The Falcon EM MWD is the next generation electromagnetic MWD system from Scientific Drilling, delivering maximum reliability, faster drilling, precision wellbore placement, deeper reach, and safer operations.

The Falcon EM MWD is engineered to transmit downhole data to surface at speeds up to 14 bps. The telemetry transfer rate ensures drilling efficiency by transmitting surveys during pipe connections, enabling greater ROP, and increased data density for high resolution reservoir analysis.

**DELIVERING THE ULTIMATE VALUE**

+ Supports all drilling fluid types (air, mist, foam, mud)
+ Provides unlimited LCM tolerance, eliminating trips required due to plugged MWD pulsers
+ Allows survey transmission during connections significantly reducing NPT
+ Bi-directional communication, enabling full tool parameter customization while drilling
+ Innovative design with no moving parts, reducing mechanical wear, improving overall reliability
+ High-density memory data available for all sensor variables, delivering greater accuracy
+ Retrievable configuration available, minimizing lost in hole liability

**TARGET APPLICATIONS**

+ Unconventional Resource Plays
+ Under-Balanced Drilling With Aerated Fluids
+ Directional/Horizontal Wells
+ Magnetic Ranging (Passive and Active)
+ Steam Assisted Gravity Drainage (SAGD)
+ Relief Well and Re-Entry
+ Geothermal

**PRODUCT SPECS**

### TOOL OD

- 3.125 in (79.4 mm)
- 3.500 in (89.9 mm)
- 4.750 in (120.7 mm)
- 6.250 in (158.8 mm)
- 6.500 in (165.1 mm)
- 6.750 in (171.5 mm)
- 8.000 in (203.2 mm)
- 9.500 in (241.3 mm)

### PRESSURE RATING

- 20,000 psi @ 300°F (30,000 psi available)
- 137,900 kPa @ 150°C (206,842 kPa available)

### TEMPERATURE RATING

- 302°F (150°C)

### OPERATING TIME

- 150+ Hours

### TELEMETRY

- Electromagnetic

### SENSOR ACCURACY

- Tool Face ±0.15° > 3
- Azimuth ±0.25° > 3
- Inclination ±0.15° at all angles

### MAXIMUM BIT PRESSURE

- No Limit

### LOST CIRCULATION MATERIAL

- No Limit

### DIRECTIONAL SPECS

#### LENGTH

- Directional Only: 24.17 ft (7.37m)
- Directional & Gamma ray: 27.33 ft (8.33 m)

#### DATA UPDATE PERIOD

- Minimum .5 sec @ 32 ms pulse width
- Maximum 3.5 sec @ 250 ms pulse width

#### CALCULATED SURVEY TIME

- 2.4 Seconds
- 6.2 Seconds

#### CONTINUOUS INCLINATION

- Sliding: Yes
- Rotating: Yes

#### MEASUREMENTS DELIVERED

- High Side & Magnetic Tool Face, Inclination, Azimuth, Temperature, Peak & RMS Vibration, Scintillation/API Gamma Ray, Pressure While Drilling (PWD), and Magnetic Ranging

### VIBRATIONAL SPECS

- **AXIAL**
  - 4 gRMS for 3 hr, 6 gRMS for 30 min
- **LATERAL**
  - 5 gRMS for 3 hr, 7.5 gRMS for 30 min
- **STICK SLIP**
  - 150% for 3 hr, 200% or neg rpm detected for 30 min

**UPDATED JULY 2017**

**WWW.SCIENTIFICDRILLING.COM/FALCON-MWD**

**THE NEXT GENERATION ELECTROMAGNETIC MWD SYSTEM**