Wheel Force Transducer, 6-Axis

Model LW65

- 14,500 lbf (65 kN) radial load capacity
- 7,850 lbf (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 in 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. Michigan Scientific *Slip Ring Assemblies* are known worldwide for their signal quality and robust design.

The *CT3 User Interface Box* performs real-time coordinate transformation and crosstalk compensation, and provides CAN FD, CAN2.0, and Ethernet signal outputs. EtherCAT and analog signal outputs are also available with optional modules. An embedded webpage accessed via USB allows the user to easily configure the WFT system. A front display indicates important information and prompts the user with instructions.

Specifications

Maximum Recommended Static Weight [Fz]	2,900 lb (1320 kg)
Maximum Force Capacity [Fx,Fz] (radial)	14,500 lbf (65 kN)
Maximum Force Capacity [Fy] (lateral)	7,850 lbf (35 kN)
Maximum Torque Capcity [Mx, My, Mz]	7,700 lbf · ft (10.5 kN · m)
Accelerometer Range	± 100 g
Nonlinearity [Fy, Mz, Mx]	≤ 0.25 % of full scale output
Nonlinearity [Fz, Fx, My]	≤ 0.2 % of full scale output
Hysteresis	≤ 0.25 % of full scale output
Crosstalk 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	17.5 lb (7.9 kg)

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Rev. A

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Wheel Force Transducer, 6-Axis

CT3 User Interface Box

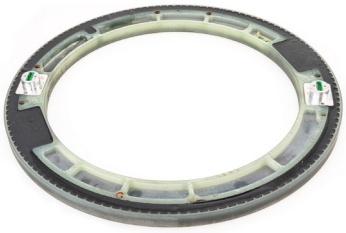
- Performs real-time coordinate transformation and crosstalk compensation, offset correction, and polarity correction
- Simple Zero, Shunt Calibration Check, and Zero Angle set-up functions
- CAN FD, CAN 2.0, analog, Ethernet, and EtherCAT signal outputs available
- Synchronization through IEEE 1588 PTPv2
- Embedded webpage enables user to:
  - -Change set-up options
  - -Move WFT measurement origin
  - -View transducer static values
  - -Correct file type creation

Amplifier & Slip Ring Package

- Internal ± 100 g X, Y, 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, and light duty trucks
- Telemetry Stator gets mounted in proximity to Rotating Telemetry Ring and contains the Telemetry Receiver, Encoder pick-ups, and Induction Primary Coil



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