

# Wheel Force Transducer, 6-Axis

## Model LW60

- 13,400 lb (60 kN) radial load capacity
- 7,850 lb (35 kN) lateral load 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 *LW60 Wheel Force Transducer (WFT)* is capable of measuring all of the wheel forces and moments on passenger cars, SUVs, and light trucks. It provides independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer, and torque moments. The *LW60'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 *LW60* offers the convenience of utilizing an outboard slip ring signal transmission, in-board telemetry signal transmission, or out-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. Michigan Scientific *Slip Ring Assemblies* are known worldwide for their signal quality and robust design.

The *CT2 & CT2-TEL User 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]	2,700 lb (1,225 kg)
Maximum Force Capacity [Fx, Fz] (radial)	13,400 lb (60 kN)
Maximum Force Capacity [Fy] (lateral)	7,850 lb (35 kN)
Maximum Torque Capacity [Mx, Mz]	5,900 lb · ft (8.0 kN · m)
Maximum Torque Capacity [My]	6,650 lb · ft (9.0 kN · m)
Accelerometer Range	± 100 g
Nonlinearity	≤ 0.25% of full scale output
Hysteresis	≤ 0.25% 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°
Transducer Mass	12.5 lb (5.7 kg)

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: [msscinfo@michsci.com](mailto:msscinfo@michsci.com)

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

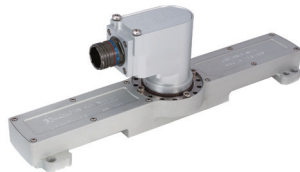
# Wheel Force Transducer, 6-Axis

## CT2 & CT2-TEL User 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

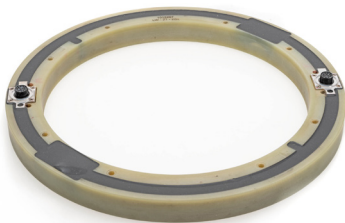
## Amplifier & Slip Ring Package

- Internal  $\pm 100$  g X 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



## Telemetry Package

- Non-contact signal transmission
- High resolution magnetic encoder for position and speed measurement
- Telemetry Package can be mounted inboard for passenger cars, SUVs, outboard for machinery applications
- Telemetry Stator gets mounted in proximity to Rotating Telemetry Ring and contains the Telemetry Receiver, Encoder pick-ups, and Induction primary coil
- CT2-TEL is the User Interface Box as well as Induction Power Supply



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Email: [msscinfo@michsci.com](mailto:msscinfo@michsci.com)

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