

T6 DUAL RANGE ROTARY TORQUE TRANSDUCER (U.S. & METRIC)

FEATURES & BENEFITS

- Dual range capacities – 10:1 ratio (5/0.5 to 20K/2K Nm) (44.3/4.43 to 177K to 17.7K lbf-in)
- ±5 VDC output
- Digital electronics
- Stainless steel shaft
- 12 to 28 VDC supply
- Contactless
- 5 kHz sample rate – each range
- 16-bit

SPECIFICATIONS

ACCURACY – (MAX ERROR)		
Combined Error – %FS		±0.1
Nonrepeatability – %FS		±0.02
TEMPERATURE		
Effect on Zero – % RO / °C		±0.02
Effect on Output – % / °C		±0.01
Rated Range	°C	+5 to +45
	°F	+41 to +113
Operating Range	°C	0 to +60
	°F	+32 to +140
ELECTRICAL		
Output – VDC		±5
Bandwidth – kHz – dB		3 – 3
Calibration Signal – %RO		100
Speed Output – puls/rev.		60
Supply Voltage – VDC		+12 to +28
Supply Current – mA		60
Electrical Connection – pin		12
Resolution – bit		16
Sample Rate – kHz		5
MECHANICAL		
Safe Overload – %RO		200
Max Speed – RPM		Varies with capacity (see table)
Shaft Material		Stainless steel
Housing Material		Aluminum

STANDARD CONFIGURATION

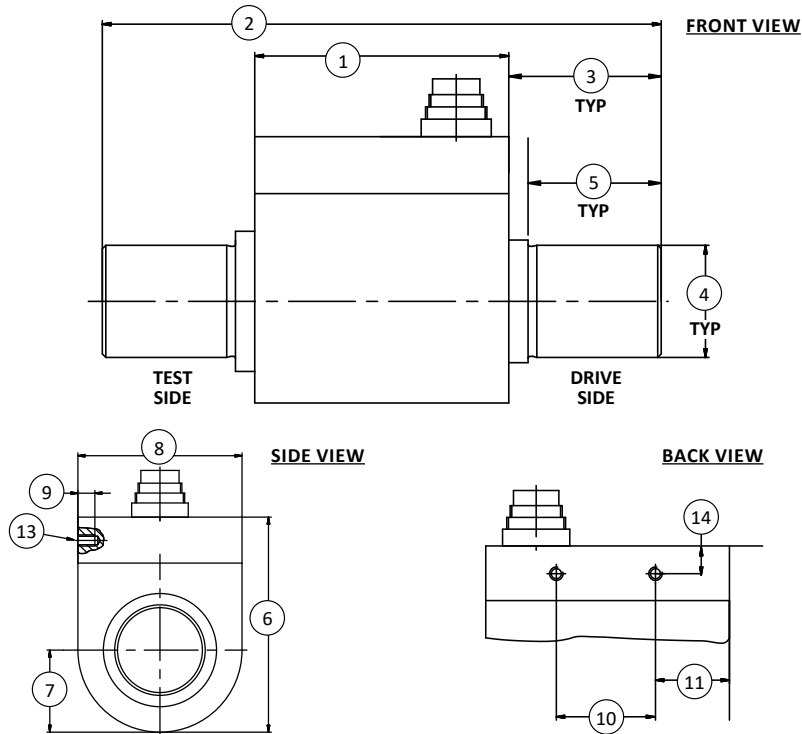


MODEL T6 (Shown)

OPTIONS

- Speed & angle measurement – 360 pulse TTL, 2-tracks 90° offset, available on capacities up to 1K Nm (8.85K lbf-in) only
- Speed output - 60 Pulse TTL, 1-track, available on capacities 2K Nm (17K lbf-in) & above
- +10V torque output
- RS485
- Keyed shafts - per Din 6885.1

