

Wheel Torque Transducer

Models TW12.8, TW12.8ER

- 4000 lb-ft and 6000 lb-ft capacity
- Adapts to 14"-18" wheels
- Environmentally protected
- Temperature compensated
- Rugged stainless steel construction
- Enhanced resolution model available
- Configured to minimize magnetic sensitivity



Description

Michigan Scientific's *TW12.8* torque transducer is ideal for measuring wheel torque on both passenger cars and light duty trucks. Designed to attach to adapters that simulate production wheel rims, this model provides one channel of torque data and is completely weatherproof. The adapter system is fabricated by generating a profile of the original wheel rim and designing a hub and rim adapter, which fasten to the interior and exterior bolt circle respectively, and duplicate the critical dimensions of the original rim. The versatility of this system enables the torque transducers to be used with a variety of wheel rim designs.

Both the torque and combined steer/camber moment load ratings of the *TW12.8* transducer are 6000 lb-ft. A model with enhanced resolution is also available. The *TW12.8ER* has torque and combined steer/camber moment load ratings of 4000 lb-ft. The geometric configuration of these two models are identical, enabling them to be used with the same adapters.

High grade stainless steel material and weatherproof sealing combine to provide excellent resistance to corrosion and environmental conditions. Temperature compensation of the torque transducer ensures stable output throughout a wide temperature range; all wires are precisely located to reduce sensitivity to magnetic effects.

Specifications

| | TW12.8 | TW12.8ER |
|---|---|-----------------------|
| Maximum Load Capacity | 6000 lb-ft (8136 N-m) | 4000 lb-ft (5424 N-m) |
| Full Scale Load | 6000 lb-ft (8136 N-m) | 4000 lb-ft (5424 N-m) |
| Full Scale Output | 1.5mV/V nominal | 1.5mV/V nominal |
| Sensor | 4 arm strain gage bridge | |
| Nonlinearity | 0.1% of full scale output | |
| Hysteresis | 0.05% of full scale output | |
| Repeatability | 0.05% of full scale output | |
| Zero Balance | Within $\pm 5.0\%$ of rated output at zero load | |
| Bridge Resistance | 180 Ω nominal | |
| Temperature Range, Compensated* | 75°F to 200°F (24°C to 93°C) | |
| Temperature Effect on Zero | 0.0008% full scale/ °F (0.0015% full scale/ °C) | |
| Temperature Range, Useable (Short Term) | -40°F to 300°F (-40°C to 149°C) | |
| Temperature Range, Useable (Long Term) | -40°F to 250°F (-40°C to 121°C) | |
| Excitation Voltage, Maximum | 10V DC or AC rms | |
| Insulation Resistance, Bridge/Case | Exceeds 5000 M Ω | |
| Output Connector | Bendix PT02E-8-4P | |
| Mating Connector | Bendix PT06E-8-4S (SR) | |

* Contact factory for other compensated ranges

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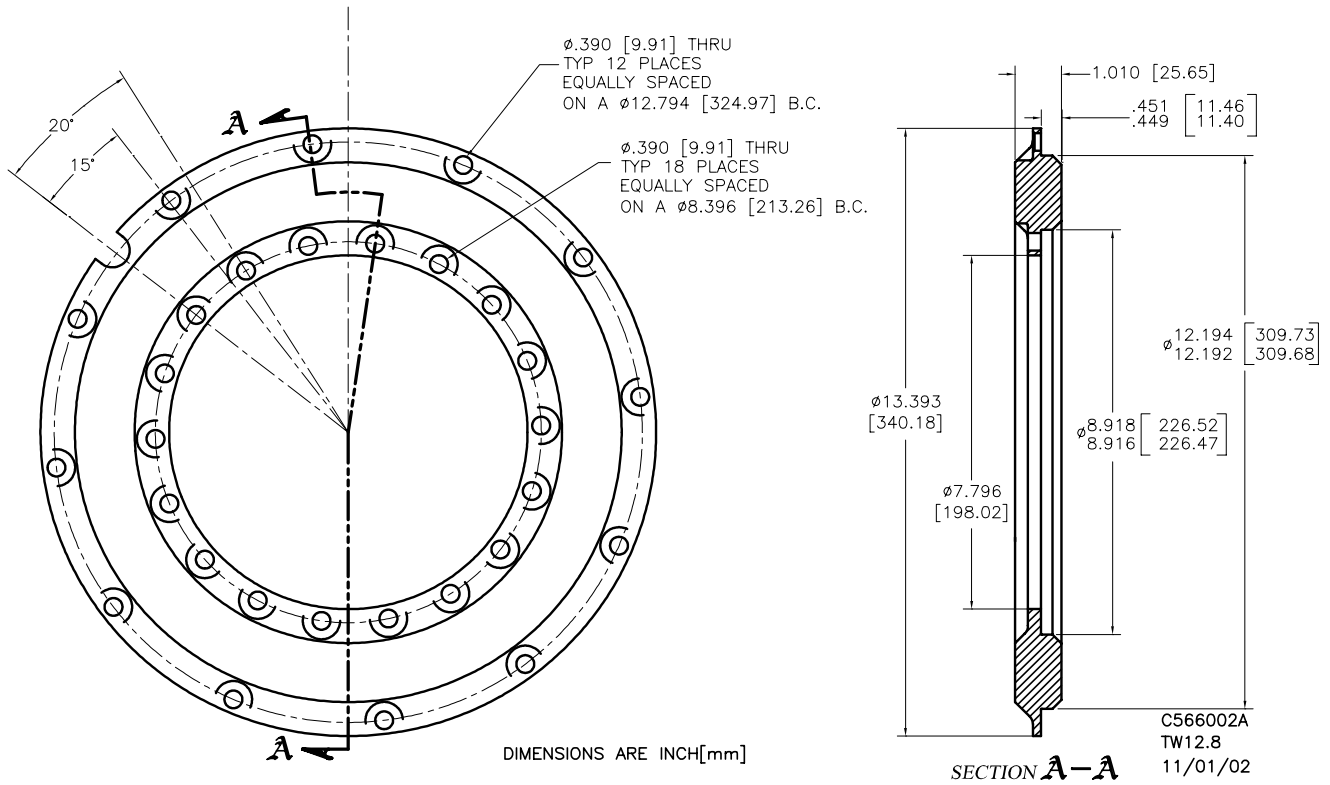
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Wheel Torque Transducer

TW12.8, TW12.8ER Configuration



Options

Special units are available for high temperature applications.

Custom designs with alternative output sensitivities and load capacities may also be ordered.

Michigan Scientific offers a fully weatherproof slip ring, encoder, and amplifier instrumentation assembly to be used with all wheel torque transducers. Refer to the product literature section "Instrumentation Assemblies" for more information.