

T11 BEARINGLESS ROTARY TORQUE TRANSDUCER (US & METRIC)

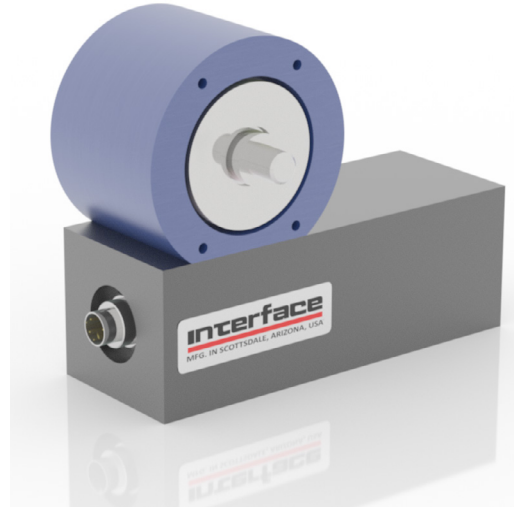
FEATURES & BENEFITS

- Capacities from 0.005 to 150 Nm (0.04 to 1.33K lbf-in)
- Bearingless
- High speed – to 30K RPM
- ±5 VDC output
- Very low range
- Eliminates bearing friction effects
- 10 kHz sample rate
- 12 to 28 VDC supply
- 16-bit resolution

SPECIFICATIONS

ACCURACY – (MAX ERROR)		
Combined Error – %FS		±0.1
Non-repeatability – %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
Supply Voltage – VDC		+12 to +28
Supply Current – mA		60
Electrical Connection – pin		8
Resolution – bit		16
Sample Rate – kHz		10
MECHANICAL		
Safe Overload – %RO		200
Max Speed – RPM		30K (see table)
Shaft Material		Stainless steel
Housing Material		Aluminum

STANDARD CONFIGURATION



MODEL T11 (Shown)

OPTIONS

- +10 VDC output
- Speed output – 6 Pulse TTL, 1-track

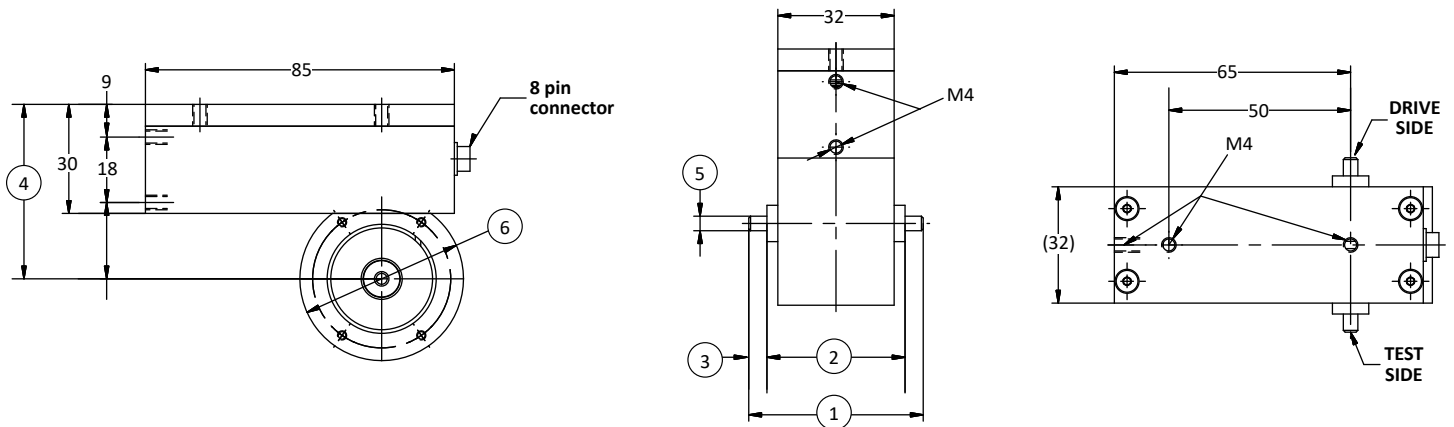
ELECTRICAL CONNECTION

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

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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
0.005	0.04	20,000	4.6x10 ¹	7.5x10 ⁻⁷	1.1x10 ⁻⁸	3	0.67
0.01	0.09	20,000	4.6x10 ¹	7.5x10 ⁻⁷	1.1x10 ⁻⁸	3	0.67
0.02	0.18	30,000	3.7x10 ¹	7.6x10 ⁻⁷	1.3x10 ⁻⁸	10	2.25
0.05	0.44	30,000	3.7x10 ¹	7.6x10 ⁻⁷	1.3x10 ⁻⁸	10	2.25
0.1	0.89	30,000	1.7x10 ¹	7.6x10 ⁻⁷	1.3x10 ⁻⁸	15	3.37
0.2	1.77	30,000	1.7x10 ¹	7.6x10 ⁻⁷	1.3x10 ⁻⁸	20	4.5
0.5	4.43	30,000	9.8x10 ¹	7.6x10 ⁻⁷	1.3x10 ⁻⁸	30	6.74
1	8.85	30,000	9.8x10 ¹	7.6x10 ⁻⁷	1.3x10 ⁻⁸	40	8.99
2	17.7	30,000	5.0x10 ²	9.1x10 ⁻⁷	8.3x10 ⁻⁸	50	11.2
5	44.3	30,000	5.0x10 ²	9.1x10 ⁻⁷	8.3x10 ⁻⁸	50	11.2
10	88.5	30,000	5.8x10 ²	9.7x10 ⁻⁷	1.5x10 ⁻⁷	50	11.2
20	177	20,000	4.9x10 ³	1.2x10 ⁻⁵	3.6x10 ⁻⁶	100	22.5
50	443	20,000	9.3x10 ³	1.2x10 ⁻⁵	3.9x10 ⁻⁶	200	45
100	885	20,000	9.3x10 ³	1.2x10 ⁻⁵	3.9x10 ⁻⁶	200	45
150	1.33K	20,000	1.1x10 ⁴	1.2x10 ⁻⁵	4.2x10 ⁻⁶	200	45



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)	Metric (Nm)	U.S. (lbf-in)
	0.005, 0.01	0.04, 0.62	0.02, 0.05, 0.1, 0.2, 0.5, 1	0.18, 0.44, 0.85, 1.77, 4.43, 8.85	2, 5	17.7, 44.3	10	88.5	20, 50, 100, 150	177, 443, 885, 1.33K
	mm	in	mm	in	mm	in	mm	in	mm	in
(1)	48	1.89	52	2.05	68	2.68	68	2.68	122	4.80
(2)	38	1.50	38	1.50	38	1.50	38	1.50	50	1.97
(3)	5	0.20	7	0.28	15	0.59	15	0.59	36	1.42
(4)	48	1.89	48	1.89	48	1.89	48	1.89	53	2.09
(5)	4g6	0.1573/0.1570	6g6	0.2361/0.2357	8g6	0.3148/0.3144	10g6	0.3935/0.3931	18g6	0.7084/0.7080
(6)	45	1.77	45	1.77	45	1.77	45	1.77	59.5	2.34

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