

IRT DYNAMOMETER TORQUE SENSOR

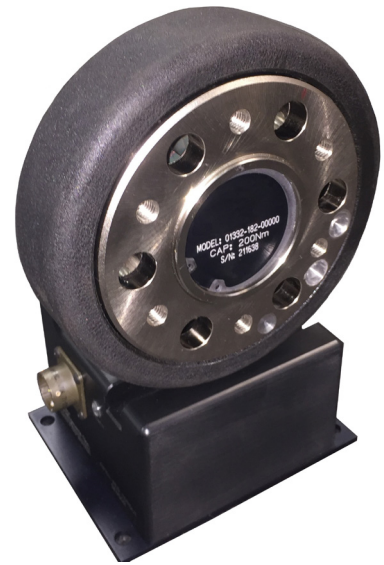
The IRT (Infra-Red Torque) Dynamometer Torque Sensor (90415/90515), from HITEC Sensor Developments, is a simple to use, yet very powerful, noncontact torque measurement system.

The basic system consists of three parts, the sensor, the base, and the receiver. When the system is powered up and the base is placed in the proper location, readings are sent from the rotating sensor to the base, where they are forwarded to the receiver.

Data received by the receiver are checked for errors. Error free data are forwarded to the outputs. The receiver provides two output types that will work with most data acquisition equipment or controllers. First, the receiver provides a frequency output that can easily be configured by the user to output ranges of 10kHz +/-5kHz, 60kHz +/- 20kHz, and

output that can easily be configured by the user to output ranges of 0V +/-10V, 0V +/-5V, 2.5V +/-2.5V, and 12mA +/-8mA (4-20mA). All configurations are set using the included Graphic User Interface software and USB cable.

The included 12VDC power supply supplies power to the receiver, the base, and inductively from the base to the rotating sensor. No batteries are ever required.



FEATURES

- Up to 4 shunt calibration selections
- User selectable digital low pass filter for signal outputs
- User selectable ranges for signal outputs
- Ability to record at full speed to a PC hard drive with included USB software utility
- Ability to view and print previously recorded data with included USB software utility
- Ability to save calibrations to a PC so that receiver may be used with multiple sensors
- Factory installed option for second channel of measurement
- Factory installed option for temperature measurement at the rotating sensor – up to 4 channels of K type or J type thermocouples

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IRT DYNAMOMETER TORQUE SENSOR

SPECIFICATION

PARAMETER	RANGE
Sensor – Ch1 & Ch 2 Torque and/or Thrust	
Resolution (bits)	16
Accuracy (%)	.01 *
Sample Rate	5000 samples/sec/channel
Anti-Aliasing Filter	4 pole Butterworth low pass @ 1000Hz
Power Input	Provide by Base
Temperature Range (°C)	-20 to +85
Temperature Drift (°C)	.005% per, max.
Base	
Power Input	12VDC +/-5%, 1A Max (Provided by Receiver)
Temperature Range (°C)	-20 to +70
Receiver	
Resolution (bits)	16
Accuracy (%)	.01
Analog Output Voltage Ranges (Vdc)	± 10 , ± 5 , or 2.5 ± 2.5
Analog Output Current Ranges (mA)	12 ± 8 (4-20)
Frequency Output Ranges (kHz)	10 ± 5 , 60 ± 20 or 60 ± 30
External Shunt Inputs (3)	5VDC @ 2mA to 24VDC @ 12mA
Power Input	12VDC $\pm 5\%$ @ 3A

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SPECIFICATION CONTINUED

Error Relay Contact Rating	500mA, 24Vdc, max.
Error Contact Relay Type	SPST close on err
Temperature Range (°C)	-20 to +70
Temperature Drift (°C)	.005% per, max.
General	
Digital Group Delay (Analog)	391 microseconds
Digital Group Delay (Frequency)	406 microseconds
Power Supply (included)	Universal AC Input / 12 VDC Adapter

* Transmitter electronics only

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