

T14 SLIP-RING ROTARY TORQUE TRANSDUCER (U.S. & METRIC)

FEATURES & BENEFITS

- Capacities from 1 to 500 Nm (8.85 to 4.4K lbf-in)
- Integrated speed and angle measurement option
- Keyed shaft
- mV/V output
- Small, compact size
- 360 pulse speed and angle measurement

SPECIFICATIONS

ACCURACY – (MAX ERROR)		
Combined error – %FS		±0.1
Nonrepeatability – %		±0.05
TEMPERATURE		
Effect on zero – %RO / deg	°C	±0.02
Effect on output – % / deg	°C	±0.01
Rated range	°C	+5 to +50
	°F	+41 to +122
Operating range	°C	-10 to +60
	°F	+14 to +140
ELECTRICAL		
Output – mV/V	1 Nm	±0.5
	8.85 lbf-in	
	2 - 500 Nm	±1.0
	17.7 - 4.43K lbf-in	
Excitation Voltage- VDC MAX		12
Bridge resistance – Ohm		350
Electrical connection – pin		12
MECHANICAL		
Safe overload – %RO		150
Shaft material		Alloy steel

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

STANDARD CONFIGURATION



MODEL T14 (Shown)

BRUSH LIFE

Speed (rpm)	CAPACITY					
	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)
	1, 2, 5, 10	8.85, 17.7, 44.3, 88.5	20, 50, 100	177, 443, 885	200, 500	1.77K, 4.43K
10	10 years		7.6 years		5.7 years	
100	138 days		62 days		55 days	
500	233 hours		166 hours		100 hours	
1000	83 hours		50 hours		33 hours	
1500	44 hours		27 hours		-	
2000	25 hours		-		-	

ELECTRICAL CONNECTION

Pin	T14 12-Pin with Encoder	
	Function	Description
A	Excitation (-)	0 V
B	Excitation (+)	2-12 V
C	Signal (+)	+ Output
D	Signal (-)	- Output
E	Excitation Angle	0 V
F	Excitation Angle	+5 V
G	Angle A	TTL
H	Angle B	TTL
J	Angle	0 V
K	100% R-Cal Option	Connect to Pin B
L	NC	-
M	Shield	-

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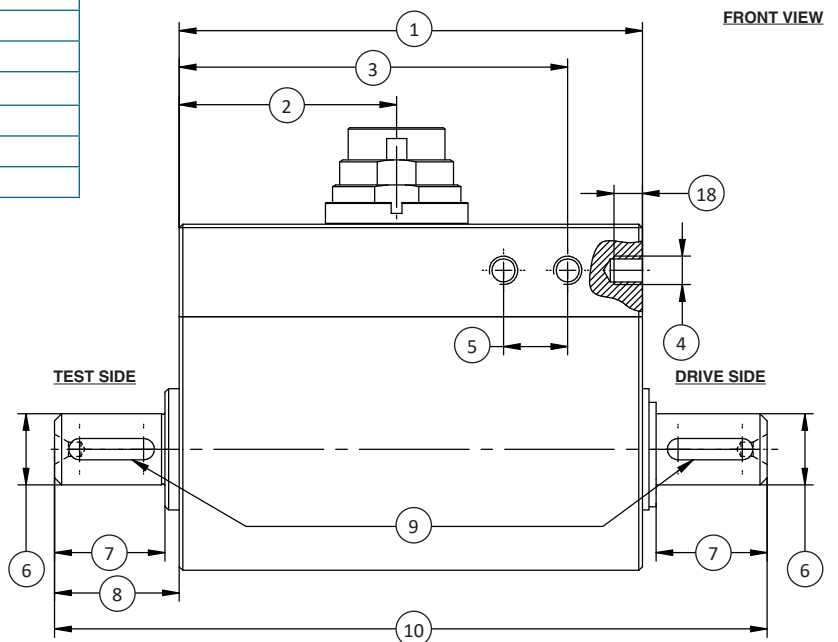
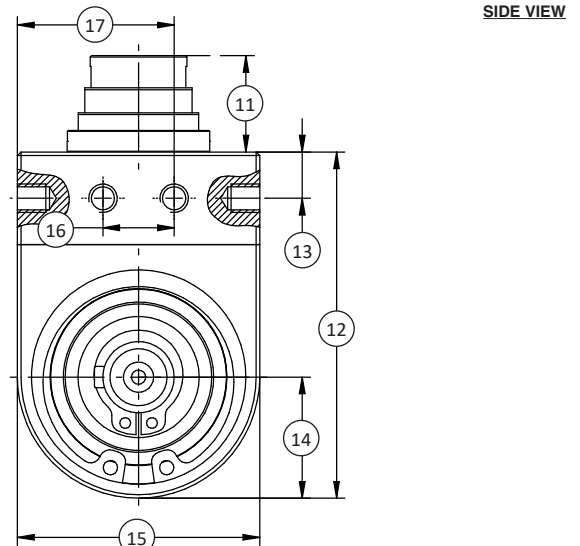
PERFORMANCE PARAMETERS

