Medium Duty Wheel Force Transducer, 6 Axis

Models LW-2T-30K and LW-2T-40K

- Up to 40,000 lbf (178 kN) radial load capacity
- Up to 20,000 lbf (89 kN) lateral load capacity
- Measures 3 forces and 3 moments
- Measures X and Z accelerations
- Adapts to 15 in and larger single or dual wheels
- Adapts to 265 mm diameter and smaller hub bolt patterns
- Environmentally protected
- Temperature compensated

Description

The *LW-2T-30K and LW-2T-40K Wheel Force Transducers (WFT)* are capable of measuring all of the wheel forces and moments on commercial vehicles, skid steers, medium duty trucks, off-road equipment, and large forklift trucks. They provide independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer and torque moments. Completely weatherproof, they are ideal for on-road and off-road measurements in all weather conditions. They can also be used to monitor and control laboratory tests. One sensor measures the combined loads for a dual wheel set or a single tire.

When using an outboard slip ring, the amplifier package easily mounts onto the transducer. It amplifies and digitizes the transducer signals before they pass through the slip ring. Michigan Scientific *Slip Ring Assemblies* are known worldwide for their signal quality and robust design.

The *CT3 User Interface Box* performs real-time coordinate transformation and crosstalk correction, and provides CAN FD, CAN2.0, and Ethernet signal outputs. EtherCAT and analog signal outputs are also available with optional modules. An embedded webpage accessed via USB allows the user to easily configure the WFT system. A front display indicates important information and prompts the user with instructions.

Specifications

	LW-2T-30K	LW-2T-40K
Maximum Force Capacity, [Fx, Fz] (radial)	30,000 lbf (133 kN)	40,000 lbf (178 kN)
Maximum Force Capacity [Fy] (lateral) at Tire Patch	15,000 lbf (66 kN)	20,000 lbf (89 kN)
Maximum Torque Capacity [Mx, My, Mz]	22,000 lbf · ft (30 kN · m)	30,000 lbf · ft (40 kN · m)
Accelerometer Range	± 55 g	
Sensor	4 arm strain gauge bridges	
Nonlinearity [Fx, Fz, My]	≤ 0.5 % of full scale output	≤ 0.5 % of full scale output
Nonlinearity [Mx, Mz]	≤ 0.75 % of full scale output	≤ 0.75 % of full scale output
Nonlinearity [Fy]	≤ 0.75 % of full scale output	≤ 1.5 % of full scale output
Hysteresis	< 0.5 % of full scale output	
Crosstalk after Correction	< 0.5 % of full scale output	
Temperature Range, Operating	-40 °F to 257 °F (-40 °C to 125 °C)	
Angular Resolution	0.17°	

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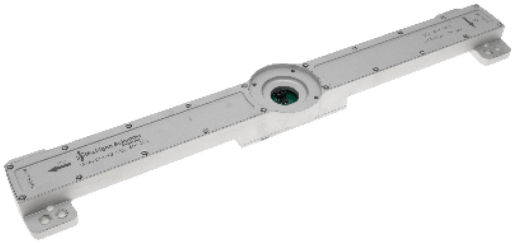
Medium Duty Wheel Force Transducer, 6 Axis

CT3 User Interface Box

- Performs real-time coordinate transformation, cross-talk correction, offset correction, and polarity correction
- Simple Zero, Shunt Calibration Check, and Zero Angle set-up functions
- CAN FD, CAN 2.0, EtherCAT, and analog signal outputs
- Synchronization through IEEE 1588 PTPv2
- Works with both slip ring and telemetry systems
- Embedded webpage enables user to:
  - -Change set-up options
  - -Move WFT measurement origin
  - -View transducer static values
  - -Correct file type creation

Amplifier & Slip Ring Package

- Internal ± 100 g X, Y, and Z accelerometers
- High resolution optical encoder for position and speed measurement
- Removable smart chip contains all calibration, zero, and shunt values
- Provides signal conditioning, amplification, and digitization to the transducer strain gauge signals



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