

Pressure Transducer Usage for Load Moment Indication in Cranes in Fluid Power and Mobile Hydraulics Applications

Load Moment Indication Applications for Pressure Transducers

Load Moment Indication

Cranes are an everyday aspect of construction and maintenance operations. Safe operation of cranes is dependent on information about all of the forces on the crane, the crane's geometry, where loads are applied and the crane's motion. This information is combined through the use of pressure transducers and displayed to the crane operators using a load moment indicator.

Typical factors that load moment indicators monitor include the following:

- Specific Load
- Crane Geometric Limitations
- Crane Geometric Orientation
- Outrigger Loading
- Crane Operating Radius, Including Boom Deflection Analysis and Boom Angle
- Boom Dynamics
- Wind Loading
- Shock Loads
- Load Swing Out

Ultimately, worksite safety is dependent on the crane operator. Load moment indicators are considered crane operator aids and are designed to remove as much guesswork from their critical tasks as possible. Effective use of accurate, durable, reliable pressure transducers will ensure that crane operators have the most accurate information, allowing them to perform their job with the highest levels of precision, safety and efficiency.

Pressure Transducer Application to Load Moment Indication in Cranes Applications

Pressure Transducers are used for Load Moment Indication in Fluid Power and Mobile Hydraulics in the following Cranes Applications

- Hydraulic cylinder control and monitoring in telescoping boom cranes
- Load cells in lattice boom cranes
- Hydraulic cylinder control and monitoring in outriggers

Cranes Load Moment Indication in Fluid Power and Mobile Hydraulics applications calls for pressure transducer wetted parts compatibility with standard hydraulic fluids. Pressure transducers are responsible for monitoring the pressure in the outrigger and boom hydraulic

cylinders and provide feedback to the control system for overload indication and protection. The control system in turn interprets the pressure data collected and represents critical operation information such as maximum permissible loading, the force on the boom, the hook amplitude, crane rating, and actual crane capacity. The **WIKA MH-2** electronic pressure transducer is designed for extreme durability, reliability and shock/vibration resistance, as well as great performance for mission critical tasks in Fluid Power and Mobile Hydraulics crane applications like Load Moment Indication.

Pressure Transmitter Selection Considerations

- Vibration and shock resistance
- Moisture intrusion protection
- Accuracy and response time
- Resistance to pressure spikes
- Resistance to electromagnetic interference