

Model T2 Precision Rotary Torque Transducer

- Capacities from 0.1 to 20K Nm (0.88 to 177K lb-in)
- ± 5 VDC output
- Digital electronics
- Stainless steel shaft
- 12 to 28 VDC supply
- Contactless
- 10 kHz sample rate
- 16-bit resolution



OPTIONS

Speed & Angle Output - 360 Pulse TTL, 2-Tracks 90° Offset, Available on capacities up to 1,000 Nm only

Speed Output - 60 Pulse TTL, 1-Track, Available on capacities 2,000 Nm & above

+10 V Torque Output

RS485

Keyed Shafts - per DIN 6885.1

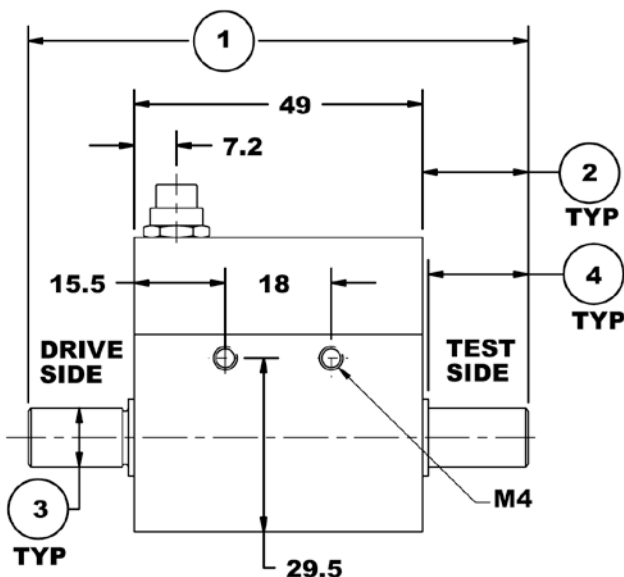
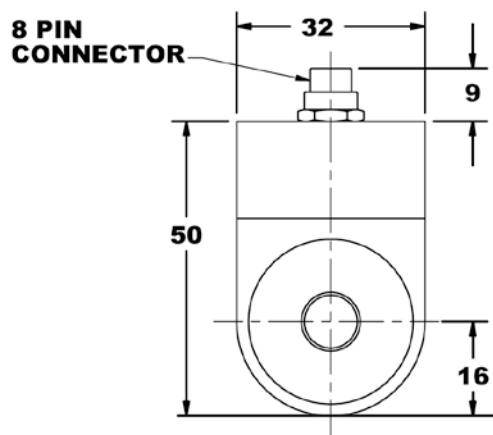
SPECIFICATIONS

ACCURACY - (MAX ERROR)	
Combined Error-% FS	± 0.1
Nonrepeatability-%	± 0.02
TEMPERATURE	
Effect on Zero- % RO/ $^{\circ}$ C	± 0.02
Effect on Output-%/ $^{\circ}$ C	± 0.01
Rated Range- $^{\circ}$ C	+5 to +45
Operating Range- $^{\circ}$ C	0 to +60
ELECTRICAL	
Output-VDC	± 5
Bandwidth, Hz	3 kHz-3dB
Calibration Signal-%RO	100
Supply Voltage-VDC	12 to 28
Supply Current-mA	60
Electrical Connection	8 or 12-pin
Resolution	16-bit
Sample Rate-kHz	10
MECHANICAL	
Safe Overload-% RO	200
Cyclic Load Rating-% RO	± 70 peak
Max Speed-rpm	Varies with capacity. See Table
Shaft	Stainless Steel
Housing	Aluminum

T2 Precision Rotary Torque Transducer – Capacities 0.1 to 15 Nm

DIMENSIONS

Nominal Torque				
Capacity (Nm)	0.1, 0.2, 0.5, 1, 2, 5		10, 15	
Equivalent (lb-in)	0.88, 1.77, 4.43, 8.85, 17.7, 44.3		88.5, 133	
	inch	mm	inch	mm
(1)	3.35	85	3.35	85
(2)	0.71	18	0.71	18
(3)	0.3148/ 0.3144	8g6	0.3935/ 0.3931	10g6
(4)	0.67	17	0.67	17

