

Hookload/Weight-On-Bit Sensor

Measures hookload and weight on bit

Applications

- Hookload and weight-on-bit measurements

Features and Benefits

- Stainless-steel housing resists corrosion
- Lightweight design enables safe lifting and handling
- Easily replaceable load-sensing transducer simplifies wellsite maintenance

Tool Description

The hookload/weight-on-bit (WOB) sensor uses a transducer to monitor the tension of the wire-rope deadline, which spans between the crown block sheave and the deadline anchor. Changes in tension can be converted to hookload or WOB measurements. These measurements are critical for obtaining optimal drill rates and may be diagnostic in identifying downhole problems.

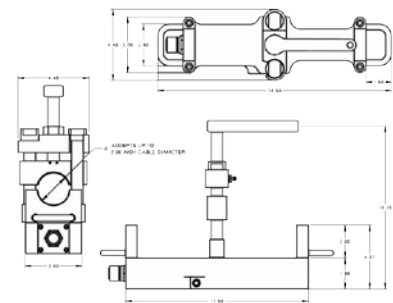
The hookload/WOB system is mounted near the deadline anchor. This system is independent of all drilling contractor systems. It does not affect or depend upon the functionality of the rig hydraulic system. The housing contains an easily replaceable sensing element.

Certification Standards

- Certified intrinsically safe by load sensor manufacturer
- CSA and FM approvals to Class 1, Division 2
- ATEX code EEX ia IIC T5
- ATEX Zone 1, when used with approved safety barrier for ambient temperature range of -40° to 199°F (-40° to 93°C)

Specifications

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|-----------------------|---|
| Brand and Model | Advanced Sensor Design HLT-041 |
| Weight | 25 lb (11.3 kg) |
| Length | 14 in. (35.6 cm) |
| Supply voltage | 10 to 28 VDC |
| Output signal | 4 to 20 mA |
| Zero offset | ± 3% of FS |
| Span | ± 3% of FS |
| Accuracy | ± 5% FS combined |
| Measuring range | 100,000 lb (45,359 kg) for single-line load 1,000,000 lb (453,592 kg) for 10 lines |
| Operating temperature | -40° to 199°F (-40° to 93°C) |
| Shock | 100 G @ 11 ms duration |
| Vibration | 20 to 2,500 Hz @ 20 G peak |



The hookload/weight-on-bit sensor converts deadline tension to hookload or WOB measurements.

