

StringSense™

Integrated Drillstring Measurement System

Accurate, reliable surface measurements directly from the drillstring

The M/D Totco™ StringSense integrated drillstring measurement system provides a means of making surface measurements directly on the drillstring and using that data to develop a complete picture of the drilling process from downhole to surface. As a patented instrumented internal blowout preventer (IBOP), the StringSense system delivers more accurate and dependable surface drilling data and allows you to extend the operating envelope when drilling near the technical limits of the well.

The StringSense system provides measurements for direct drillstring tension and compression, drillstring torque, RPM, bending moment, and internal pressure immediately below the topdrive's main shaft, transmitting the data wirelessly to a surface receiver. Using accurate drillstring tension and torque data via direct measurements, you can reduce the risk of parting strings, extend drilling envelopes through improved torque and drag models, and improve your drilling equipment efficiency.

The StringSense system uses the latest strain gauge technology and has the advantage of being physically located in the direct load path of the drillstring, which eliminates many components of measurement error due to friction in the hoisting system and other forms of mechanical interference in conventional drilling measurement devices. The system's valve geometry is identical to original IBOP features, and OEM components are used to ensure the same high-quality seal as a standard NOV valve assembly. Battery life ranges from two to six weeks, depending on signal transmission frequency settings, and batteries can be safely replaced one at a time over well center to maintain a continuous data stream. Three proprietary patch antennas provide 360° coverage from the drill floor to the top of the derrick.

We've designed the StringSense system as a direct replacement for the existing upper IBOP on the TDS-10, TDS-11, and TDS-4 topdrives, eliminating the need to modify the pipehandler or elevator links.

Contact your local M/D Totco representative to learn how the StringSense system can provide more accurate, reliable surface data to increase reliability and improve your drilling dynamics.

Features and Benefits

Accurate mechanical work measurement for topdrive

- Provides the necessary data for improved torque and drag modeling
- Facilitates decreased nonproductive time

Same form factor and operation as existing upper IBOP for drop-in replacement

- Requires no change from original installation procedures

Direct measurement of multiple variables at the drillstring

- Eliminates external elements that would affect accuracy of measurements

Driller can adjust quickly to correct many issues

- Reduces wear on the topdrive and drillstring

Offered in an IntelliServ™-modified model

- Provides instantaneous measurements through high-speed telemetry

