

Wheel Force Transducer, 6-Axis

Model LW12.8-50

- 11,200 lbf (50 kN) radial load capacity
- 5,600 lbf (25 kN) lateral load capacity
- 4,800 lbf · ft (6.5 kN · m) moment capacity
- Measures 3 forces and 3 moments
- Measures X & Z accelerations
- Adapts to 12 in and larger wheels
- Low cross axis sensitivity
- Environmentally protected
- Temperature compensated
- Rugged stainless steel construction
- Tested to SAE J328 fatigue strength standard



Description

The *LW12.8-50 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 crosstalk compensation, and outputs analog, CAN, and ethernet signals. An embedded webpage allows the user to configure the *WFT* system.

Specifications

Maximum Force Capacity [Fx, Fz] (radial)	11,200 lbf (50 kN)
Maximum Force Capacity [Fy] (lateral) at Tire Patch	5,600 lbf (25 kN)
Maximum Torque Capacity [Mx, My, Mz]	4,800 lbf · ft (6.5 kN · m)
Accelerometer Range	± 55 g
Sensor	4 arm strain gauge bridges
Nonlinearity [Fx, Fy, Fz, My]	≤ 0.5 % of full scale output
Nonlinearity [Mx, Mz]	≤ 1.0 % of full scale output
Hysteresis	< 1.0 % of full scale output
Crosstalk after Correction	< 0.5 % of full scale output
Temperature Range, Operating	-40 °F to 257 °F (-40 °C to 125 °C)
Temperature Offset Drift	≤ 0.0011 % FS/°F (≤ 0.0020 % FS/°C)
Angular Resolution	0.17°

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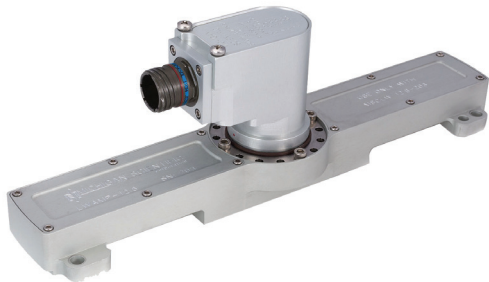
CT2 Transducer Interface Box

- 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 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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