

Heavy Duty Wheel Force Transducer System

Models LW-2T-60K-S and LW-2T-100K-S

- Up to 100,000 lbf (445 kN) radial load capacity
- Up to 80,000 lbf · ft (108 kN · m) moment capacity
- Measures 3 forces and 3 moments
- Measures X & Z accelerations
- Measures combined loads of one or two tires
- Adapts to 20 in and larger wheels
- Adapts to 285 mm & 335 mm diameter hub bolt patterns
- Environmentally protected
- Rugged stainless steel construction
- Temperature compensated



Description

The *LW-2T-60K-S* and *LW-2T-100K-S* Wheel Force Transducers (*WFT*) are capable of measuring all of the wheel forces and moments on class 8 trucks and large off-road vehicles. They provide independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer and torque moments. Being completely weatherproof, they are ideal for on-road and off-road measurements in all conditions. Both models can also be used to monitor and control laboratory tests. One *WFT* measures the combined loads for either a dual wheel set or a single tire configuration.

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 acceleration outputs 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-60K-S	LW-2T-100K-S
Maximum Force Capacity [Fx, Fz] (radial)	67,400 lbf (300 kN)	100,000 lbf (445 kN)
Maximum Force Capacity [Fy] (lateral) at Tire Patch	33,700 lbf (150 kN)	50,000 lbf (222 kN)
Maximum Torque Capacity [Mx, My, Mz]	60,000 lbf · ft (81 kN · m)	80,000 lbf · ft (108 kN · m)
Accelerometer Range	± 55 g	
Sensor	4 arm strain gauge bridges	
Nonlinearity	≤ 1 % of full scale output	
Hysteresis	< 0.5 % of full scale output	
Crosstalk after Correction	< 1 % of full scale output	
Temperature Range, Operating	-40 °F to 257 °F (-40 °C to 125 °C)	
Angular Resolution	0.17°	

8500 Ance Road
Charlevoix, MI 49720
Tel: 231-547-5511
Fax: 231-547-7070
03-7-22
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MICHIGAN SCIENTIFIC
corporation

<http://www.michsci.com>
Email: mscinfo@michsci.com

321 East Huron Street
Milford, MI 48381
Tel: 248-685-3939
Fax: 248-685-5406

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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 & 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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