

MASS: MicroTesla Analog Surfacemount Sensor

The MicroTesla Analog Surfacemount Sensor is the newest version of our analog sensor. In addition to MicroTesla's proprietary magnetometer technology, the MASS uses fully optimized surfacemount circuit boards. These new boards are mounted to the chassis using the Ulti-Pak method for improved shock and vibration, and thermal performance.

Physical

- Length: Min 19"
- Diameter: 1.37"
- Proprietary MFE fluxgate magnetometer
- Quartz flexure accelerometers
- All boards are fully covered

Electrical

- Surfacemount electronics
- Voltage requirement: $\pm 12V$ to $\pm 15V$
- Power usage: 0.96W peak
- Calibration coefficients are supplied

Environmental

- All boards qualified for high-temp applications, 175°C
- Q-Flex accelerometers, 175°C
- Magnetometers, 200°C
- Ulti-Pak board mounting for improved shock and vibration isolation



6830 N. ELDRIDGE PKWY, STE. 110
HOUSTON, TX 77041
OFFICE: 713.856.8111
FAX: 713.856.7979
EMAIL: INFO@MICROTESLA.COM

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Mechanical and Environmental Specifications

Parameter	Minimum	Maximum	Units
Outside Diameter*		1.37	inches
		3.5	cm
Length*		19.0	inches
		38.1	cm
Operating Temperature	0	175	°C
	+ 32	347	°F
Survival Temperature	- 40	185	°C
	- 40	365	°F
Vibration, Random (Limited to accelerometers)		20	g RMS, 15-500 Hz
Shock (Limited to accelerometers)		1000	g .05 mSec, half-sine

* Dimensions do not include running gear, centralizers, or axial shock absorbers.

Instrument Accuracy Specifications

Parameter	Minimum	Units
Inclination accuracy, absolute*	± 0.10	degrees
Inclination spread on axial rotation at 90° Inc	< 0.20	degrees
Azimuth accuracy, absolute, 90° Inc	± 0.5	degrees
Azimuth spread axial rotation, 10° through 90°	< 1.0	degrees
Total face accuracy, axial rotation at 90° Inc	± 1.0	degrees
Total g field accuracy	± 3.0	mG
Total H field accuracy, absolute	± 300	nT

* Absolute accuracy is achieved when the instrument is tested in a controlled environment using a calibrated and certified reference position.



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