

# Wheel Force Transducer, 6 Axis

## Model LW-2T-20K

- 25,000 lb (111 kN) radial load capacity
- 12,500 lb (56 kN) lateral load capacity
- Measures 3 forces and 3 moments
- Measures X & Z accelerations
- Adapts to 16" and larger single or dual wheels
- Temperature compensated
- Low cross axis sensitivity



## Description

The *LW-2T-20K Wheel Force Transducer (WFT)* is capable of measuring all of the wheel forces and moments on light and heavy duty pickup trucks vans and SUVs. It provides independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer, and torque moments. Being completely weatherproof, it is ideal for on-road and off-road measurements in all conditions. It 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.

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 cross-talk compensation, and outputs analog, CAN, and Ethernet signals. An embedded web page allows the user to configure the WFT system.

## Tranducer Specifications

Maximum Force Capacity, [Fx, Fz] Radial	25,000 lb (111 kN)
[Fy] Lateral	12,500 lb (56 kN)
Maximum Torque Capacity, [Mx, Mz]	9,000 lb-ft (12 kN-m)
[My]	10,000 lb-ft (14 kN-m)
Accelerometer range	± 55g
Sensor	4 arm strain gage bridges
Nonlinearity	< 1% of full scale output
Hysteresis	< 0.5% of full scale output
Repeatability	Within 0.5% of full scale output
Cross Axis Sensitivity after correction	< 1% of full scale output
Radial Sensitivity Variation	< 1% of full scale output
Angle Resolution	0.17°
Temperature Range, Operating	-40°F to 257°F (-40°C to 125°C)

8500 Ance Road  
Charlevoix, MI 49720  
Tel: 231-547-5511  
Fax: 231-547-7070

**MICHIGAN SCIENTIFIC**  
corporation  
<http://www.michsci.com>  
Email: [mscinfo@michsci.com](mailto:mscinfo@michsci.com)

321 East Huron Street  
Milford, MI 48381  
Tel: 248-685-3939  
Fax: 248-684-5406

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## CT2 Transducer Interface Box

- Performs real-time coordinate transformation and cross-talk compensation
- Easy to use Zero, Shunt Calibration, and Bridge Power Off functions
- Simultaneous Analog, CAN, & Ethernet signal outputs
- Embedded web page 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 & speed measurement
- Internal smart chip contains all calibration, zero, & shunt values
- Provides signal conditioning & amplification to the transducer strain gage signals
- Digitizes Transducer, Encoder, & Accelerometer signals
- Supports slip ring



8500 Ance Road  
Charlevoix, MI 49720  
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Fax: 231-547-7070  
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**MICHIGAN SCIENTIFIC**  
corporation

<http://www.michsci.com>  
Email: [mscinfo@michsci.com](mailto:mscinfo@michsci.com)

321 East Huron Street  
Milford, MI 48381  
Tel: 248-685-3939  
Fax: 248-684-5406

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+33 (0)1 46 91 93 32 **Capteurs et Systèmes de mesure**

59, rue Émile Deschanel - 92400 COURBEVOIE - France - Fax : 33 (0)1 46 91 93 39 - [contact@pm-instrumentation.com](mailto:contact@pm-instrumentation.com)