

Measurement Solutions 3-Axis Accelerometers

Low Cost, Low Power, Analog Output



The **MSA** is a small, low power, complete 3-axis accelerometer with signal conditioned analog voltage outputs. It can measure the static acceleration of gravity in Tilt & Angle applications, as well as dynamic acceleration resulting from motion, shock, or vibration.

Capacitive MEMS Technology (based on Analog Devices ADXL chip)

The sensor is a micro-machine silicon wafer. The structures are suspended by polysilicon springs which allow deflection when subjected to acceleration in the X, Y and/or Z axis. Deflection causes a change in capacitance for each axis and is converted to an analog output voltage proportional to the acceleration on that axis.

Measurement ranges (G's):

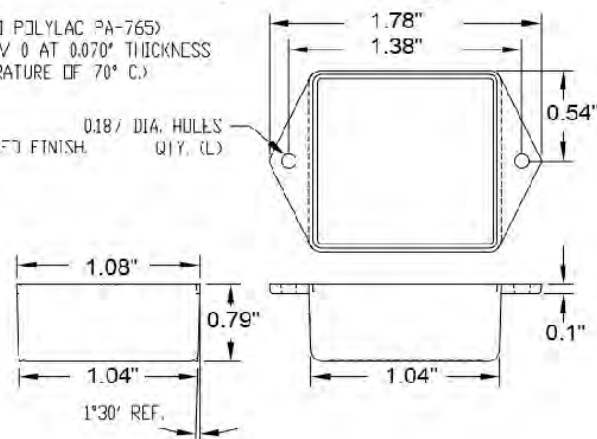
+/- 3, +/-16; +/-200 (custom ranges available)

Dimensions:

MATERIAL: ABS THERMOPLASTIC (CHI MEI POLYLAC PA-765)
 (FLAMMABILITY RATING CF 94V 0 AT 0.070" THICKNESS
 AND CONTINUOUS USE TEMPERATURE OF 70° C.)

COLOR: BLACK

FINISH: OUTSIDE SURFACES ARE TEXTURED FINISH.





Measurement
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SENSORS • TRANSDUCERS • CONTROL SYSTEMS • DATA ACQUISITION • SIGNAL CONDITIONING • CALIBRATION EQUIPMENT

Electrical wiring diagram:

+5 VDC Excitation: RED; Common Ground: WHITE / Shield;
X-Axis: ORANGE; Y-Axis: BROWN; Z-Axis: BLACK.

Specifications:

Excitation: 5 VDC, 500 uA max.
Output: +/-1 VDC Span nominal, 1.6 VDC at 0 G nominal.
Accuracy: Non-linearity: 0.5% FS maximum
Package alignment error: +/-1 degree
Interaxis alignment error: 0.01 degree
Cross axis sensitivity: +/-1% FS
Sensitivity tempco: +/-0.01%FS/C
Offset Tempco: +/-1.0 mG/C
Noise density: 300 uG/sqrt Hz (RMS)
Frequency Response: 50 Hz standard (factory programmable up to 500 Hz).
Operating temp range: +32 to +140 F.
Turn on time: 1 mS
Shock: 1000G shock survival.

Part Number Configuration:

MSA-[range]-[enclosure]-[connector]-[option1]-[option2]

Example 1: MSA-16

+/- 16 G measurement range, plastic housing, 5 VDC Excitation,
1 foot cable (stripped ends), 50 Hz frequency response,

Example 2: MSA-3-D9-250

+/- 3 G measurement range, plastic housing, 5 VDC Excitation,
1 foot cable (with 9-pin DSub connector), 250 Hz frequency response,

Please make Purchase Order, and, REMIT to:

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