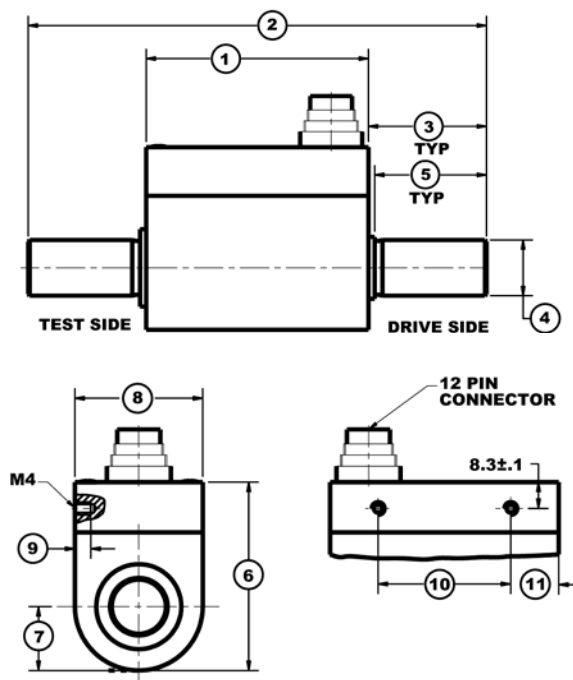


Dimensions in mm

T1 Torque Coupling Rotary Torque Transducer – Capacities 20 to 500 Nm

DIMENSIONS

Nominal Torque						
Capacity (Nm)	20, 30		50, 100		200, 500	
Equivalent (lb-in)	177, 265		443, 885		1.77K, 4.43K	
	inch	mm	inch	mm	inch	mm
(1)	2.81	71.5	2.81	71.5	2.85	72.5
(2)	4.39	111.5	5.81	147.5	6.28	159.5
(3)	0.79	20	1.50	38	1.71	43.5
(4)	0.7084/ 0.7080	18 h6	0.7084/ 0.7080	18 h6	1.2595/ 1.2589	32 h6
(5)	0.71	18	1.42	36	1.50	38
(6)	2.32	59	2.32	59	2.99	76
(7)	0.79	20	0.79	20	0.79	29
(8)	1.57	40	1.57	40	2.28	58
(9)	0.20	5	0.20	5	0.24	6
(10)	1.63	41.5	1.63	41.5	1.16	29.5
(11)	0.59	15	0.59	15	0.87	22



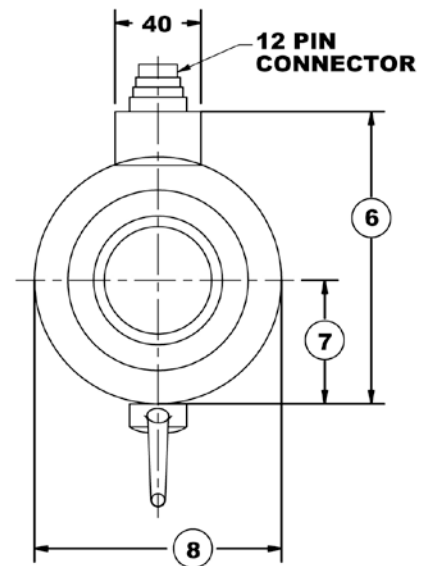
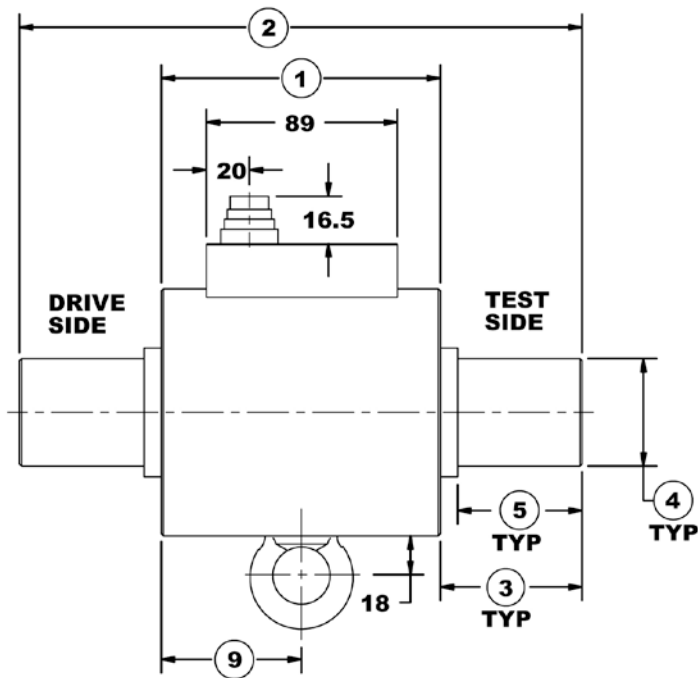
T2 Precision Rotary Torque Transducer –
Capacities 1,000 to 20,000 Nm

