

Model AP350 Wireline Electric Dipole



Complete and Redundant EM System

Datasheet

Features

- Full EM system with Wireline capability
- Able to drill with EM technology in any area or geology

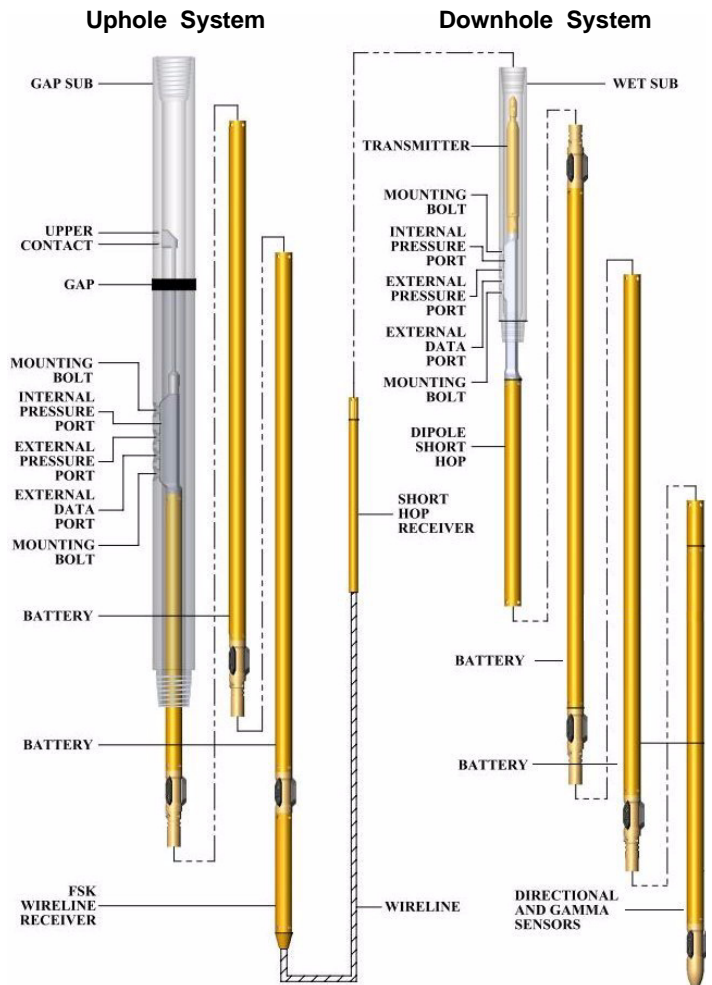
Applications

- Underbalanced Oil Drilling
- Drilling in difficult areas previously not available with EM technology

Description

The AP350 Wireline Electric Dipole from Applied Physics Systems is a complete, redundant EM system that has the unique capability to use a wireline for situations where standard EM systems do not function due to geological conditions. The system is designed to meet the needs of drilling companies that want to use EM technology to drill in underbalanced applications, and also to replace the use of mud pulse telemetry when possible to increase reliability of the MWD system and reduce costs.

The Wireline Electric Dipole System consists of a downhole assembly and an uphole assembly. The downhole assembly includes a directional sensor, gamma sensor, and a short hop transmission system all mounted in a 1 7/8" pressure barrel. The downhole assembly is fix mounted to the drill collars and is lowered into the well until the drillstring is positioned for the start of directional drilling. A wireline-mounted short hop receiver is then lowered through the drillstring until it is located near the downhole short hop transmitter. The wireline is then cut off and mounted to the bottom of the uphole assembly.

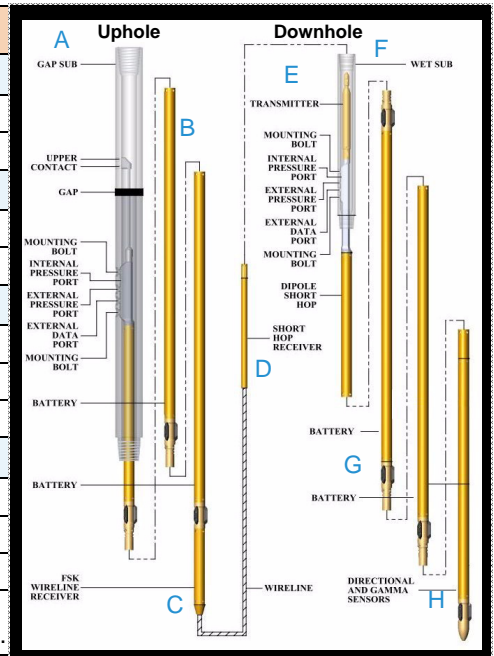


Model AP350 Wireline Electric Dipole System

The uphole assembly consists of a wireline data receiver, EM transmission electronics, and batteries all mounted in pressure barrels. The EM transmission electronics powers the gap sub to transmit downhole data to the surface. The design of the Wireline Electric Dipole System enables the highly reliable EM transmission technology to be used in all regions of the world, since by design it places the EM transmitter closer to the surface, above the strata that either block or short out EM.

System Specifications

Uphole System Assembly	
Gap Sub (A)	
Outside Diameter (O.D.)	3.125", 4.125", and 4.75"
Installed Length	71.6"
Batteries (B)	
Output Capacity	30 Amp-Hour Capacity
Physical Dimensions	61.8"/157cm length (in pressure barrel)
Wireline FSK Receiver (C)	
Input Protocol	300 baud Wireline FSK
Input Connector	13/16" GO-style female connector
Installed Length	15" (without Wireline connector)
Short Hop Receiver (D)	
Pressure Barrel	1 1/8" O.D. beryllium copper
Input Current	30 mA maximum
Input Protocol	20 baud magnetic
Length	42" (standard) Note: 53" extended version is also available.
Downhole System Assembly	
Short Hop Transmitter (E)	
Type	Magnetic dipole
Transmission Distance	10'/2.5M
Communications Rate	20 baud
Physical Dimensions	15'/3.8M length
Connection Sub with Short Hop Transmitter (F)	
Type	Magnetic dipole transmitter Downhole logging and short hop transmission electronics
Battery (2 each) (G)	
Output Capacity	30 Amp-Hour capacity
Installed Length	61.8"/157cm length (in pressure barrel)
Directional and Gamma Sensors (H)	
Accuracy/Performance	+/- 0.1 degree for INC and TF +/- 0.3 degrees for AZ
Output Data	Survey, toolface, gamma, real-time annulus pressure, drill collar internal pressure, temperature, vibration
Environmental	Temperature to 150°C



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