Dual and Triaxial Configuration
- Excellent long term stability
- Ruggedized for harsh environment operation
- High Sensitivity
- 2m cable whip included

Applications

- Tower Cranes
- Robotics
- Low Frequency Vibration Measurement
- Automatic Control Systems
- Vehicle Testing

Outline Diagram



Pin Out

Pin	Function	
	RS232	RS485/UART TTL
1	+VDC	+VDC
2	RXD	D+
3	TXD	D-
4	Ground	Ground
5	N/A	N/A

Performance Specifications

STATIC/DYNAMIC

Measurement Range, (g) ¹	±2	±10
Scale Factor Tolerance (mg)	2	5
Scale Factor Temp Coefficient (ppm/°C, typ.)	100	100
Zero (g, Max.)	0.01	0.05
Zero Temp Coefficient (mg/°C, typ.)	0.1	0.5
Axis Misalignment (°)	≤1	≤1
Resolution and Threshold (mg, Max.)	0.1	0.6
Nonlinearity (% of Full Scale, Max.)	0.2	0.5
Nonrepeatability (mg, Max.)	2	10
Bandwidth (Hz, Max.)	400	400
Scale Factor Long Term Stability (1 yr. ppm, Max.)	300	300
Bias Long Term Stability (1 yr. mG, Max.)	1.5	7.5
Noise Spectral Density (µVolts/√Hz)	18	18

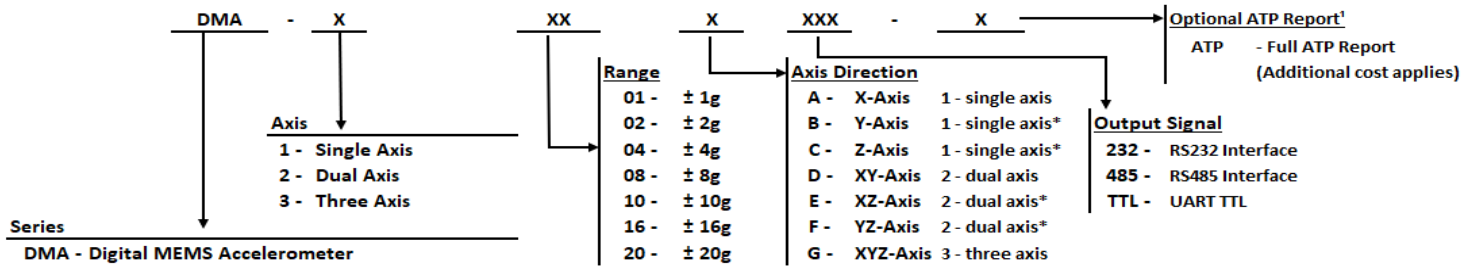
ELECTRICAL AND ENVIRONMENTAL

Input Voltage (Vdc)	9 to 36 Vdc
Operating Current	<3mA at 12Vdc
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Shock	100g (11msec ½ sine)
Vibration (grms random 20 to 2,000 Hz)	20
Weight (grams)	100
Seal	IP67

Notes: 1 - Intermediate ranges available, please see model number structure below. Custom ranges available on request.

*Specifications subject to change without notice due to continued product development

HOW TO ORDER:



Example:
DMA-2-02-D-232-ATP
DMA Series, dual axis, ±2° range, XY-axis, RS485 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 number not included on datasheet, but available on request

PART NUMBERS:

	Single-axis		Dual-axis		Triaxial	
	Model #	Part #	Model #	Part #	Model #	Part #
RS232 output	DMA-1-01-A-232	02550314-1111	DMA-2-01-D-232	02550314-2141	DMA-3-01-G-232	02550314-3171
	DMA-1-02-A-232	02550314-1211	DMA-2-02-D-232	02550314-2241	DMA-3-02-G-232	02550314-3271
	DMA-1-04-A-232	02550314-1311	DMA-2-04-D-232	02550314-2341	DMA-3-04-G-232	02550314-3371
	DMA-1-08-A-232	02550314-1411	DMA-2-08-D-232	02550314-2441	DMA-3-08-G-232	02550314-3471
	DMA-1-10-A-232	02550314-1511	DMA-2-10-D-232	02550314-2541	DMA-3-10-G-232	02550314-3571
	DMA-1-16-A-232	02550314-1611	DMA-2-16-D-232	02550314-2641	DMA-3-16-G-232	02550314-3671
	DMA-1-20-A-232	02550314-1711	DMA-2-20-D-232	02550314-2741	DMA-3-20-G-232	02550314-3771
RS485 output	DMA-1-01-A-485	02550314-1112	DMA-2-01-D-485	02550314-2142	DMA-3-01-G-485	02550314-3172
	DMA-1-02-A-485	02550314-1212	DMA-2-02-D-485	02550314-2242	DMA-3-02-G-485	02550314-3272
	DMA-1-04-A-485	02550314-1312	DMA-2-04-D-485	02550314-2342	DMA-3-04-G-485	02550314-3372
	DMA-1-08-A-485	02550314-1412	DMA-2-08-D-485	02550314-2442	DMA-3-08-G-485	02550314-3472
	DMA-1-10-A-485	02550314-1512	DMA-2-10-D-485	02550314-2542	DMA-3-10-G-485	02550314-3572
	DMA-1-16-A-485	02550314-1612	DMA-2-16-D-485	02550314-2642	DMA-3-16-G-485	02550314-3672
	DMA-1-20-A-485	02550314-1712	DMA-2-20-D-485	02550314-2742	DMA-3-20-G-485	02550314-3772
UART TTL output	DMA-1-01-A-TTL	02550314-1113	DMA-2-01-D-TTL	02550314-2143	DMA-3-01-G-TTL	02550314-3173
	DMA-1-02-A-TTL	02550314-1213	DMA-2-02-D-TTL	02550314-2243	DMA-3-02-G-TTL	02550314-3273
	DMA-1-04-A-TTL	02550314-1313	DMA-2-04-D-TTL	02550314-2343	DMA-3-04-G-TTL	02550314-3373
	DMA-1-08-A-TTL	02550314-1413	DMA-2-08-D-TTL	02550314-2443	DMA-3-08-G-TTL	02550314-3473
	DMA-1-10-A-TTL	02550314-1513	DMA-2-10-D-TTL	02550314-2543	DMA-3-10-G-TTL	02550314-3573
	DMA-1-16-A-TTL	02550314-1613	DMA-2-16-D-TTL	02550314-2643	DMA-3-16-G-TTL	02550314-3673
	DMA-1-20-A-TTL	02550314-1713	DMA-2-20-D-TTL	02550314-2743	DMA-3-20-G-TTL	02550314-3773

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

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