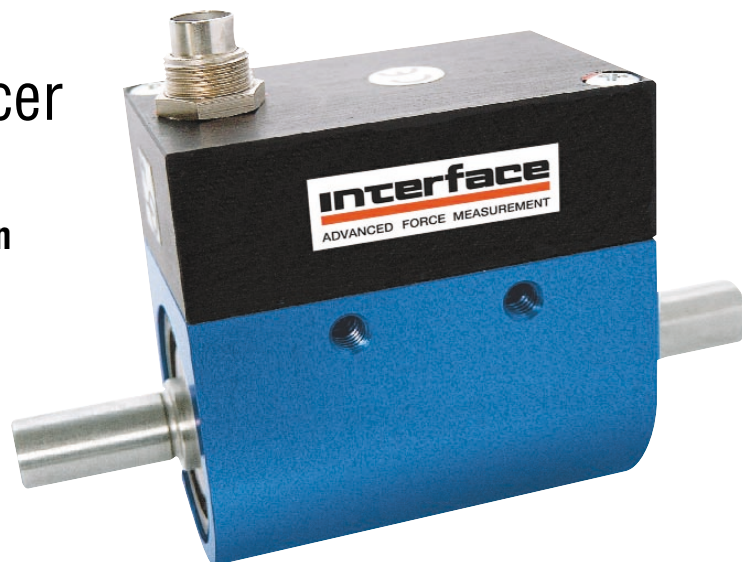


# Model T2 Precision Rotary Torque Transducer

Why the Interface model T2 Precision Rotary Torque Transducer is the best in class:

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



T2 Precision Rotary Torque Transducer

## OPTIONS

Speed & Angle Measurement - 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  
 $\pm 10$  V Torque Output  
 RS485  
 High RPM  
 Keyed Shafts  
 SAE Sized Shafts

## SPECIFICATIONS

### ACCURACY – (MAX ERROR)

Combined Error-% FS ..... $\pm 0.1$   
 Nonrepeatability-% ..... $\pm 0.02$

### TEMPERATURE

Effect on Zero-% RO/ $^{\circ}$ C ..... $\pm 0.02$   
 Effect on Output-%/ $^{\circ}$ C ..... $\pm 0.01$   
 Rated Range- $^{\circ}$ C .....+5 to +45  
 Operating Range- $^{\circ}$ C .....0 to +60

### ELECTRICAL

Output-VDC ..... $\pm 5$   
 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

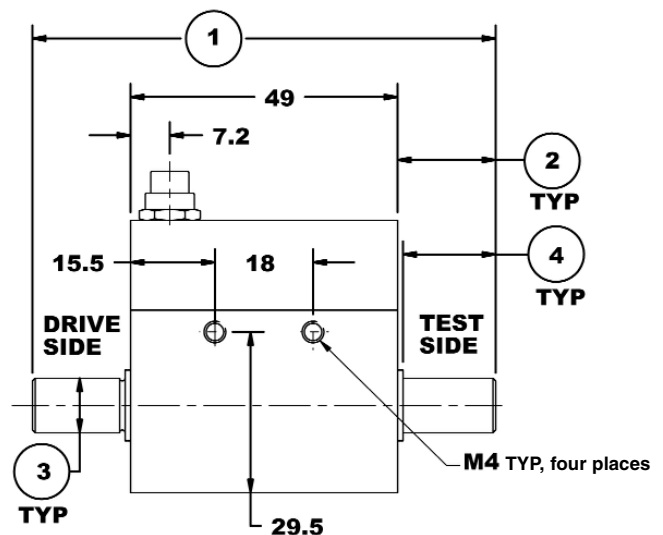
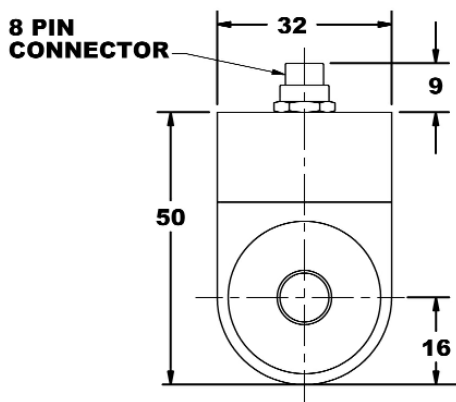
### MECHANICAL

Safe Overload-% RO .....200  
 Cyclic Load Rating-% RO ..... $\pm 70$  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

