

# Wheel Torque Transducer

## Model TW10.8

- 3000 lb-ft capacity
- Adapts to 12"-13" wheels
- Environmentally protected
- Temperature compensated
- Rugged stainless steel construction
- Consistent sensitivity among all units
- Configured to minimize magnetic sensitivity



## Description

Ideal for measuring wheel torque on passenger cars, the *TW10.8 Wheel Torque Transducer* provides one channel of torque data and is completely weatherproof. It is designed to attach to adapters that simulate production wheel rims. The adapter system is fabricated by generating a profile of the original wheel rim and designing a hub adapter and rim adapter that duplicate the critical dimensions of the original rim. The hub adapter fastens to the interior bolt circle of the torque transducer and the rim adapter fastens to the exterior bolt circle. The versatility of this system allows the torque transducer to be used with various wheel rim designs.

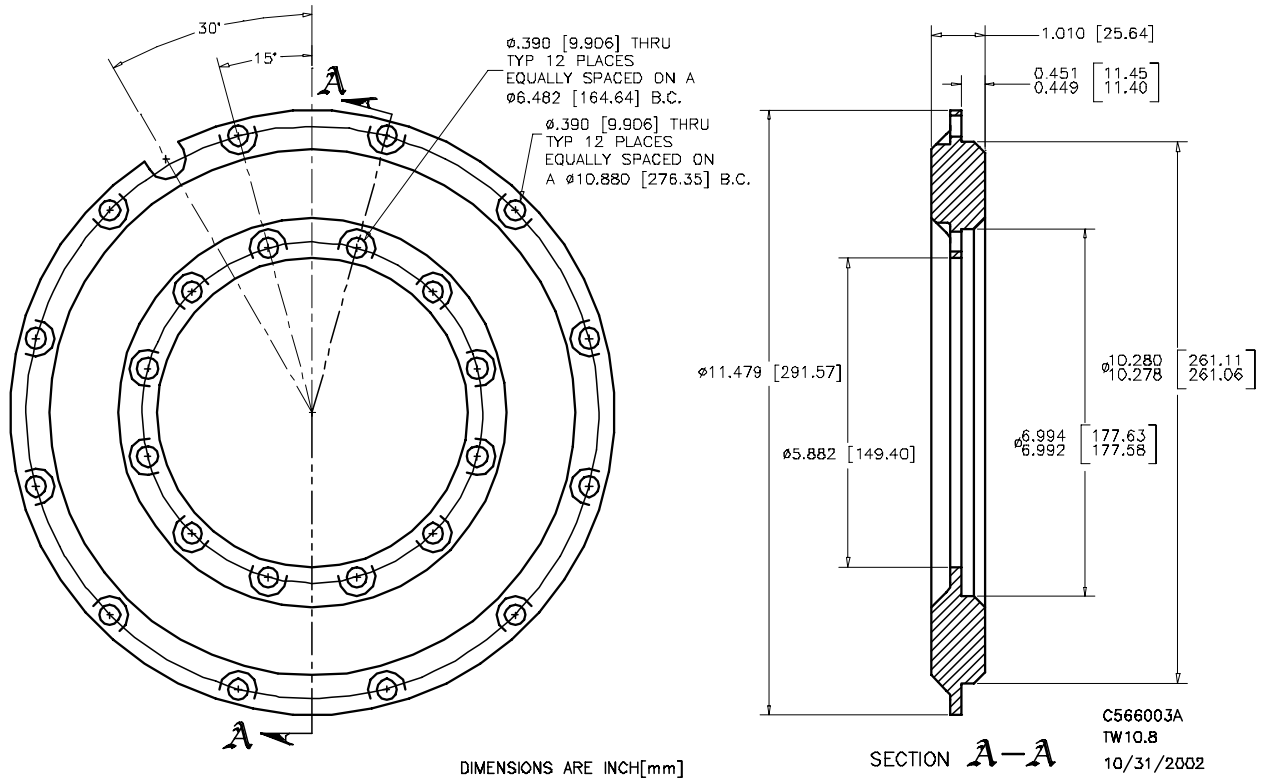
Both the torque and combined steer/camber moment load ratings of the *TW10.8* transducer are 3000 lb-ft. High grade stainless steel material and weatherproof sealing combine to provide excellent resistance to corrosion and environmental conditions. Temperature compensation of the torque transducer ensures stable output throughout a wide temperature range. In addition, all wires are precisely located to reduce sensitivity to magnetic effects.

## Specifications

|  |   |
|--|---|
| Maximum Load Capacity                          | 3000 lb-ft (4068 N-m)                           |
| Full Scale Load                                | 3000 lb-ft (4068 N-m)                           |
| Full Scale Output                              | 1.5 mV/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 $\Omega$ 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 $\Omega$                         |
| Output Connector                               | Bendix PT02E-8-4P                               |
| Mating Connector                               | Bendix PT06E-8-4S (SR)                          |
| * Contact factory for other compensated ranges |   |

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## TW10.8 Configuration



## Ordering 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.

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