

MDSS175T-XE-QDT: Drop-In Replacement Tools

In 2002 MicroTesla designed a compatible directional steering instrument for third-party MWD systems. These tools were originally specified as 150°C instruments, but as the drilling activity changed so did our tools. We redesigned our standard (4) board set upgrading from a 150°C to a 175°C capability. We worked alongside innovative vendors and uncompromising, major oil field service companies to improve our tools with surfacemount electronics technology and by incorporating the Ulti-Pak encapsulation method.

Physical

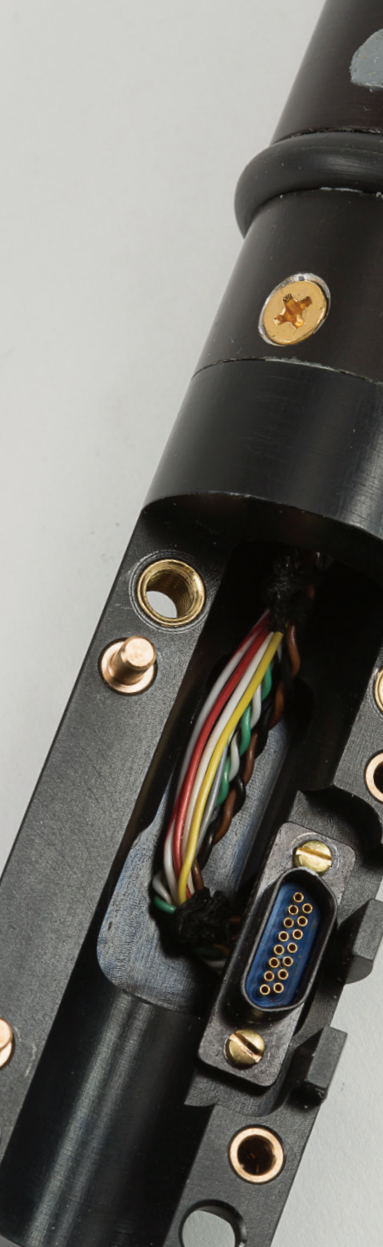
- Length: Min 24", Max 29" nominal
- Diameter: 1.37"
- Proprietary MFE fluxgate magnetometer
- Quartz flexure accelerometer
- All boards use Ulti-Pak encapsulation
- XE chassis, one piece sleeve

Electrical

- Surfacemount electronics packaging
- Operating voltage range: $\pm 12V$ to $\pm 15V$
- Power usage: 1.2W peak
- Digital interfaces: SPI, MAXX 186
- Calibration coefficient downloaded directly into digital interface serial memory
- Switching circuitry provides sensor power management

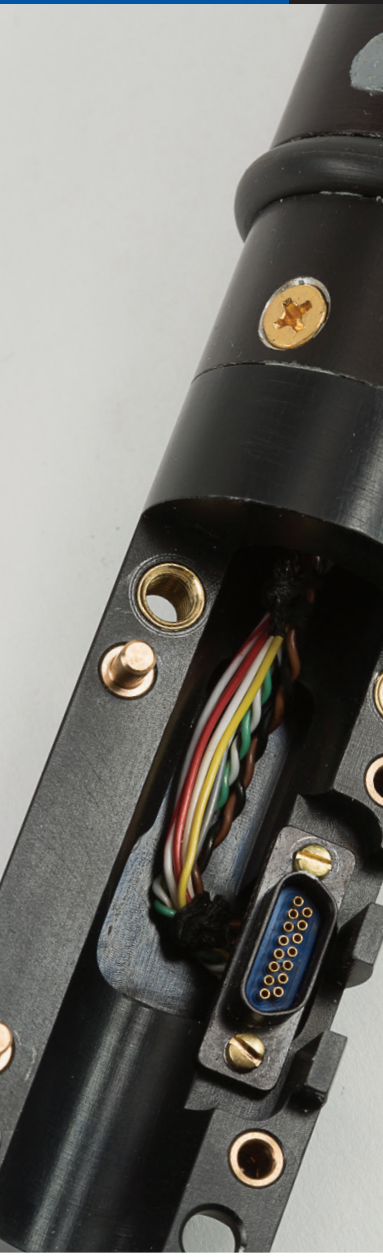
Environmental

- All boards qualified for high-temp applications, 175°C
- Q-Flex accelerometers, 175°C
- Magnetometers, 200°C



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

MDSS175T-XE-QDT: Drop-In Replacement Tools



Mechanical and Environmental Specifications

Parameter	Minimum	Maximum	Units
Outside Diameter*		1.37	inches
		3.5	cm
Length*	24	29	inches
	61	73.6	cm
Operating Temperature	0	150, 175	°C
	+ 32	302, 347	°F
Survival Temperature	- 40	160, 185	°C
	- 40	320, 365	°F
Vibration, Random#		20	g RMS, 15-500 Hz
Shock#		1000	g 0.5 mSec, half-sine

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

Limited by accelerometers

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°	< 0.5	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

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

© 2014, MicroTesla Magnetic Field Effects
All Rights Reserved