

## TS15 SQUARE FLANGE REACTION TORQUE TRANSDUCER (U.S. & METRIC)

### FEATURES & BENEFITS

- Capacities from 2 to 5K Nm (17.7 to 44.3K lbf-in)
- Compact
- Convenient flange mounting
- Useful for checking torque wrenches

### SPECIFICATIONS

ACCURACY – (MAX ERROR)		
Combined Error – %FS		± 0.2
Nonrepeatability – %		± 0.02
TEMPERATURE		
Effect on Zero – %RO / °C		±0.02
Effect on Output – % / °C		±0.01
Rated Range	°C	-5 to +45
	°F	+23 to +113
Operating Range	°C	-15 to +55
	°F	+5 to +131
ELECTRICAL		
Output – mV/V		1
Excitation Voltage – VDC MAX		12
Bridge Resistance – Ohm		350
Electrical Connection		6-pin binder
MECHANICAL		
Safe Overload – %RO		150
Angular Deflection @ Rated Torque		< 0.2
Material		Alloy steel

### OPTIONS

- 100% Control Signal (RCAL)
- Combined Error 0.1% FS

### STANDARD CONFIGURATION



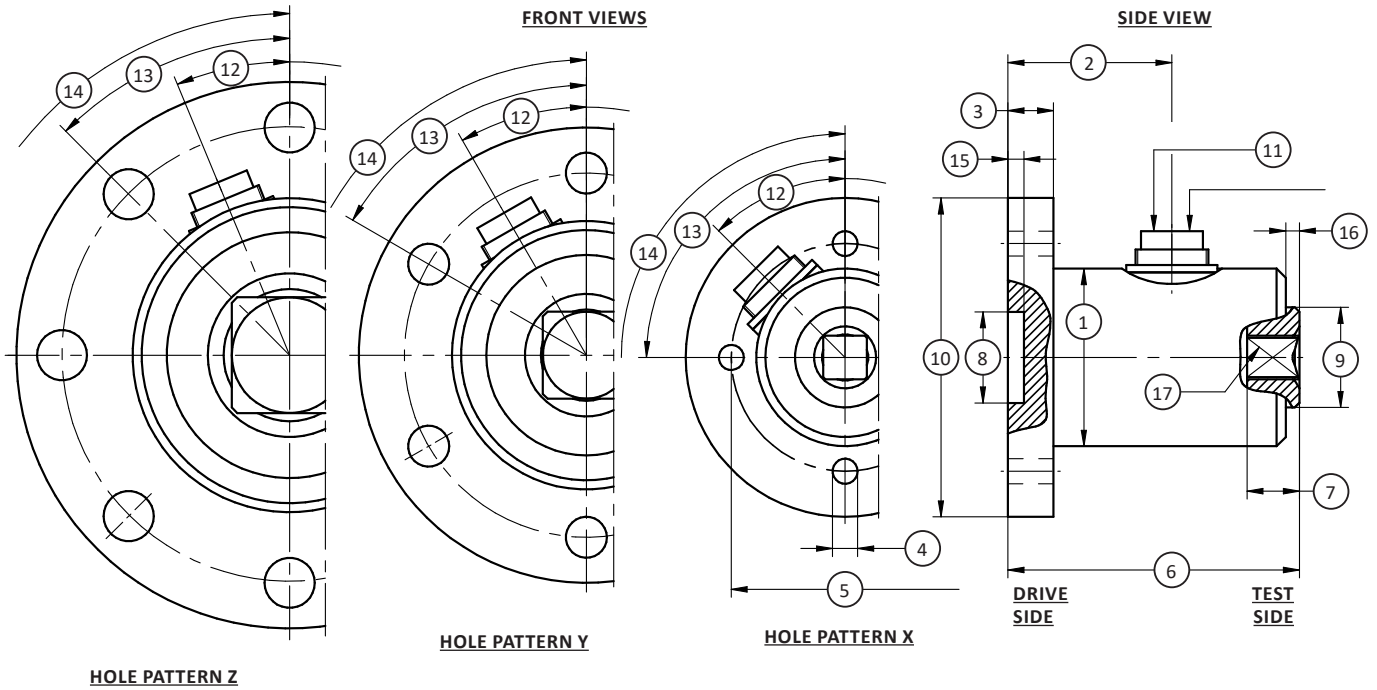
MODEL TS15 (Shown)

### ELECTRICAL CONNECTION

Pin	6-PIN ELECTRICAL CONNECTION	
	Function	
1	Excitation (-)	
2	Excitation (+)	
3	Shield	
4	Signal (+)	
5	Signal (-)	
6	Control signal (option)	

U.S. dimensions and capacities are provided for conversion only. Standard products have International System of Units (SI) capacities and dimensions.

