

Irvine, CA USA
800.23.FUTEK

FUTEK

US Manufacturer
www.futek.com

ADVANCED SENSOR TECHNOLOGY, INC.

(Parameters to consider when selecting a TORQUE SENSOR and related instruments)

TORQUE SENSOR


General	Type	• Reaction • Rotary (<i>Slipring, Non-Contact</i>)	Specifications	Output (mV/V, VDC, mA)	Nonrepeatability	Excitation
	Mounting Type	• Flange to Flange • Square Drive • Shaft to Shaft • Hex Drive		Nonlinearity	Compensated Temp.	Bridge Resistance
	Torque Direction	• CW • CCW • Both		Hysteresis	Operating Temp.	Angle Encoder
	Capacity	• Min. • Max. • Resolution		Temp. Shift Span	Torsional Stiffness	Encoder Resolution
	Material	• Stainless Steel • Aluminum • BeCu • Titanium		Temp. Shift Zero	Output Symmetry	RPM
	Critical Dimension	• See " FEATURE OPTIONS " at bottom of page		Safe Overload	Natural Frequency	RPM Pick Up
	Physical Characteristics	• Shaft/Flange Size • Length • Weight • DIA		Overhung Moment	Shock/Vibration	Environment

INSTRUMENT

General	Signal Conditioner	Display	Specifications	Signal Conditioner		Display		
	Type	• Signal Condition/Amplifier		• Digital Display/ Graphic Display	Frequency Response	Reverse Polarity Protection	Resolution	Sampling Rate
	Mounting Type	• Din-Rail • In-Line • Built-In • Integrated		• Panel Mount • Bench Type • Hand Held	Operating Temp.	Short Circuit Protection	Storage Memory	Filtering
	Power Supply	• 12-24 VDC		• AC • DC	Accuracy	Shunt Cal Feature	Peak/Vally	Shunt Cal
	Special Requirement	• TEDS • CE		• TEDS • CE	System Calibration: System calibration is required when selecting a sensor with an instrument as a package. System calibration includes integration, setup, configuration, scaling and traceable calibration for both sensor & instrument together. System calibration records are available at www.futek.com and are very useful for trouble shooting & follow up.			
	Physical Characteristics	• Width • Length • DIA • Height		• Width • Length • DIA • Height				
	Sensor Input Range	• 0.5 mV/V • 1 mV/V • 1.5 mV/V • 2 mV/V • 3 mV/V • 4 mV/V		• mV/V • VDC • mA				
Options	• ±5 VDC • ±10 VDC • 0.5-4.5 VDC • 4-20 mA • 4-12-20 mA	• Analog Output Relay • Alarm RS232 • RS485 • USB						

CABLE & CONNECTOR OPTIONS

FEATURE OPTIONS

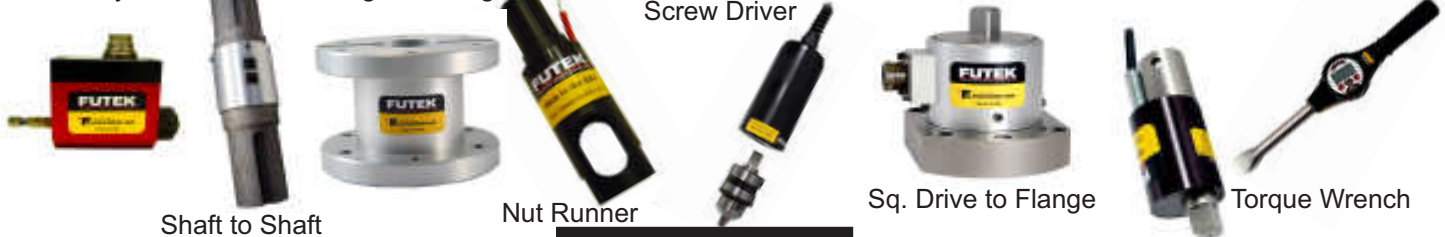
Cable		Connector	Dual/ Multiple Bridge	Electrical Termination
Material	Teflon	Bendix	High Temperature	Custom Capacities
	PVC	Amphenol	Cryogenic	Magnetic Effect
	Polyurethane	Lemo	Wash-Down / Submersible	Shunt Calibration
	Silicone	Microtech	ID Chip/ Auto Recognition 	Special/ Custom Calibration
• Length • Number of Conductors • AWG • Shielded • Twisted • Straight • Coil	Hirose	D Sub 9, 15, 25	Matched, Normalized, Standardized or Trimmed Output	Metric Thread
	Molex		Higher Bridge Resistance for Battery Operation	Special Mounting/ Packaging
			Quick Disconnect	Customized Software
CALIBRATION OPTIONS			Built-in Amplifier	System Integration
• Additional Direction • System Calibration • NIST Calibration • ISO17025				

Rotary

Flange to Flange

SELECTED CATEGORIES

Socket Extension



Shaft to Shaft


Nut Runner

Sq. Drive to Flange

Torque Wrench

FUTEK ADDED TIPS

- Select the capacity over the maximum operating torque.
- For endurance or fatigue application try to operate at 50% or lower of rated capacity
- Determine all extraneous load & moments prior to selecting the capacity.
- The extraneous load and moments increases combined stress which would accelerate the fatigue and could also effect the performance & accuracy.
- Mis alignment and high overhung moment will effect the performance and accelerates fatigue.
- Try to consider reaction Torque sensor over Rotary where possible to minimize require maintenance.

- Select the correct instrument with fast response when using Torque sensor in line with high speed motor or when measuring Breakaway torque.
- Have the sensor connected to the instrument during the handling and installation.
- Avoid Zero distortion when applying torque with mounting hardware.
- Avoid dropping, overloading, abusing or handling torque sensor by cable.
- Utilize TEDS  where possible to avoid mis configuration or mis scaling.

Visit www.futek.com for more Tips.