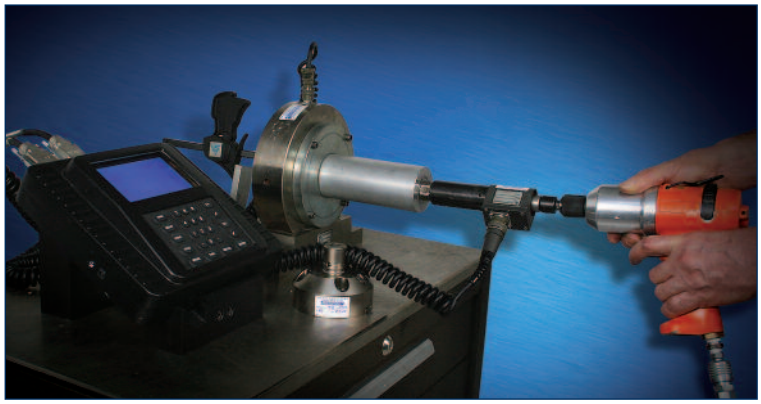
Rotary Torque Transducers

Highlights

- Measure torque only or torque & angle
- Industrial-rated for power tool and fastener testing applications including pulse tools
- On-board auto ID technology simplifies sensor setup and calibration when used with RS Technologies digital instruments
- Industry-Standard Transducers compatible with all RS Technologies Fastener, Joint Analysis, and Tool Certification Equipment, and most conventional strain gage readout instrumentation
- 2 mV/V output with matched shunt calibration

Applications

- Power Tool Calibration & Performance Verification
- Threaded Fastener Testing
- Bolted Joint Troubleshooting



RS Technologies, a division of PCB Load & Torque, Inc., Rotary Torque Transducers are widely used in the fastener assembly market to verify the performance of hand and power torque tools. The durable, strain gage-based transducers are fitted on the output drive of the hand or power tool and measure the torque applied by the tool to the fastener on an actual assembly. This measurement provides important information about tool shut off and can assist in establishing specifications for proper assembly.

Rotary torque transducers are also a key component of a threaded fastener torque tension testing machine. They are used to measure to torque applied to a threaded fastener to help determine the torque-tension performance characteristics of the tested fastener. The data are also used in the calculation of friction coefficients in the underhead and threaded sections of the fastener.

When equipped with an optional angle encoder, the rotary torque transducer can also measure the angle of fastener rotation which is an important indication of joint integrity. Torque-angle transducers can provide the data to draw torque vs. time or torque vs. angle plots that can help analyze problematic joints and determine appropriate tightening strategies.

Rotary torque transducers are available in capacities ranging from 32 ozf-in to 18,000 lbf-ft (0.23 to 25,000 Nm), and fit most popular drive sizes.

RS Technologies provides calibration services for this and their other torque and force products at its A2LA Accredited Calibration Laboratory in Farmington Hills, Michigan.

As with all PCB® instrumentation, these products are complemented with toll-free applications assistance, 24-hour technical service, and are backed by a no-risk policy that guarantees total customer satisfaction or your money refunded.

RS™ TECHNOLOGIES
A DIV. OF PCB LOAD & TORQUE, INC.

Rotary Torque Transducers

Torque Only

Model No.	Drive Size	Capacity
039030-50002	¼-inch Hex	32 ozf-in (0.2 Nm)
039030-50021	¼-inch Hex	20 lbf-in (2.3 Nm)
039025-50051	¼-inch Square	50 lbf-in (5.7 Nm)
039030-50101	¼-inch Hex	100 lbf-in (11.3 Nm)
039025-50101	¼-inch Square	100 lbf-in (11.3 Nm)
039030-51015	¼-inch Hex	132 lbf-in (15 Nm)
039025-51015	¼-inch Square	132 lbf-in (15 Nm)
039037-50022	⅜-inch Square	200 lbf-in (22.6 Nm)
039037-50051	⅜-inch Square	50 lbf-ft (68 Nm)
039050-50101	½-inch Square	100 lbf-ft (136 Nm)
039050-51201	½-inch Square	148 lbf-ft (200 Nm)
039075-50301	¾-inch Square	300 lbf-ft (406 Nm)
039075-51501	¾-inch Square	369 lbf-ft (500 Nm)
039075-53601	¾-inch Square	600 lbf-ft (814 Nm)
039001-53102	1-inch Square	1000 lbf-ft (1356 Nm)
039001-01302	1-inch Square	2213 lbf-ft (3000 Nm)
039001-53033	1-inch Square	3000 lbf-ft (4068 Nm)
039001-01103	1 ½-in Square	7376 lbf-ft (10,000 Nm)
039025-00183	2 ½-in Square	18,000 lbf-ft (24,000 Nm)

