

Steering Torque and Angle Measurement System

Model HBT

- Accurately measures steering effort torque and steering angle
- Mounts to OEM steering handlebar or ATV shaft
- Includes transducer, encoder, mounting bracket, and user interface
- Measures steering torque, angle, and rate (rate available on CAN output only)
- Analog output and CAN 2.0 signal outputs
- User interface with simple zeroing and shunt calibration controls



Description

The *HBT Handlebar Torque Measurement System* measures the steering effort torque and steering angle on motorcycles and ATVs while maintaining the proper function of the handlebars.

The *HBT* can be mounted to steering handlebars or an ATV shaft by replacing or mounting to the existing handlebar clamps. Michigan Scientific can design and manufacture a mounting system to fit customer requirements. The anti-rotation restraint for the steering angle sensor is secured to a stationary reference on the motorcycle.

The *HBT* 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 torque transducer and steer angle sensor are powered and controlled by a Michigan Scientific *DIGI-STEER Control Unit*.

Specifications

Rated Torque Capacity	100 lbf · ft (135 N · m)
Safe Axial Load	100 lbs (440 N)
Signal Outputs	Analog ± 10 V and CAN 2.0
Torque Sensor Type	Full Bridge Strain Gauge
Torque Nonlinearity	< 1 % of full scale output
Steering Angle Range	± 180 Degrees
Angular Accuracy	$\pm 0.3^\circ$
Max Speed for Angle Measurement	333 r/min
Temperature Range, Compensated	-10 °F to 120 °F (-12 °C to 49 °C)
Temperature Range, Operating	0 °F to 175 °F (-20 °C to 80 °C)
Input Power	9 Vdc to 36 Vdc
Weight (transducer assembly)	3.4 lbs (1.6 kg)
CAN Bit Rate	1 Mbit/s
Polarity	Counter clockwise is positive output

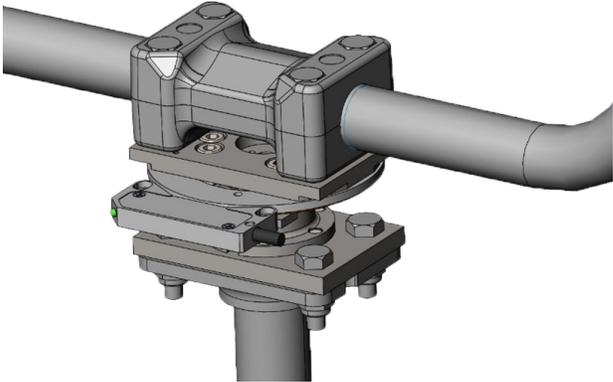
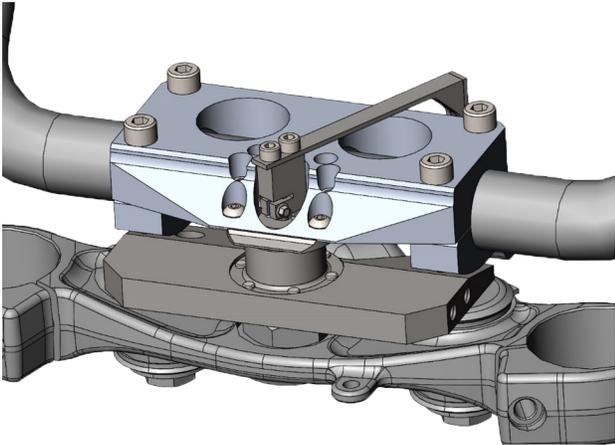
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Rev. A

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HBT Mounting



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