

Flashlight

Inclination, azimuth and gamma at the bit.



CAMPAIGN ASSEMBLY ILLUSTRATION

Positioned between the motor and bit, Flashlight measures inclination, azimuth, gamma and azimuthal gamma near the cutting structure. An EM short-hop carries data to a receiver in the MWD string for transmission to surface.

12 in

sensor offset

175°C

temperature rating

250 rpm

combined motor + string

Sensor measurements

Parameter	Published value
Inclination accuracy	±0.25°
Inclination range	0-180°
Sensor / gamma offset	12 in
Gravity accuracy	0.0005 G
Gravity range	0-2 G
Gamma resolution	1 AAPI
Gamma range	0-1023
Temperature	175°C / 347°F

Operating considerations

Parameter	Published value
Formation resistivity	2-200 ohm·m optimal
Mud system	Water- or oil-based
Differential pressure	Avoid spikes above 300 psi
Torque	Avoid spikes above 1,500 ft·lbf
Rotary measurement limit	250 rpm, motor + string combined
Axial shock	20 G maximum
Agitator separation	800 m / 2,625 ft behind
Reaming	Keep to an absolute minimum
Battery, inclination + gamma	160 hours per 14 V cell
Battery, inclination + azimuthal gamma	128 hours per 14 V cell

Battery figures are published per-cell figures, not guaranteed run duration.

Transmitter configuration

Nominal tool size	4.75 in	6.5 in	8 in
Length	34 in	34 in	34 in
Diameter	5.0 in	6.5 in	8.0 in
Makeup torque (ft·lbf)	14,200	23,000	57,000
Max drilling torque (ft·lbf)	9,900	22,500	47,000
Surface RPM	30	50	50
Max sliding dogleg (°/100 ft)	28	20	12
Max rotating dogleg (°/100 ft)	12	10	7

Connection nomenclature in the source requires confirmation and is not reproduced here. Use configuration-specific limits.

Application & configuration

Applications: Geosteering in dipping formations; Casing-point selection; Near-bit directional and formation context.

EM short-hop performance depends on formation conditions. Receiver retrievability does not make the bit sub retrievable. Confirm the selected connections and operating envelope.

Source: Brochure_Flashlight MWDS(5).pdf. Values are transcribed from supplied documentation. Confirm the current assembly, operating envelope and telemetry compatibility with MWD Solutions before use.