

Addressable Downhole Switch (ADS) and Panel (ADSP)



The ADS is a downhole safety switch offering reliable protection on hazardous ballistic operations. The ADS satisfies API RP67 for tractor-conveyed explosives.

Description

The Addressable Downhole Switch (ADS) electrically connects or isolates the toolstring beneath it, as instructed by the surface panel (ADSP). It provides a barrier to the accidental application of power to any tool located beneath it, and it can be integrated into a variety of toolstring configurations.

The ADS is suitable for hazardous operations such as multi-party operations where the wireline cable may be passed between various service providers during an operation, or where high power devices—such as wireline tractors—are used to convey explosives.

The ADS tool responds only to the coded signal from the surface panel (ADSP). When the command is sent, the mechanical isolating switch physically travels more than half an inch to connect or disconnect the electrical feed-through. The ADSP controls and monitors the position of the downhole switch in real-time, so the position of the switch is always measured, rather than assumed.

In the standard configuration, both tractor and shooting power are routed downhole via the ADSP. The safety design in the ADSP prevents these power sources from being applied accidentally.

Features

- Electro-mechanical downhole safety switch
- Tolerant of short circuits below the bottom sub to comply with API RP67 2nd Edition
- Validated by an independent test agency
- CE certified and qualified for shock and vibration
- Enables tractor-conveyed ballistic operations
- Isolator switch position monitored in real-time
- Compatible with EBW, EFI and Red Det type detonators



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Specifications

Downhole Tool ADS002 and ADS003

	ADS002	ADS003
Field joint	GO (type A)	GE
Temperature rating	350°F (177°C)	
Pressure rating	15,000 psi (12,000 for 1.5 in.)	
Tool strength	10,000 lb	
Tool diameter	2-1/8 in. (54 mm)	
Tool make-up length	26.50 in. (673 mm)	25.75 in. (654 mm)
Tool weight	17.6 lb (8 kg)	
Current consumption	20 mA (motor off)	60 mA (motor on)
Operating voltage	-50 to -90V DC nominal	
Withstand voltage (max)	+1500V to -1000V DC	
Through voltage (max)	+/-1000V DC	
Through current	6A	
Vibration qualification	5 g (15 to 500 Hz), 20 sweeps	
Shock qualification	1000 g 0.5 ms (half-sine)	
Materials	Corrosion resistant throughout	
Compatible detonators	EBW, EFI, Red Det	

Surface Panel ADSP001

Size	19 in. 2U rack mount, 250 mm deep
Weight	11 lb (5 kg)
Mains voltage	110 or 230V AC, 50 to 60 Hz
Supply current	Less than 1A at 110V AC
Vibration qualification	5 g (15 to 500 Hz), 20 sweeps
Shock qualification	25 g for 11 ms (half sine)

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