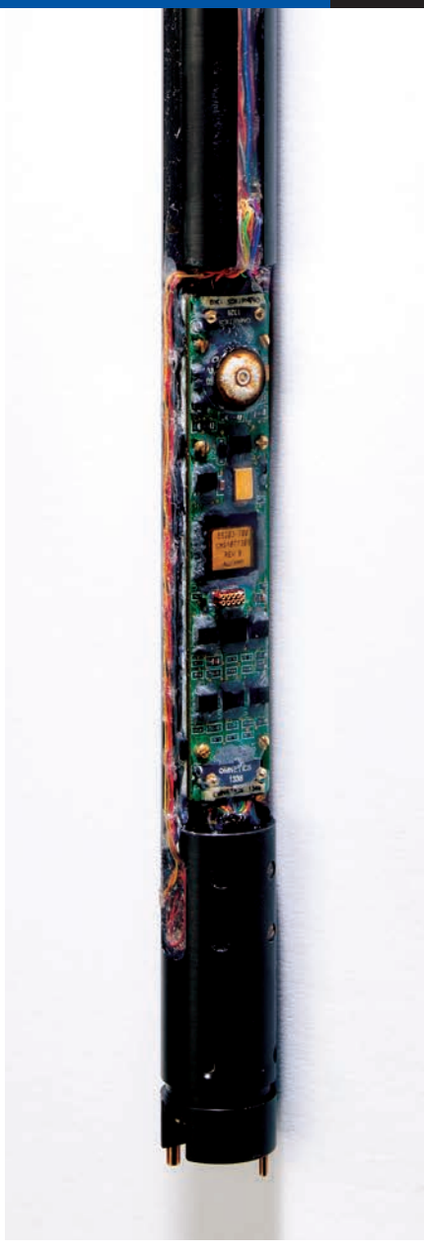
MICROTESLA
MAGNETIC FIELD EFFECTS

1" MDM175T-XE: MicroTesla Digitized Module



The MicroTesla 1" MDM is now offered in an XE Chassis. This revision provides superior instrument accuracy and the full MDM functionality in a near 1" OD. The 1" MDM is built with quartz accelerometers.

The added strength provided by the improved chassis design and the one piece sleeve cover, makes this instrument suitable in small diameter MWD applications like coiled tubing drilling.

Physical

- Length: Min 17.9"
- Diameter: 1.039"
- Proprietary MFE fluxgate magnetometer
- Quartz accelerometers accelerometers
- All boards are fully covered

Electrical

- Surfacemount electronics with Ulti-Pak board mounting pad
- Voltage requirement: 12V to 40V
- Power Usage: 1.5W peak, 0.7W idle
- Digital interfaces: TTL logic level
- Dedicated microprocessor and power supply built in
- Calibration coefficients downloaded directly into memory module
- Sensor power management through firmware

Environmental

- All boards qualified for high-temp applications, 175°C
- Quartz accelerometers, 175°C or 150°C
- Magnetometers, 200°C
- All boards mounted to the chassis and encapsulated for shock and vibration isolation
- The boards and magnetometers are qualified at 175°C

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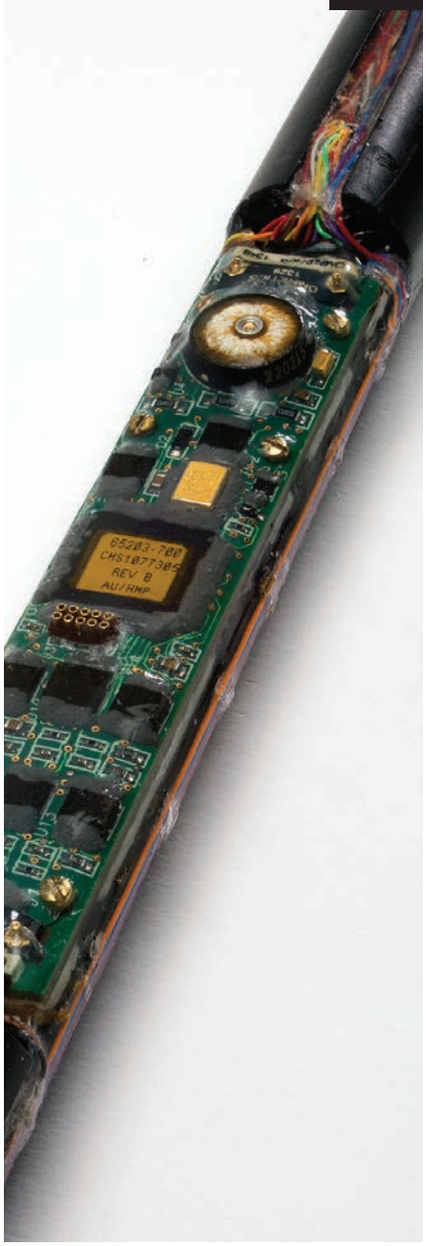

Mechanical and Environmental Specifications

Parameter	Minimum	Maximum	Units
Outside Diameter*		1.039 2.6	inches cm
Length*	17.9	23.5 60	inches cm
Operating Temperature	0 + 32	175 347	°C °F
Survival Temperature	- 40 - 40	190 374	°C °F
Vibration, Random		20	g RMS, 15-500 Hz
Shock		1000	½ msec and ½ 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	< 0.10	degrees
Azimuth accuracy, absolute, 90° Inc	± 0.5	degrees
Azimuth spread axial rotation, 10° through 90°	< 0.8	degrees
Total face accuracy, axial rotation at 90° Inc	± 1.0	degrees
Total g field accuracy	± 2.0	mG
Total H field accuracy, absolute	± 200	nT
Magnetic dip accuracy	± 0.30	degrees
RPM Measurement, 2–200 RPM	± 2.0	% of value

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

* Specification for Quartz Flexure Accelerometers

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