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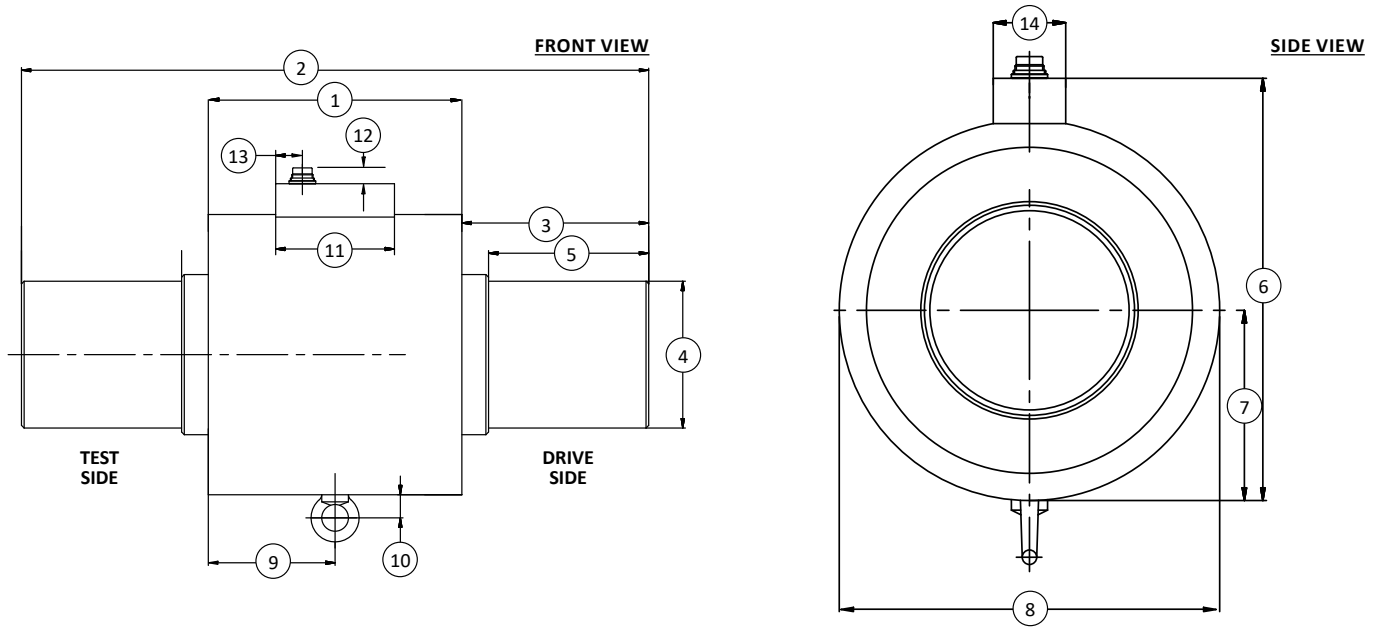
DIMENSIONS

See Drawing	CAPACITIES							
	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)
	5/0.5, 10/1	44.3/4.43, 88.5/8.85	20/2, 30/3	177/17.7, 265/26.5	50/5, 100/10	443/44.3, 885/88.5	200/20, 300/30, 500/50	1.77K/177, 2.7K/267, 4.43K/443
	mm	in	mm	in	mm	in	mm	in
(1)	71.5	2.81	71.5	2.81	71.5	2.81	80.5	3.17
(2)	107.5	4.31	111.5	4.39	147.5	5.81	159.5	6.28
(3)	18 TYP	0.71 TYP	20 TYP	0.08 TYP	38 TYP	0.08 TYP	39.5 TYP	0.06 TYP
(4)	*g6 TYP	0.31 TYP	18 h6 TYP	0.71 TYP	18 h6 TYP	0.71 TYP	32 h6 TYP	1.26 TYP
(5)	17 TYP	0.67 TYP	18 TYP	0.71 TYP	36 TYP	1.42 TYP	38 TYP	1.50 TYP
(6)	68.5	2.70	68.5	2.70	68.5	2.70	86.5	3.41
(7)	20	0.79	20	0.79	20	0.79	30.5	1.20
(8)	40	1.57	40	1.57	40	1.57	61	2.40
(9)	5	0.20	5	0.20	5	0.20	5	0.20
(10)	41.5	1.63	41.5	1.63	41.5	1.63	29.5	1.16
(11)	15	0.59	15	0.59	15	0.59	26	1.02
(12)	17.5	0.69	17.5	0.69	17.5	0.69	17	0.69
(13)	M4							
(14)	8.3 (±0.1)	0.33 (±0.004)	8.3 (±0.1)	0.33 (±0.004)	8.3 (±0.1)	0.33 (±0.004)	8.3 (±0.1)	0.33 (±0.004)

*5/0.1 Nm capacity has 8 mm g6 shaft and 110/11 Nm capacity has 10 mm g6 shaft

* U.S. dimensions and capacities are provided for conversion only. Standard product will be sold in kN and Metric dimensions. U.S. capacities available upon special request and at an additional cost.