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### DIMENSIONS

See Drawing	CAPACITY													
	Hole Pattern X		Hole Pattern X		Hole Pattern X		Hole Pattern Y		Hole Pattern Z		Hole Pattern Z		Hole Pattern Z	
	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)
	2, 5, 12	17.7, 44.3, 106	25, 63	221, 558	100, 160, 200	885, 1.42K, 1.77K	500	4.43K	1K	8.85K	2K	17.7K	5K	44.3K
mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
(1)	39.0	1.54	39.0	1.54	45.0	1.77	59.0	2.32	69.0	2.72	90.0	3.54	125.0	4.92
(2)	36	1.4	36	1.4	41	1.6	45	1.8	45	1.8	55	2.2	57	2.2
(3)	10	0.4	10	0.4	12	0.5	15	0.6	15	0.6	20	0.8	25	1.0
(4)	Ø5.5	Ø0.22	Ø5.5	Ø0.22	Ø6.6	Ø0.26	Ø9.0	Ø0.35	Ø11.0	Ø0.43	Ø13.0	Ø0.51	Ø17.0	Ø0.67
(5)	Ø50	Ø2.0	Ø50	Ø2.0	Ø60	Ø2.4	Ø80	Ø3.1	Ø100	Ø3.9	Ø120	Ø4.7	Ø170	Ø6.7
(6)	64	2.5	64	2.5	75	3.0	88	3.5	94	3.7	124.5	4.9	129.5	5.1
(7)	8	0.3	11.5	0.5	16	0.6	24	0.9	28.6	1.1	41.5	1.6	41.5	1.6
(8)	Ø20 H7	Ø(0.7882 / 0.7874)	Ø20 H7	Ø(0.7882 / 0.7874)	Ø20 H7	Ø(0.7882 / 0.7874)	Ø20 H7	Ø(0.7882 / 0.7874)	Ø20 H7	Ø(0.7882 / 0.7874)	Ø20 H7	Ø(0.7882 / 0.7874)	Ø105 H7	Ø(4.1352 / 4.1338)
(9)	Ø22	Ø0.9	Ø22	Ø0.9	Ø29.8	Ø1.14	Ø44	Ø1.7	Ø54	Ø2.1	Ø76	Ø3.0	Ø95	Ø3.7
(10)	Ø70	Ø2.8	Ø70	Ø2.8	Ø80	Ø3.1	Ø100	Ø3.9	Ø120	Ø4.7	Ø145	Ø5.7	Ø200	Ø7.9
(11)	Connector 6-pin		Connector 6-pin		Connector 6-pin		Connector 6-pin		Connector 6-pin		Connector 6-pin		Connector 6-pin	
(12)	45°		45°		45°		30°		22.5°		22.5°		22.5°	
(13)	90°		90°		90°		60°		45°		45°		45°	
(14)	4x90° (=360°)		4x90° (=360°)		4x90° (=360°)		6x60° (=360°)		8x45° (=360°)		8x45° (=360°)		8x45° (=360°)	
(15)	3.5	0.14	3.5	0.14	3.5	0.14	3.5	0.14	3.5	0.14	3.5	0.14	4	0.2
(16)	3	0.1	3	0.1	15	0.6	3	0.1	5	0.2	5	0.2	5	0.2
(17)	q 1/4"		3/8"		1/2"		3/4"		1"		1 1/2"		1 1/2"	

Datasheet TS15 Flange v2.3 02-03-2021

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### PERFORMANCE PARAMETERS

CAPACITY		SPRING RATE	MOMENT OF INERTIA – J (Kg•m <sup>2</sup> )		MAX THRUST LOAD		MAX SHEAR FORCE	
Nm	lbf-in	NM/rad	Drive Side	Test Side	N	lbf	N	lbf
2	17.7	2.2x10 <sup>2</sup>	2.1x10 <sup>-4</sup>	3.0x10 <sup>-6</sup>	400	89.9	9	2.02
5	44.3	7.5x10 <sup>2</sup>	2.1x10 <sup>-4</sup>	3.0x10 <sup>-6</sup>	730	164	22	4.95
12	106	2.2x10 <sup>3</sup>	2.1x10 <sup>-4</sup>	3.1x10 <sup>-6</sup>	1.3K	292	51	11.5
25	221	5.3x10 <sup>3</sup>	2.1x10 <sup>-4</sup>	1.6x10 <sup>-6</sup>	2.1K	472	120	27
63	558	1.4x10 <sup>4</sup>	2.2x10 <sup>-4</sup>	2.0x10 <sup>-6</sup>	4K	899	270	60.7
100	885	1.9x10 <sup>4</sup>	4.2x10 <sup>-4</sup>	1.4x10 <sup>-5</sup>	5K	1.12K	300	67.4
160	1.42K	3.6x10 <sup>4</sup>	4.2x10 <sup>-4</sup>	1.5x10 <sup>-5</sup>	7.1K	1.6K	500	112
200	1.77K	4.9x10 <sup>4</sup>	4.2x10 <sup>-4</sup>	1.6x10 <sup>-5</sup>	8.6K	1.93K	680	153
500	4.43K	1.2x10 <sup>5</sup>	1.3x10 <sup>-3</sup>	9.1x10 <sup>-5</sup>	12K	2.7K	1600	360
1K	8.85K	5.4x10 <sup>5</sup>	2.8x10 <sup>-3</sup>	2.4x10 <sup>-4</sup>	21K	4.72K	2900	652
2K	17.7K	1.1x10 <sup>6</sup>	8.0x10 <sup>-3</sup>	1.3x10 <sup>-3</sup>	35K	7.87K	3900	877
5K	44.3K	4.1x10 <sup>6</sup>	3.6x10 <sup>-2</sup>	4.0x10 <sup>-3</sup>	63K	14.2K	8500	1.91K