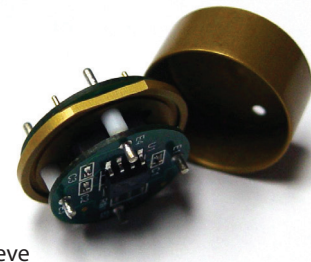


## MDM/MDME-125T-XE-S with SiFlex2 MEMS Accelerometer

The MicroTesla Digitized Module and Digitized Module with Expansion "S" instruments use the SiFlex 2 MEMS accelerometers. The SiFlex2 accelerometer has proven to be extremely durable under the harshest possible drilling conditions, Air drilling. These tools have near quartz accelerometer accuracy up to 125 degrees C. Higher temperatures do not cause sensor damage but the instrument accuracy is affected and may require re-calibration.

### Physical

- Length: Min 21.75"
- Max ~ 29" depending on end adapters
- Diameter: 1.37"
- Proprietary MFE fluxgate magnetometer
- SiFlex2, MEMS accelerometers
- All XE chassis boards are covered with a one piece sleeve



### Electrical

- Surfacemount electronics packaging with Ulti-pak board encapsulation
- Voltage requirement: 12V to 36V
- Power Usage: 1.4W peak, 0.4W idle
- Digital interfaces: serial RS-232, serial logic level or SPI
- Dedicated microprocessor and power supply are built in
- Calibration coefficients downloaded directly into memory module
- Sensor power management through firmware

### Environmental

- All boards qualified for high-temp applications, 175°C\*
- SiFlex2, MEMS Accelerometers, 125°C
- Magnetometers, 200°C\*
- Ulti-pak board mounting for improved shock and vibration isolation

\* Although the boards and magnetometers are qualified at 175°C and above this tool's temperature rating is based on the SiFlex2 MEMS accelerometer, 125°C.

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

## MDM/MDME-125T-XE-S with SiFlex2 MEMS Accelerometer



### Mechanical and Environmental Specifications

Parameter	Minimum	Maximum	Units
Outside Diameter*		1.37	inches
		3.5	cm
Length*	21.75	29.0	inches
		71.1	cm
Operating Temperature	0	125	°C
	+ 32	257	°F
Survival Temperature	- 40	175	°C
	- 40	347	°F
Vibration, Random (Limited to accelerometers)		250**	g RMS, 25-500 Hz
Shock (Limited to accelerometers)		6000**	g 1.0 mSec, half-sine

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

\*\* These vibration shock ratings apply to the SiFlex 2 accelerometers only.

### Instrument Accuracy Specifications

Parameter	Minimum	Units
Inclination accuracy, absolute*	± 0.13	degrees
Inclination spread on axial rotation at 90° Inc	< 0.20	degrees
Azimuth accuracy, absolute, 90° Inc	± 0.6	degrees
Azimuth spread axial rotation, 10° through 90°	< 1.2	degrees
Total face accuracy, axial rotation at 90° Inc	± 1.0	degrees
Total g field accuracy	± 7.5	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.

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