



Survey Services

Single-shot I Multi-shot survey tool (MMT)

Right Angle Directional Miniature Single Shot Multishot survey Tool (MMT) represents the next generation of open-hole drill pipe survey instruments replacing film systems and offering a small size (1.04") and extended operational performance over conventional electronic multishot products. The MMT provides definitive survey information, and with the appropriate proprietary software, data can be corrected for any axial magnetic interference from the drilling assembly.

APPLICATIONS AND BENEFITS

The MMT provides a sophisticated survey package, offering a number of advantages including

- High reliability through the use of oil dampened accelerometer.
- Small size for slim hole and short radius applications.
- High temperature capability (eliminating the need for high cost thermal flasks in many cases). Superior accuracy due to sensor performance and the minimization of thermal errors using a digital sensor Module.
- Standard interface providing multi sensor options. This can be used for verification and or sensor redundancy purposes.
- Reduced operating costs due to lower power consumption
- Reduced repair and maintenance and improved reliability
- High capacity data storage (5000 shots) providing increased data resolution and extended downhole surveytime.

Typical Performance summary	
Inclination Accuracy	$\pm 0.1^\circ$
Azimuth Accuracy	$\pm 1.0^\circ$ (Inc>20° ;Dip<70°)
Toolface	$\pm 0.1^\circ$
Sensors	
National Oilwell SUPERTRAX silicone oil damped accelerometer (triaxial).	
National Oilwell high accuracy triaxial magnetometers.	
Environmental features	
Temperature	+15 to 150 deg 1 c
Shock	1000g, % sin dms
Vibration	20g rms 5-500 Hz

Operating Features	
Instrument OD	1.04" (26.4mm)
Instrument length	42.9" max (1089 mm), includes 2 battery housings
Pressure case OD	1 318"
Pressure rating	15,000 psi
Data storage	Calibrated sensor data
Parameters	Gxyz, Bxyz, Temp & Battery voltage
Shot capacity	3700-5000 (SCB Dependent)
Power Source	12 AAA alkaline or 4M lithium battery cells
Battery life	40 hrs (Alkaline) 80 hrs (Lithium)
Max hold off time	200 hours