Wheel Force Transducer, 6-Axis

Model LW12.8

- 12,000 lb (53.4 kN) radial load capacity
- 6,000 lb (26.7 kN) lateral load capacity
- 6,000 lb-ft (8,100 N-m) moment capacity
- Measures 3 forces and 3 moments
- Measures X & Z accelerations
- Adapts to 13” and larger wheels
- Low cross axis sensitivity
- Environmentally protected
- Temperature compensated
- Rugged stainless steel construction

Description

The *LW12.8 Wheel Force Transducer (WFT)* is capable of measuring all of the wheel forces and moments on passenger cars and light duty trucks. 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.

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.

Specifications

Maximum Force Capacity, [Fx, Fz] Radial	12,000 lb (53.4 kN)
[Fy] Lateral at Tire Patch	6,000 lb (26.7 kN)
Maximum Torque Capacity [Mx, My, Mz]	6,000 lb-ft (8,100 N-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
Temperature Range, Operating	-40°F to 257°F (-40°C to 125°C)
Angular Resolution	0.17°

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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

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