



The Falcon EM MWD is Scientific Drilling's electromagnetic MWD system, ensuring safer operations, maximum reliability, precision wellbore placement, and deeper reach.

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.

Falcon EM MWD provides the following borehole measurements in real-time:

- Survey inclination & azimuth
- High side & magnetic tool face
- Scintillation/API calibrated gamma ray
- Drilling dynamics: axial and lateral vibration, stick slip, temperature
- Continuous inclination
- Annulus and pipe pressure
- Gamma, inclination, and resistivity

For more information on improving your drilling efficiency [while staying on target] contact your Scientific Drilling sales representative or visit:

<http://scientificdrilling.com/mwd>

### APPLICATIONS

- + Unconventional resource plays
- + Under-balanced drilling with aerated fluids
- + Directional/horizontal drilling
- + Relief well and re-entry
- + Magnetic ranging (passive and Active)
- + Geothermal
- + Steam assisted gravity drainage (SAGD)

### BENEFITS

- + 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
- + Pressure-compensated pulser design offers compatibility in a wide range of bottom hole pressure operations
- + Bi-directional communication for MWD tool parameter customization while downhole
- + Field-configurable system enables flexibility for changing well conditions
- + Proven electronics and mechanical design provide superior reliability

### FEATURES

- + Supports BHA sizes 3.125" to 9.5"
- + Downhole to surface data transmission speeds up to 14 bps

## GENERAL SPECIFICATIONS

TOOL OD	DOG LEG SEVERITY	
	Sliding	Rotating
3.125 in (79.4 mm)	40°	17°
3.500 in (89.9 mm)	37°	15°
4.750 in (120.7 mm)	28°	12°
6.250 in (158.8 mm)	20°	10°
6.500 in (165.1 mm)	20°	10°
6.750 in (171.5 mm)	19°	8°
8.000 in (203.2 mm)	12°	7°
9.500 in (241.3 mm)	12°	6°

  

<b>PRESSURE RATING</b>	20,000 psi @ 300°F (30,000 psi available) 137,900 kPa @ 150°C (206,842 kPa available)
<b>TEMPERATURE RATING</b>	302°F (150°C)
<b>LOST CIRCULATION MATERIAL</b>	No limit
<b>TELEMETRY</b>	Electromagnetic, up to 14bps
<b>SENSOR ACCURACY</b>	Tool Face $\pm 0.15'' > 3$ Azimuth $\pm 0.25'' > 3$ Inclination $\pm 0.15''$ at all angles
<b>MAX BIT PRESSURE</b>	No limit
<b>OPERATING TIME</b>	150+ Hours

## DIRECTIONAL SPECIFICATIONS

LENGTH	DIRECTIONAL ONLY	DIRECTIONAL & GAMMA RAY
		24.17 ft (7.37 m) (+6 ft gap sub & antenna)
<b>DATA UPDATE PERIOD</b>	Minimum .5 sec @ 32 ms pulse width Maximum 3.5 sec @ 250 ms pulse width	
<b>CALCULATED SURVEY TIME</b>	2.4 Seconds	
<b>RAW SURVEY TIME</b>	6.2 Seconds	
<b>CONTINUOUS INCLINATION</b>	<b>SLIDING</b> Yes	<b>ROTATING</b> Yes

## VIBRATION SPECIFICATIONS

<b>AXIAL</b>	4 g <sub>RMS</sub> for 3hr; 6 g <sub>RMS</sub> for 0.5hr
<b>LATERAL</b>	5 g <sub>RMS</sub> for 3hr; 7.5 g <sub>RMS</sub> for 0.5hr
<b>STICK-SLIP DETECTED (0.5HR)</b>	150% for 3hr, 200% or neg. rpm detected for 0.5hr

\*Specifications are subject to change without notice

