

Crane Upgrades Load Cell Three-Point Calibration



Pipe-Handling Cranes



Offshore Knuckle Boom Cranes



Offshore Lattice Boom Cranes



Subsea Knuckle Boom Cranes

Improved load measurement accuracy

Load measurement accuracy is vital to lifting safety. To maintain and verify this accuracy, load cells must be recalibrated at regular intervals. Our Load Cell Three-Point Calibration upgrade brings your next calibration sequence beyond just maintaining the load measurement accuracy and onto improving it. By allowing you to use a third calibration weight it yields a correction curve that enables your crane to measure hook load more accurately than when the crane was new.

Value added



Load Cell Three-Point Calibration

Why

The two-point load cell calibration used in some existing NOV cranes presupposes that the load cell has a nearly linear measurement response. Experience has shown, however, that some load cells display a nonlinearity that produces an undesirably large error near the center of the measurement range.

What

Adding an additional data point to the calibration procedure helps make the error region much smaller, thereby providing higher accuracy to load measurements. The upgrade is applicable to cranes that have a two-point load cell calibration interface on the HMI. It is a pure software upgrade (PLC and HMI) that can be implemented both in cranes with mV (Siwarex card) and in cranes with mA (analogue input card) load cells.

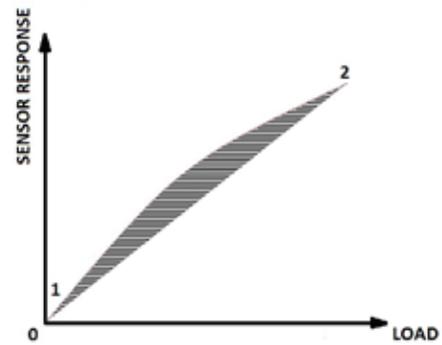
How

The upgrade requires a software update and load cell recalibration.

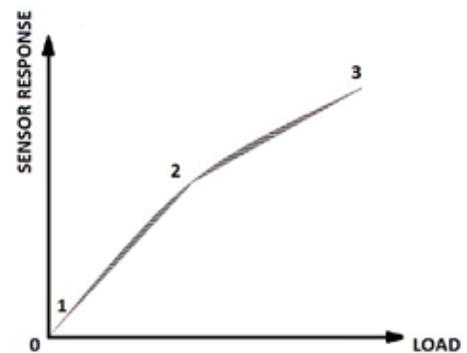
- Installation and test time estimate: 1 to 2 days
- Personnel required: PLC service engineer
- Test equipment required: test loads for calibration

Benefits

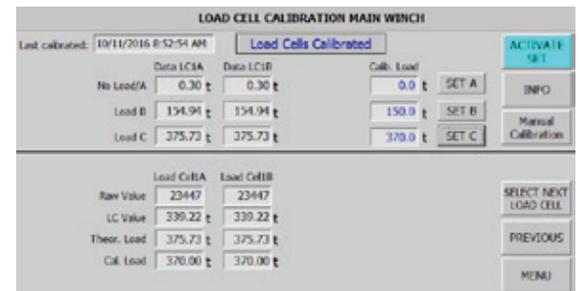
- Improved load measurement accuracy
- Safer operation



Error region with two-point calibration



Error region with three-point calibration



Load cell three-point calibration HMI



Related

Redundant load cell

Our redundant load cell upgrade adds diagnostics and reliability to your crane's load measurements. A load cell with two built-in sensor bridges enables the control system to automatically detect sensor deviations. The operator may disable the malfunctioning sensor and safely complete the lifting operation before carrying out fault-finding and repair. The redundant load cell upgrade includes three-point calibration as part of the package.