

Wheel Force Transducer, 6-Axis

Model LW65

- 14,500 lb (65 kN) radial load capacity
- 7,850 lb (35 kN) lateral load capacity
- 7,700 lbf·ft (10.5 kN·m) moment capacity
- Measures 3 forces and 3 moments
- Measures X and Z accelerations
- Adapts to 12 inch and larger wheels
- Low cross axis sensitivity
- Swappable slip ring or telemetry system for signal transmission



Description

The LW65 Wheel Force Transducer (WFT) is capable of measuring all of the wheel forces and moments on passenger cars, SUVs, and light duty trucks. It provides independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer, and torque moments. The LW65's robust, IP67 design is ideal for the harshest track and off-road measurements as well as non-spinning applications to monitor and control laboratory test rigs. For spinning applications, the LW65 offers the convenience of utilizing an outboard slip ring signal transmission or in-board telemetry signal transmission.

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. The amplifier package also includes X and Z acceleration outputs and performs remote shunt calibration of the transducer. Michigan Scientific Slip Ring Assemblies are known worldwide for their signal quality and robust design.

The CT2 Transducer Interface Box performs real-time coordinate transformation and crosstalk compensation, and provides analog and CAN signal outputs. EtherCAT signal outputs are also available. An embedded webpage allows the user to easily configure the WFT system.

Specifications

Maximum Recommended Static Weight [Fz]	2,900 lb (1320 kg)
Maximum Force Capacity [Fx,Fz] (radial)	14,500 lb (65 kN)
Maximum Force Capacity [Fy] (lateral)	7,850 lb (35 kN)
Maximum Torque Capacity [Mx, My, Mz]	7,700 lbf · ft (10.5 kN)
Accelerometer Range	± 100 g
Nonlinearity [Fx, Fy, Fz, My]	≤ 0.2 % of full scale output
Nonlinearity [Mx, Mz]	≤ 0.4 % of full scaled output
Hysteresis [Fx, Fz, My]	≤ 0.25 % of full scale output
Hysteresis [Fy, Mx, Mz]	≤ 0.45 % of full scale output
Cross Axis Sensitivity After Correction	≤ 0.4 % of full scale output
Temperature Range, Operating	-40 °F to 350 °F (-40 °C to 177 °C)
Angular Resolution	0.17°

8500 Ance Road
Charlevoix, MI 49720
Tel: 231-547-5511
Fax: 231-547-7070
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MICHIGAN SCIENTIFIC
corporation
<http://www.michsci.com>
Email: muserinfo@michsci.com

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

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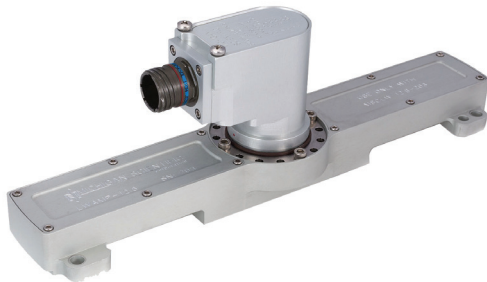
CT2 Transducer Interface Box

- 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 ± 100 g 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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