

Steering Wheel Torque and Angle Transducer

Model SW-SR

- Accurately measures steer effort torque and steering wheel angle
- 100 lbf · ft (135 N · m) torque capacity
- Mounts to steering wheel or steering shaft
- Maintains normal steering function*
- Simple suction cup mounting of anti-rotation steer angle restraint
- Analog outputs for torque and steering angle



Description

The *SW-SR Steering Wheel Torque and Angle Transducer* measures the steering wheel effort torque and steering angle on all types of vehicles while maintaining proper function of the steering wheel.

The *SW-SR* has the option of mounting to the existing vehicle steering wheel or to replace the existing steering wheel by mounting directly to the splined steering shaft. The airbag should be disabled during *SW-SR* testing. The *SW-SR* has convenient mounting of the anti-rotation restraint of the steering angle sensor. The anti-rotation restraint for the steering angle sensor can be easily mounted to the windshield of the vehicle with the provided suction cup restraint.

The *SW-SR* is a strain gauge based sensor made from high strength stainless steel and is fully temperature compensated. The steering angle signal is generated from a high resolution inductive encoder. The *SW-SR* utilizes a high quality Michigan Scientific slip ring assembly for signal transmission. The torque transducer and steer angle sensor are powered and controlled by a Michigan Scientific *PS-DC-SW Control Unit*.

*The airbag should be disabled when using the *SW-SR*. Also note that the mounting bracket may block some buttons on the steering wheel.

Specifications

Rated Torque Capacity	100 lbf · ft (135 N · m) (300% overload)
Safe Axial Load at Wheel Center	1,000 lbf (4.4 kN)
Safe Axial Load at Wheel Edge	100 lbf (440 N)
Torque Output format	Analog ± 5 V
Torque Sensor Type	Strain gauge
Torque Nonlinearity	< 0.5 % of full scale output
Torque Hysteresis	< 0.5 % of full scale output
Angular Accuracy	0.18°
Angular Resolution	0.022°
Angle Output format	Analog 0.5 V to 10 V
Temperature Range, Compensated	70 °F to 185 °F (24 °C to 85 °C)
Operating	-40 °F to 257 °F (-40 °C to 125 °C)
Weight (Transducer & Slip Ring Electronics)	9.0 lb (4.0 kg)

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Rev. A

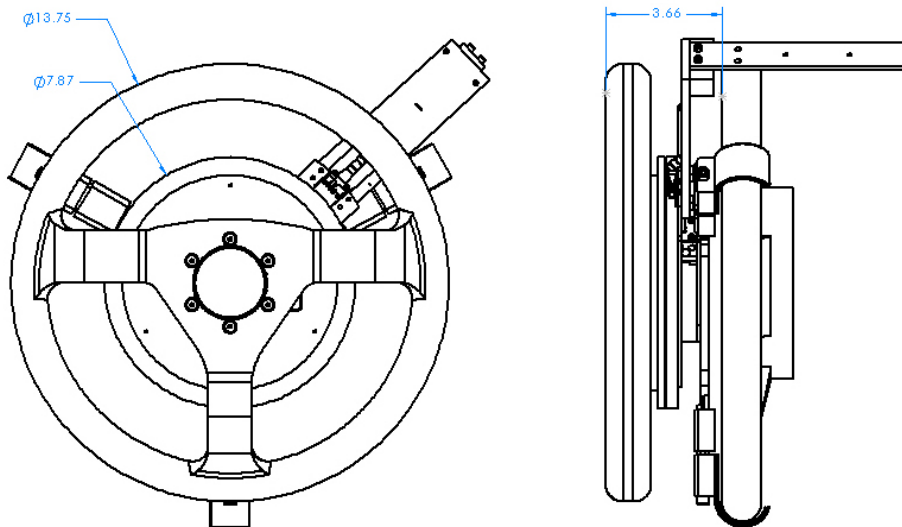
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Steering Wheel Torque and Angle Transducer

SW-SR Mounting



Wireless Packaging Option

If steering angle is not required, a wireless telemetry package, *SW-TEL*, is also available. It is battery powered, creating a compact low-profile assembly to measure steer effort torque. This wireless package requires no anti-rotation restraint which makes the system quick and easy to install.

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