



Product Introduction

Measurement While Drilling System(SNM-MWD/LWD)

Introduction

The Measurement While Drilling (MWD) System consists of directional probe, pulser, and surface system. The directional probe features high vibration resistance design and configurable encoding/decoding methods including PPM, M-ary, and combination codes. The pulser system uses direct-drive DC motor, suitable for high flow rate (85L/s) operations. High pass-through rate for lost circulation materials with strong resistance to blockage (140kg/m³). The surface system utilizes integrated platform framework with data acquisition, processing, display, and storage functions, compatible with downhole instruments from different manufacturers, encoding methods, and measurement schemes.

Features

- /// High vibration resistance $\geq 25g$, 20% improvement over comparable systems
- /// Minimum decoding amplitude of 3psi based on adaptive filtering algorithm
- /// Superior cemented carbide materials with strong erosion resistance
- /// Intelligent downhole condition assessment mode and low-power circuit design for power conservation
- /// Dual battery intelligent management mode for reduced operating costs

Application

The SNM-MWD/LWD System has been deployed in 22 wells across multiple blocks including Sichuan-Chongqing and Northwest work areas, with continuous failure-free operation exceeding 200h.





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System Specifications			
OD	φ48mm		
Tool Length	5.8m or 6.9m (with gamma)		
Max. Working Pressure	25kpsi		
Working temperature	-40 ~ 175 °C		
Battery Life	≥200h (typical working conditions)		
Shock	1000g@0.5ms		
Vibration	25g RMS		
Measurement Parameters			
Natural/Azimuthal Gamma Sensor			
Parameter	Range	Sensitivity	Accuracy
Gamma	0 ~ 1000API	Natural 1.97CPS/API Azimuthal 0.52CPS/API	±5% F.S.@150°C ±10% F.S.@175°C
Directional Probe			
Parameter	Range	Resolution	Accuracy
Inclination	0 ~ 180°	0.1°	±0.1°
Azimuth	0 ~ 360°	1.0°	±1.0°
Toolface	0 ~ 360°	1.0°	±1.0°
Temperature	0 ~ 175°C	0.1°C	±0.5°C
Magnetic field	0 ~ 100μT	0.01μT	±0.075μT
Magnetic dip	-90 ~ 90°	0.1°	±0.15°
Surface System			
RFD	ATEX Zone 1, CE certified		
Surface Processor	110/220V power input, UL&CE certified		
Surface Transmission	Cable bus/Wireless communication		