

# Small Vehicle Wheel Force Transducer, 6-Axis

## Model LW9.5-T

- 4,500 lb (20 kN) radial load capacity
- 2,700 lb (12 kN) lateral load capacity
- Measures 3 forces and 3 moments
- Measures X & Z Accelerations
- Adapts to 10" and larger wheels
- Low cross axis sensitivity
- Environmentally protected
- Temperature compensated
- Strong & Lightweight Titanium Material



## Description

The lightweight *LW9.5-T Titanium Wheel Force Transducer (WFT)* is capable of measuring all of the wheel forces and moments on ATV's, motorcycles, and other lightweight vehicles. It provides independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer and torque moments. It is completely weatherproof, making it ideal for on and off-road measurements. 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 and CAN signals. An embedded web page allows the user to configure the WFT system.

## Specifications

Maximum Force Capacity [Fx, Fz] (radial)	4,500 lb (20 kN)
[Fy] (lateral) at Tire Patch	2,700 lb (12 kN)
Maximum Torque Capacity [Mx, Mz]	675 lb-ft (3 kN-m)
[My]	785 lb-ft (3.5 kN-m)
Maximum Static Weight	900 lb (400 kg)
Accelerometer range	±55 g
Force Nonlinearity	≤ 0.4% of Full Scale Output
Moment Nonlinearity	≤ 0.5% of Full Scale Output
Cross Axis Sensitivity After Compensation	≤ 0.5% of Full Scale Output
Transducer Weight	4.6 lbs (2.1 kg)
Temperature Range	-40°F to 257°F (-40°C to 125°C)
Noise Level (Peak-to-Peak, 0-500 Hz)	≤ 6 N
Maximum RPM	3000
Maximum Speed	150 mph (240 km/h)
Shock Resistance	75 g
Environmental Protection Rating	IP67
Input Voltage	9-36 VDC
Analog Output Signal Voltage	±10 VDC, ±5 VDC, 0-5 VDL
Digital Signal Output	CAN
Power Consumption	7 W

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# Small Vehicle Wheel Force Transducer, 6-Axis

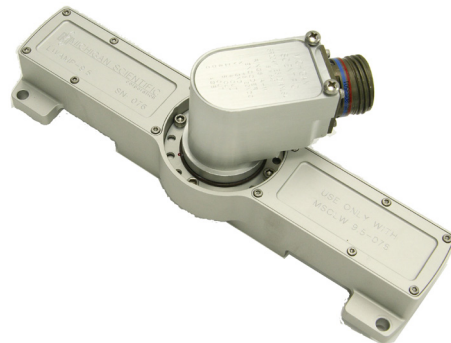
## CT2 Transducer Interface Box

- 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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