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. It provides independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer and torque moments. It is completely weatherproof making it ideal for on-road and off-road measurements in all weather conditions. It 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.

The matching amplifier package easily mounts onto the transducer. It amplifies and digitizes the transducer signals before they pass through the slip ring. The amplifier package also includes X and Z accelerometers and performs remote shunt calibration of the transducer.

The *CT2 Transducer Interface Box* performs real-time coordinate transformation and crosstalk compensation, and outputs analog, CAN, and Ethernet signals. An embedded webpage allows the user to configure the *WFT* system.

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

CT2 Transducer Interface Box

- Performs real-time coordinate transformation and crosstalk compensation
- Easy to use Zero, Shunt Calibration, and Bridge Power Off functions
- Simultaneous analog, CAN, and ethernet signal outputs
- Embedded webpage enables user to:
  - -Change set-up options
  - -Move WFT measurement origin
  - -View Transducer static values
  - -Create .dbc file

Amplifier & Slip Ring Package

- Internal X and Z accelerometers
- High resolution encoder for position and speed measurement
- Internal smart chip contains all calibration, zero, and shunt values
- Provides signal conditioning and amplification to the transducer strain gauge signals
- Digitizes transducer, encoder, and accelerometer signals
- Supports slip ring assembly

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