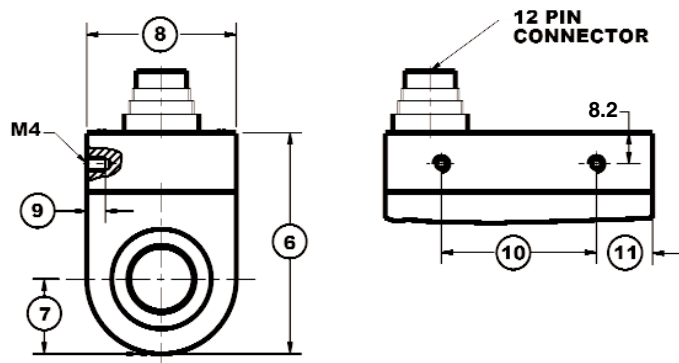
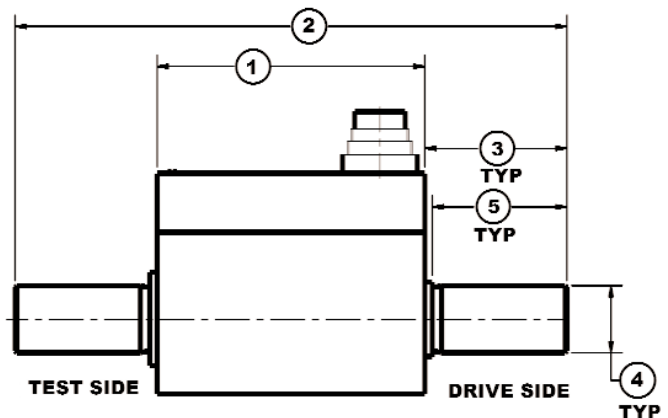


Dimensions in mm

**T2 Precision 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	20
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

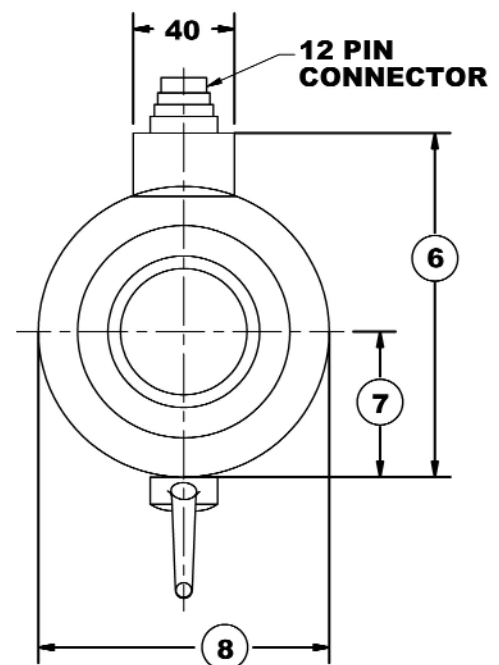
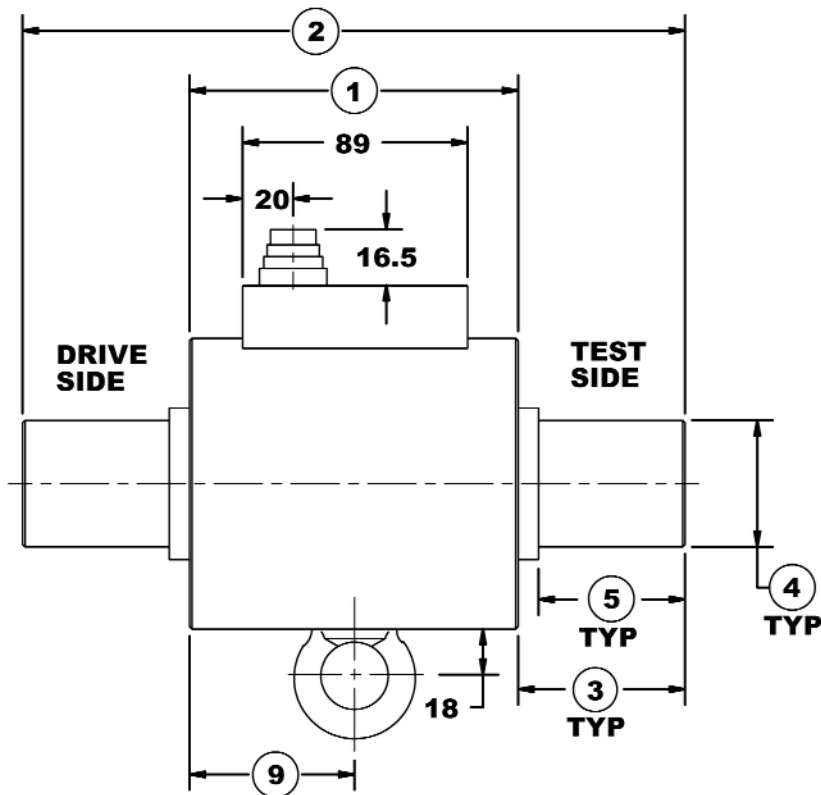
**DIMENSIONS**