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DIMENSIONS (CONTINUED)

See Drawing	CAPACITIES					
	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)
	1K/100	8.85K/885	2K/200, 5K/500	17.7K/1.77K, 44.3K/4.43K	10K/1K, 20K/2K	88.5K/8.85K, 177K/17K
	mm	in	mm	in	mm	in
(1)	130	5.12	135	5.31	190	7.48
(2)	262	10.31	377	14.84	470	18.50
(3)	66 TYP	2.60 TYP	121 TYP	4.76 TYP	140 TYP	5.51 TYP
(4)	50 h7 TYP	1.97 TYP	70 h7 TYP	2.76 TYP	110 h7 TYP	4.33 TYP
(5)	58 TYP	2.28 TYP	110 TYP	4.33 TYP	120 TYP	4.72 TYP
(6)	136	5.35	161	6.34	233	9.17
(7)	57.5	2.26	69.5	2.74	105	4.09
(8)	115	4.53	139	5.47	210	8.27
(9)	65.5	2.58	67.5	2.66	95	3.74
(10)	18	0.7	18	0.7	18	0.7
(11)	89	3.5	89	3.5	89	3.5
(12)	16.5	0.65	16.5	0.65	16.5	0.65
(13)	20	0.8	20	0.8	20	0.8
(14)	40	1.6	40	1.6	40	1.6

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PERFORMANCE PARAMETERS

CAPACITY		MAX RPM	SPRING RATE	MOMENT OF INERTIA (Kg•m ²)		MAX THRUST LOAD	
Nm	lbf-in		(NM/rad)	Drive Side	Test Side	N	lbf
5/0.5	44.3/4.43	15,000	6.5x10 ²	1.9x10 ⁻⁶	3.0x10 ⁻⁷	50	11.2
10/1	88.5/8.85	15,000	8.3x10 ²	1.1x10 ⁻⁵	9.8x10 ⁻⁶	50	11.2
20/2	177/17.7	15,000	8.3x10 ³	1.1x10 ⁻⁵	9.8x10 ⁻⁶	300	67.4
30/3	266/26.6	15,000	8.3x10 ³	1.1x10 ⁻⁵	9.8x10 ⁻⁶	1K	225
50/5	443/44.3	15,000	5.4x10 ³	1.3x10 ⁻⁵	1.1x10 ⁻⁵	1.6K	360
100/10	885/88.5	12,000	5.4x10 ³	1.3x10 ⁻⁵	1.1x10 ⁻⁵	2.6K	585
200/20	1.77K/177	12,000	3.4x10 ⁴	1.1x10 ⁻⁴	8.4x10 ⁻⁵	3.2K	719
300/30	2.66K/266	10,000	4.7x10 ⁴	1.1x10 ⁻⁴	8.5x10 ⁻⁵	4.2K	944
500/50	4.43K/443	10,000	3.4x10 ⁴	1.1x10 ⁻⁴	8.4x10 ⁻⁵	7.5K	16.9K
1K/100	8.85/885	7,000	2.0x10 ⁵	1.6x10 ⁻³	1.1x10 ⁻³	10K	22.5K
2K/200	17.7K/1.77K	5,500	5.1x10 ⁵	5.3x10 ⁻³	4.2x10 ⁻³	18K	4.05K
5K/500	44.3K/4.43K	5,500	7.2x10 ⁵	5.3x10 ⁻³	4.3x10 ⁻³	32K	7.19K
10K/1K	88.5K/8.85	5,000	3.1x10 ⁶	4.1x10 ⁻²	3.6x10 ⁻²	125K	28.1K
20K/2K	177K/17.7K	5,000	3.7x10 ⁶	4.1x10 ⁻²	3.7x10 ⁻²	200K	45K

ELECTRICAL CONNECTION

Pin	12-PIN ELECTRICAL CONNECTION	
	Function	Description
A	NC	-
B	Option Angle B	TTL
C	Signal (+)	±5 VDC
D	Signal (GND)	0 VDC
E	Supply (GND)	0 VDC
F	Supply (+)	12-28 V
G	Option Angle A	TTL
H	Signal 2 (+)	±5 VDC
J	NC	-
K	Cal. Control	L < 2.0V / H > 3.5V
L	NC	-
M	Shield	Transducer Housing