

Ultrasonic Pit-Level Sensor

Measures mud-pit levels to monitor well conditions and avoid potential well-control issues

Applications

- Measuring mud levels in mud pits as deep as 16.4 ft (5 m)

Features and Benefits

- Simple installation and startup
- Automatic false-echo suppression to avoid sensing fixed obstructions
- High signal-to-noise ratio

Tool Description

The ultrasonic pit-level sensor measures the mud level in pit tanks to help avoid well control issues. Unexpected changes in mud volumes can indicate potentially unstable well conditions, such as influxes or losses.

The sensor can be used to measure mud levels in pits up to 16.4-ft (5-m) deep, and two sensors can be installed in the same pit to compensate for motion. It automatically suppresses false echoes, which allows for greater flexibility in sensor placement. The sensor is compatible with Weatherford surface logging software to derive mud gain/loss and rate of gain/loss.

Certifications

The ultrasonic pit-level sensor meets the following certifications:

ATEX	ATEX II 1 G, EEx ia IIC T4
FM	Class I, Division I, Groups A, B, C, and D
	Class II, Division I, Groups E, F, and G
	Class III
CSA	Class I, Division I, Groups A, B, C, and D
	Class II, Division 1, Group G
	Class III
NEMA	Enclosure: Type 4X/NEMA 4X, Type 6/ Nema 6/IP67/IP68



The ultrasonic pit-level sensor provides fast and accurate mud-level readings to indicate potential well control issues.

Ultrasonic Pit-Level Sensor

Specifications

Measurement

Brand	Siemens
Model	SITRANS Probe LU
Material	PBT (polybutylene terephthalate)
Weight	4.6 lb (2.1 kg)
Range	10 in. to 20 or 40 ft (0.25 to 6 or 12 m)
Supply voltage	24 to 30 Vdc
Output signal	4 to 20 mA
Span	Proportional or inversely proportional
Accuracy	0.15% FS
Resolution	±0.12 in. (±3 mm)
Repeatability	0.12 in. (<3 mm)
Location	Active, reserve, or slug pit Mixing or trip tank
Altitude, maximum	6,562 ft (2,000 m)
Operating temperature	−40°F to 176°F (−40°C to 80°C)

