Tolteq iSeries NXT Directional Module (iDM)

The Tolteq™ iSeries directional module (iDM) on our NXT platform provides additional measurement capabilities for more accurate and efficient directional drilling. The NXT iDM's broader measurement suite includes continuous inclination and azimuth, as well as downhole drillstring RPM. The NXT iDM builds on the proven iDM module with demonstrated resistance to the harsh effects of shock and vibration, and the module has surpassed 9,000 hours of working time. With ToolTracker™ compatibility, the usage and operating conditions of the NXT iDM can be analyzed for efficient maintenance operations.

Features and Benefits

- Continuous inclination and azimuth
- Operational time and environment history recorded in internal memory*
- On-board rotation detection
- Shock, vibration, stick-slip, and RPM pulsed to surface in real time
- Addition of new rotation sequence
- Advanced internal logging*
- Internal current usage logged to memory*
- Smart power management—efficient battery switching and logging of voltage and current
- Fluxgate magnetometers
- Quartz-flexure accelerometers
- Legacy compatible
- Enhanced circuit protection
- Calibration coefficients included directly into module memory
- Quality Tolteq wiring inside with strain relief connectors and high-temperature mesh covering for wires
- Shorter, more rugged design

*Requires Tool Tracker to download

Electrical Specifications

Operating voltage range:.....10 to 30 V
Current at 28 V:.....100 mA max, 10 mA idle
Power usage: .....0.25 W idle, 3 W peak

Mechanical and Enviromental Specifications

Outside diameter.....1.875 in. (47.6 mm)
Length (w/end caps)..... 56.73 in. (1.44 m)
Operating temperature.....32 to 347°F (0 to 175°C)
Survival temperature.....-40 to 365°F (-40 to 185°C)
Vibration, random.....20 g RMS, 10 to 200 Hz
Shock.....1,000 g, 0.5 mSec, half-sine

Instrument Accuracy Specifications

Inclination:
- Absolute.....±0.1°
- Spread.....±0.1°

Azimuth (magnetic dip angle at <70°):
- at 5° inclination: absolute.....±1.2°
  - spread.....±1.0°
- at 10° inclination: absolute.....±1.0°
  - spread..... ±0.75°
- at 90° inclination: absolute..... ±0.5°
  - spread..... ±0.5°

Toolface accuracy, axial rotation, 10 through 90 inc..... ±1.0°
Total g field accuracy, absolute..... ±3.0 mg
Total H field accuracy, absolute.....+/- 4.0 mGauss
RPM measurements, 10 to 255 RPM.....±0.5% of value

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