DIMENSIONS

Nominal Torque						
Capacity (Nm)	1K		2K, 5K		10K, 20K	
Equivalent (lb-in)	8.85K		17K, 44.3K		85.5K, 177K	
	inch	mm	inch	mm	inch	mm
(1)	5.12	130	5.31	135	6.70	170
(2)	10.31	262	14.84	377	18.50	470
(3)	2.60	66	4.76	121	5.51	140
(4)	1.9685/ 1.9675	50 h7	2.7559/ 2.7547	70 h7	4.3307/ 4.3293	110 h7
(5)	2.28	58	4.33	110	4.72	120
(6)	5.35	136	6.34	161	9.17	233
(7)	2.26	57.5	2.74	69.5	4.09	104
(8)	4.53	115	5.47	139	8.19	208
(9)	2.58	65.5	2.66	67.5	3.74	95



Dimensions in mm



T2 PRECISION ROTARY TORQUE TRANSDUCER PERFORMANCE PARAMETERS

CAPACITY (Nm)	MAX RPM	SPRINGRATE (Nm/rad)	MOMENT OF INERTIA, J (Kgxm ²)		MAX THRUST LOAD (N)
			Drive Side	Test Side	
0.1	15,000	1.8x10 ¹	1.9x10 ⁻⁶	2.8x10 ⁻⁷	15
0.2	15,000	1.8x10 ¹	1.9x10 ⁻⁶	2.8x10 ⁻⁷	20
0.5	15,000	1.2x10 ¹	1.9x10 ⁻⁶	2.8x10 ⁻⁷	30
1	15,000	1.2x10 ¹	1.9x10 ⁻⁶	2.8x10 ⁻⁷	40
2	15,000	3.6x10 ²	1.9x10 ⁻⁶	2.9x10 ⁻⁷	50
5	15,000	6.4x10 ²	1.9x10 ⁻⁶	3.0x10 ⁻⁷	50
10	15,000	9.3x10 ²	2.1x10 ⁻⁶	3.8x10 ⁻⁷	50
15	15,000	9.3 x10 ²	2.1x10 ⁻⁶	3.8x10 ⁻⁷	100
20	15,000	4.5x10 ³	1.2x10 ⁻⁵	9.9x10 ⁻⁶	300
30	15,000	4.5x10 ³	1.2x10 ⁻⁵	9.9x10 ⁻⁶	1,000
50	15,000	8.5x10 ³	1.3x10 ⁻⁵	1.2x10 ⁻⁵	1,600
100	12,000	8.5x10 ³	1.3x10 ⁻⁵	1.2x10 ⁻⁵	2,600
200	12,000	6.7x10 ⁴	1.0x10 ⁻⁴	9.0x10 ⁻⁵	3,200
500	10,000	7.8x10 ⁴	1.0x10 ⁻⁴	9.2x10 ⁻⁵	7,500
1,000	7,000	3.1x10 ⁵	1.6x10 ⁻³	1.1x10 ⁻³	10,000
2,000	5,500	7.2x10 ⁵	5.3x10 ⁻³	4.3x10 ⁻³	18,000
5,000	5,500	8.0x10 ⁵	5.4x10 ⁻³	4.3x10 ⁻³	32,000
10,000	5,000	1.2x10 ⁶	4.1x10 ⁻²	3.9x10 ⁻²	125,000
20,000	5,000	2.1x10 ⁶	4.1x10 ⁻²	4.3x10 ⁻²	200,000

ELECTRICAL CONNECTION

8-Pin Electrical Connection		
Pin	Function	Description
1	Supply (+)	12-28 VDC
2	Supply (GND)	0 VDC, TTL
3	Signal (+)	±5 VDC
4	Signal (GND)	0 VDC
5	Cal. Control	L < 2.0 V / H > 3.5 V
6	Option Angle A	TTL
7	Option Angle B	TTL
8	NC	-

12-Pin Electrical Connection			12-Pin RS485 Option	
Pin	Function	Description	Function	Description
A	NC	-	NC	-
B	Option Angle B	TTL	Option Angle B	TTL
C	Signal (+)	±5 VDC	NC	-
D	Signal (GND)	0 VDC	NC	-
E	Supply (GND)	0 VDC, TTL	Supply (GND)	0 VDC
F	Supply (+)	12-28 V	Supply (+)	12-28 VDC
G	Option Angle A	TTL	Option Angle A	TTL
H	NC	-	NC	-
J	NC	-	RS485 Option	RS485 (B)
K	Cal. Control	L < 2.0 V / H > 3.5 V	NC	-
L	NC	-	RS485 Option	RS485 (A)
M	Housing		Housing	