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



T2 Precision Rotary Torque Transducer

Dimensions in mm



### T2 PRECISION ROTARY TORQUE TRANSDUCER PERFORMANCE PARAMETERS

CAPACITY (Nm)	MAX RPM		SPRINGRATE (Nm/rad)	MOMENT OF INERTIA, J (Kgx <sup>m</sup> <sup>2</sup> )		MAX THRUST LOAD (N)
	Standard	Special		Drive Side	Test Side	
0.1	10,000	15,000	1.0	1.9x10 <sup>-6</sup>	2.8x10 <sup>-7</sup>	15
0.2	10,000	15,000	1.0	1.9x10 <sup>-6</sup>	2.8x10 <sup>-7</sup>	20
0.5	10,000	15,000	9.9	1.9x10 <sup>-6</sup>	2.8x10 <sup>-7</sup>	30
1	10,000	15,000	9.9	1.9x10 <sup>-6</sup>	2.8x10 <sup>-7</sup>	40
2	10,000	15,000	3.6x10 <sup>2</sup>	1.9x10 <sup>-6</sup>	2.9x10 <sup>-7</sup>	50
5	10,000	15,000	6.5x10 <sup>2</sup>	1.9x10 <sup>-6</sup>	3.0x10 <sup>-7</sup>	50
10	10,000	15,000	8.5x10 <sup>2</sup>	2.1x10 <sup>-6</sup>	3.9x10 <sup>-7</sup>	50
15	10,000	15,000	8.5x10 <sup>2</sup>	2.1x10 <sup>-6</sup>	3.9x10 <sup>-7</sup>	100
20	8,000	15,000	4.5x10 <sup>3</sup>	1.2x10 <sup>-5</sup>	9.9x10 <sup>-6</sup>	300
30	8,000	15,000	4.5x10 <sup>3</sup>	1.2x10 <sup>-5</sup>	9.9x10 <sup>-6</sup>	1,000
50	6,000	15,000	8.5x10 <sup>3</sup>	1.3x10 <sup>-5</sup>	1.2x10 <sup>-5</sup>	1,600
100	6,000	12,000	8.5x10 <sup>3</sup>	1.3x10 <sup>-5</sup>	1.2x10 <sup>-5</sup>	2,600
200	6,000	12,000	6.7x10 <sup>4</sup>	1.0x10 <sup>-4</sup>	9.0x10 <sup>-5</sup>	3,200
500	5,000	10,000	7.8x10 <sup>4</sup>	1.0x10 <sup>-4</sup>	9.2x10 <sup>-5</sup>	7,500
1,000	4,000	7,000	3.1x10 <sup>5</sup>	1.6x10 <sup>-3</sup>	1.1x10 <sup>-3</sup>	10,000
2,000	3,500	5,500	7.2x10 <sup>5</sup>	5.3x10 <sup>-3</sup>	4.3x10 <sup>-3</sup>	18,000
5,000	3,500	5,500	8.0x10 <sup>5</sup>	5.4x10 <sup>-3</sup>	4.3x10 <sup>-3</sup>	32,000
10,000	3,000	5,000	1.2x10 <sup>6</sup>	4.1x10 <sup>-2</sup>	3.9x10 <sup>-2</sup>	125,000
20,000	3,000	5,000	2.1x10 <sup>6</sup>	4.1x10 <sup>-2</sup>	4.3x10 <sup>-2</sup>	200,000

### ELECTRICAL CONNECTION

Pin	12-PIN T2 ELECTRICAL CONNECTION		12-PIN T2 RS485 OPTION	
	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	

8-PIN T2 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 / H > 3.5 V
6	Option Angle A	TTL
7	Option Angle B	TTL
8	NC	-