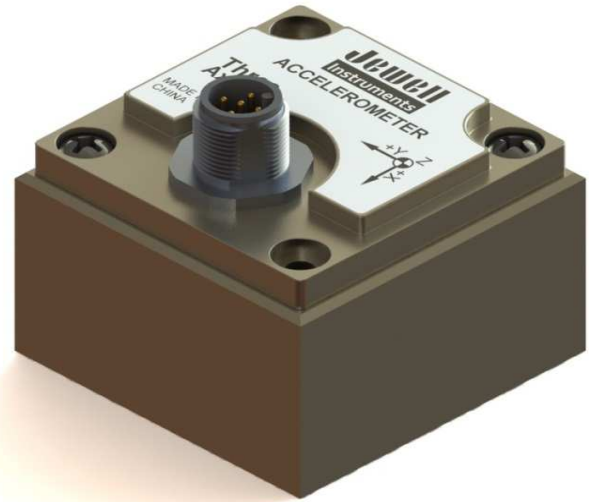


DMA Series - Digital MEMS Accelerometers

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.



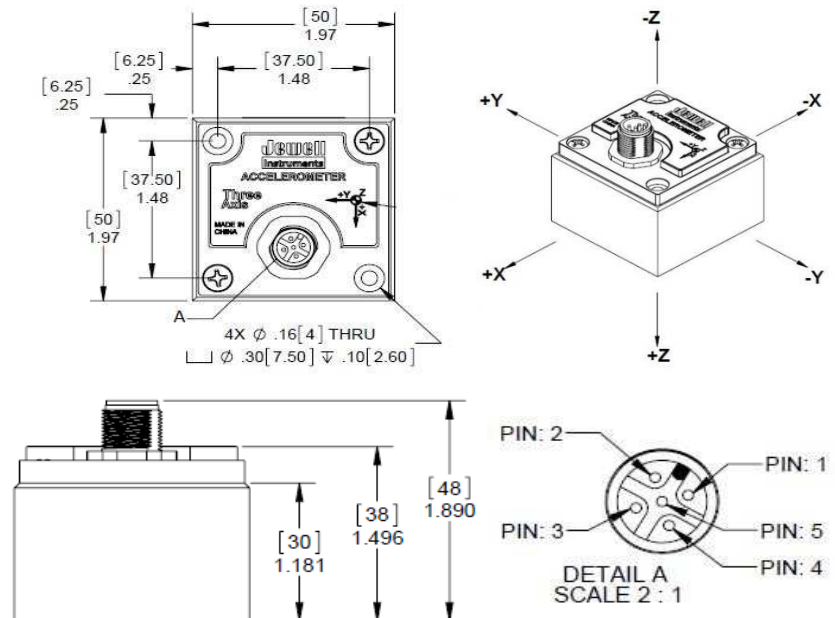
Features

- 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	±40
Scale Factor Tolerance (mg)	2	5	10
Scale Factor Temp Coefficient (ppm/°C, typ.)	100	100	100
Zero (g, Max.)	0.01	0.05	0.15
Zero Temp Coefficient (mg/°C, typ.)	0.1	0.5	1.5
Axis Misalignment (°)	≤1	≤1	≤1
Resolution and Threshold (mg, Max.)	0.1	0.6	2.8
Nonlinearity (% of Full Scale, Max.)	0.2	0.5	0.6
Nonrepeatability (mg, Max.)	2	10	20
Bandwidth (Hz, Max.)	400	400	400
Scale Factor Long Term Stability (1 yr. ppm, Max.)	300	300	300
Bias Long Term Stability (1 yr. mG, Max.)	1.5	7.5	22
Noise Spectral Density (µVolts/√Hz)	18	18	18

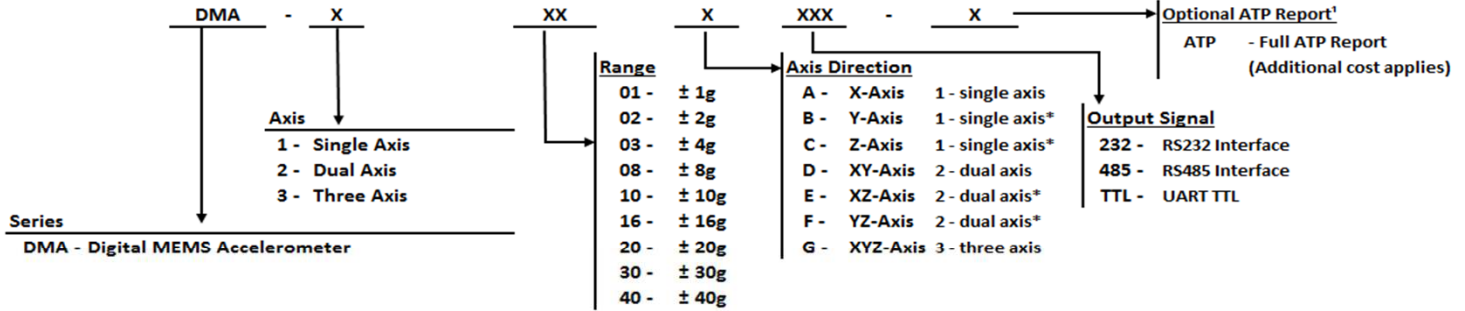
ELECTRICAL AND ENVIRONMENTAL

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

DMA 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
	DMA-1-30-A-232	02550314-1811	DMA-2-30-D-232	02550314-2841	DMA-3-30-G-232	02550314-3871
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
	DMA-1-30-A-485	02550314-1812	DMA-2-30-D-485	02550314-2842	DMA-3-30-G-485	02550314-3872
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
	DMA-1-30-A-TTL	02550314-1813	DMA-2-30-D-TTL	02550314-2843	DMA-3-30-G-TTL	02550314-3873
	DMA-1-40-A-TTL	02550314-1913	DMA-2-40-D-TTL	02550314-2943	DMA-3-40-G-TTL	02550314-3973

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

Jewell Instruments LLC, 850 Perimeter Road, Manchester, NH 03103
 sales@jewellinstruments.com • www.jewellinstruments.com • Tel (800) 227-5955