

# Mud Density In/Out Sensor

Measures the specific density of mud during drilling operations

## Applications

- Measuring mud density as it leaves (in) and returns to (out) the surface

## Safety Notices

- Explosion-proof for Class I, Division I, Groups B, C, and D
- Dust-ignition-proof for Class II and Class III, Division 1, Groups E, F, and G
- Suitable for NEMA 4X indoor and outdoor hazardous locations
- Factory-sealed

## Features

- Small footprint
- Industry-standard 4-20mA analog
- Power advisory diagnostic, which enables users to monitor the integrity of the entire electrical loop

## Benefits

- Capable of measuring fluid density as fluid travels in and out of the well, which enables the user to make a direct comparison between the two values
- Suitable for use in hazardous areas as part of an intrinsically safe circuit
- Easy to configure

## Tool Description

The sensor provides precise measurements for a wide variety of tank configurations. Sensors can be installed in a delta configuration to measure both input and output density, and WellWizard® software can be used to calculate the delta density.



*The mud density sensor comprises a differential pressure sensor, which is protected by explosion-proof housing, and two submerged pressure*



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### Specifications

Brand	Rosemount
Model	3051L
Material	Aluminum
Weight	3.0 lb (1.4 kg)
Diaphragm	Plezo-resistive silicon sensor
Sensor fluid	Silicone fluid
Supply voltage	18 to 32 Vdc
Output signal	4 to 20 mA
Accuracy	±0.10% of span
Stability	±0.018-in. water for 5 years
Response	100 milliseconds
Sensitivity	0.0313 in. (0.80 mm) of water for 5 years
Range	0 to 20 lb/gal (0 to 2.4 sg)
Resolution	0.02 lb/gal
Location	Active mud pits, return pit, header box
Operating temperature	–40 to 185°F (–40 to 85°C)
Storage temperature	–50 to 230°F (–46 to 110°C)
Operating humidity	0 to 100% relative humidity