Torque-Angle

Model No.	Drive Size	Capacity
039230-50002	¼-inch Hex	32 ozf-in (0.23 Nm)
039230-50021	¼-inch Hex	20 lbf-in (2.3 Nm)
039225-50051	¼-inch Square	50 lbf-in (5.7 Nm)
039230-50101	¼-inch Hex	100 lbf-in (11.3 Nm)
039225-50101	¼-inch Square	100 lbf-in (11.3 Nm)
039230-51015	¼-inch Hex	132 lbf-in (15 Nm)
039225-51015	¼-inch Square	132 lbf-in (15 Nm)
039237-50022	⅜-inch Square	200 lbf-in (22.6 Nm)
039237-50051	⅜-inch Square	50 lbf-ft (68 Nm)
039250-50101	½-inch Square	100 lbf-ft (136 Nm)
039250-51201	½-inch Square	148 lbf-ft (200 Nm)
039275-50301	¾-inch Square	300 lbf-ft (406 Nm)
039275-51501	¾-inch Square	369 lbf-ft (500 Nm)
039275-53601	¾-inch Square	600 lbf-ft (814 Nm)
039201-53102	1-inch Square	1000 lbf-ft (1356 Nm)
039201-01302	1-inch Square	2213 lbf-ft (3000 Nm)
039201-53302	1-inch Square	3000 lbf-ft (4068 Nm)
039301-01103	1 ½-in Square	7376 lbf-ft (10,000 Nm)
039625-00183	2 ½-in Square	18,000 lbf-ft (24,000 Nm)

Specifications

Torque	
Output at Rated Capacity	2 mV/V ≤ 0.25% FS
Shunt Calibration	Matched 2mV/V ≤ 0.25% with 43.575 kOhm Precision Resistor
Interchangeability	Matched for mV/V and Shunt Calibration ≤ 0.30% FS
Non-Linearity	≤ 0.25% FS
Hysteresis	≤ 0.25% FS
Excitation Voltage [1]	10 VDC
Bridge Resistance	350 Ohm
Compensated Temperature Range	+70 to +150°F +21 to +66°C
Operating Temperature Range	0 to +200°F -18 to +93°C
Connector	PT02H-12-10P
Angle	
Magnetic Encoder	1/4 inch, 3/8 inch and 1/2 inch Drive – 360 Poles 3/4 inch Drive – 540 Poles 1 inch and 1-1/2 inch Drive – 720 Poles 2-1/2 inch Drives – 900 Poles
Output	A-B Track 90 Degrees Phase Difference Flat Over Operating Speed Range
Counts Per Resolution (CPR), Resolution w/Quadrature	1/4 inch, 3/8 inch, 1/2 inch Drive – 1440, 1/4 Degree 3/4 inch Drive – 2160, 1/6 Degree 1 inch and 1-1/2 inch Drive – 1/8 Degree 2-1/2 inch Drive – 1/10 Degree
Output Voltage	High 5.0V, Low 0.5V
Power Required	5 VDC @ 120 mA Maximum
Recommended Maximum RPM	
¼-inch Drive	5000
⅜-inch Drive	2500
½-inch Drive	2500
¾-inch Drive	2000
1-inch Drive	1000
1 ½-inch Drive	750
2 ½-inch Drive	500
Supplied Accessories	
Shunt Calibration Resistor, & A2LA Accredited Calibration Certificate	
Recommended Accessories	
Model 920 Portable Digital Transducer	080920-01000
Model 962 Data Recorder	080962-01000
Cable Assembly, 10' Coiled, PT to DB15 Male	097000-34445
Mating Connector	PT06A-12-10S(SR)
Note	
[1] Calibrated a 10 VDC, usable 5 to 20 VDC or VAC RMS	

Dimensions (in.)

	1/4 inch Hex	1/4 inch Square	3/8 inch	1/2 inch	3/4 inch	1 inch (1000 lbf-ft)	1 inch (2213 lbf-ft)	1 inch (3000 lbf-ft)	1-1/2 inch	2-1/2 inch
Overall Length	4.25	3.23	3.23	3.23	4.13	4.00	4.42	4.33	5.50	9.48
Housing Length	2.30	2.30	2.30	2.30	2.69	2.00	2.42	2.44	2.63	4.62
Housing Height	2.00	2.00	2.00	2.00	2.94	3.63	3.63	4.74	4.88	7.25
Housing Width	1.50	1.50	1.50	1.50	2.50	3.25	3.25	3.88	4.26	6.50
Male Drive Length	0.98	0.29	0.42	0.58	0.84	1.06	1.06	1.12	1.60	2.25

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ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

LT-RS-PC9000Series-0412 Printed in U.S.A.

RS Technologies, a division of PCB Load & Torque, Inc, is a leading manufacturer of a complete line of rotary and stationary torque sensors, hand torque wrenches, measuring instruments, and threaded fastener torque-tension testing systems with over 40 years of history serving the product assembly and fastener manufacturing community. From ready-to-ship stock products, to custom-made specials, RS Technologies proudly stands behind all products with services customers value most, including calibration services from our A2LA accredited laboratory, 24-hour technical support, a global distribution network, and the industry's only commitment to Total Customer Satisfaction. For more information, please visit **www.pcbloadtorque.com**.

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