

Wheel Force Transducer, 6-Axis

Model LW25

- 5,600 lbf (25 kN) radial load capacity
- 2,000 lbf (8.9 kN) lateral load capacity
- Measures 3 forces and 3 moments
- Measures X and Z accelerations
- Adapts to 8 in and larger wheels
- Low crosstalk
- Swappable slip ring or telemetry system for signal transmission



Description

The *LW25 Wheel Force Transducer (WFT)* is capable of measuring all of the wheel forces and moments on motorcycles, ATVs, and small cars. It can be used on wheels 11 in (279 mm) and larger with simple rim adapters and on wheels 8 in (203 mm) and larger with a two-piece rim adapter. It provides independent output signals for vertical, lateral, and longitudinal forces as well as camber, steer, and torque moments. The *LW25'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 *LW25* offers the convenience of utilizing an outboard slip ring signal transmission, in-board telemetry signal transmission, or out-board telemetry signal transmission for motorcycle applications.

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 Boxes* perform 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] | 1,200 lb (550 kg) |
| Maximum Force Capacity [Fx,Fz] (radial) | 5,600 lbf (25 kN) |
| Maximum Force Capacity [Fy] (lateral) | 2,000 lbf (8.9 kN) |
| Maximum Torque Capacity [Mx, Mz] | 1,500 lbf · ft (2.0 kN · m) |
| Maximum Torque Capacity [My] | 2,500 lbf · ft (3.4 kN · m) |
| Accelerometer Range | ± 100 g |
| Nonlinearity [Fx,Fy,Fz,My] | ≤ 0.25 % of full scale output |
| Nonlinearity [Mx,Mz] | ≤ 0.50 % of full scale output |
| Hysteresis | ≤ 0.25 % of full scale output |
| Crosstalk After Correction | ≤ 0.4 % of full scale output |
| Temperature Range, Operating | -40 °F to 257 °F (-40 °C to 125 °C) |
| Angular Resolution | 0.17° (slip ring) 0.25° (telemetry) |
| Transducer Mass | 3.2 lb (1.5 kg) |

8500 Ance Road
Charlevoix, MI 49720
Tel: 231-547-5511
Fax: 231-547-7070
03-9-22
Rev. A

MICHIGAN SCIENTIFIC
corporation

<http://www.michsci.com>
Email: msscinfo@michsci.com

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

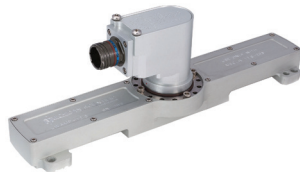
Wheel Force Transducer, 6-Axis

CT2 and 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

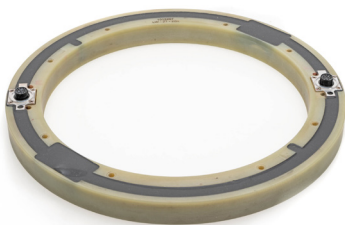
Amplifier and Slip Ring Package

- Internal ± 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 ATV and car applications, or outboard for motorcycle 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



8500 Ance Road
Charlevoix, MI 49720
Tel: 231-547-5511
Fax: 231-547-7070
03-9-22
Rev. A

MICHIGAN SCIENTIFIC
corporation
<http://www.michsci.com>
Email: msscinfo@michsci.com

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