CAPACITY		MAX RPM MIN ^{*1}	SPRING RATE NM/rad	MOMENT OF INERTIA – J (Kg•m ²) ^{*2}		MAX THRUST LOAD ^{*2}		MAX SHEAR LOAD ^{*2}	
Nm	lbf-in			Drive Side	Test Side	N	lbf	N	lbf
1	8.85	2,000	2.2x10 ²	3.5x10 ⁻⁶	3.5x10 ⁻⁶	380	85.4	4.5	1
2	17.7	2,000	2.2x10 ²	3.5x10 ⁻⁶	3.5x10 ⁻⁶	380	85.4	4.5	1
5	44.3	2,000	5.6x10 ²	3.5x10 ⁻⁶	3.5x10 ⁻⁶	690	155	11	2.5
10	88.5	2,000	6.5x10 ²	3.5x10 ⁻⁶	3.5x10 ⁻⁶	780	175	13	2.9
20	177	1,500	3.4x10 ³	1.1x10 ⁻⁵	1.1x10 ⁻⁵	1,750	393	31	7
50	443	1,500	8.2x10 ³	1.2x10 ⁻⁵	1.2x10 ⁻⁵	3,300	742	80	18
100	885	1,500	1.3x10 ⁴	1.4x10 ⁻⁵	1.4x10 ⁻⁵	5,200	1.17K	150	33.7
200	1.77K	1,000	4.6x10 ⁴	1.1x10 ⁻⁴	1.1x10 ⁻⁴	8,500	1.91K	230	51.7
500	4.43K	1,000	7.4x10 ⁴	1.2x10 ⁻⁴	1.2x10 ⁻⁴	15,000	3.37K	560	125.9

*1 = Female cable connector in scope of delivery at first delivery *2 = Unsupported shaft

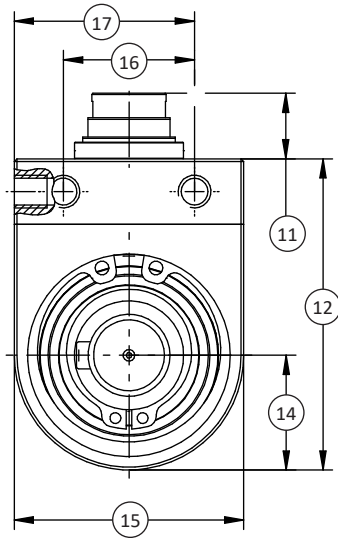
DIMENSIONS

See Drawing	CAPACITIES	
	Metric (Nm)	U.S. (lbf-in)
	1, 2, 5, 10	8.85, 17.7, 44.3, 88.5
	mm	in
(1)	65	2.56
(2)	30.5	1.2
(3)	54.5	2.15
(4)	M4 (6 X)	
(5)	9	0.35
(6)	∅ 10 g6	
(7)	15.5	0.61
(8)	17.5	0.28
(9)	DIN 6885-1	
(10)	100	3.94
(11)	13.5	0.53
(12)	48.6	1.91
(13)	6.5	0.26
(14)	17	0.67
(15)	34	1.34
(16)	10	0.39
(17)	22	0.87
(18)	4	0.16

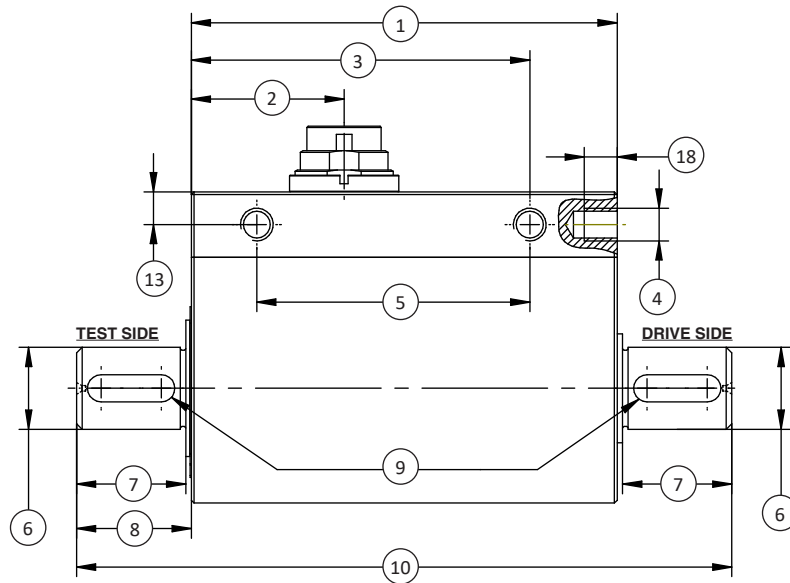


T14 SLIP-RING ROTARY TORQUE TRANSDUCER (U.S. & METRIC)

SIDE VIEW



FRONT VIEW



DIMENSIONS

See Drawing	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)
	20, 50	177, 443	100	885	200, 500	1770, 4425
	mm	in	mm	in	mm	in
(1)	78	3.07	78	3.07	92	3.62
(2)	28	1.1	28	1.1	43	1.69
(3)	62	2.44	62	2.44	79	3.11
(4)	M6 (4 X)		M6 (4 X)		M6 (6 X)	
(5)	50	1.97	50	1.97	66	2.6
(6)	∅ 15 g6	∅ 0.59 g6	∅ 18 g6	∅ 0.71 g6	∅ 32 g6	∅ 1.26 g6
(7)	20	0.79	24	0.94	40	1.57
(8)	21	0.83	25	0.98	44	1.73
(9)	DIN 6885-1		DIN 6885-1		DIN 6885-1	
(10)	120	4.72	128	5.04	180	7.08
(11)	12	0.47	12	0.47	12	0.47
(12)	57	2.24	57	2.24	70	2.76
(13)	6	0.24	6	0.24	6	0.24
(14)	21	0.83	21	0.83	28	1.1
(15)	42	1.65	42	1.65	56	2.2
(16)	24	0.94	24	0.94	24	0.94
(17)	33	1.3	33	1.3	40	1.57
(18)	6	0.24	6	0.24	10	0.39