

## T1 TORQUE COUPLING ROTARY TORQUE TRANSDUCER (U.S. & METRIC)

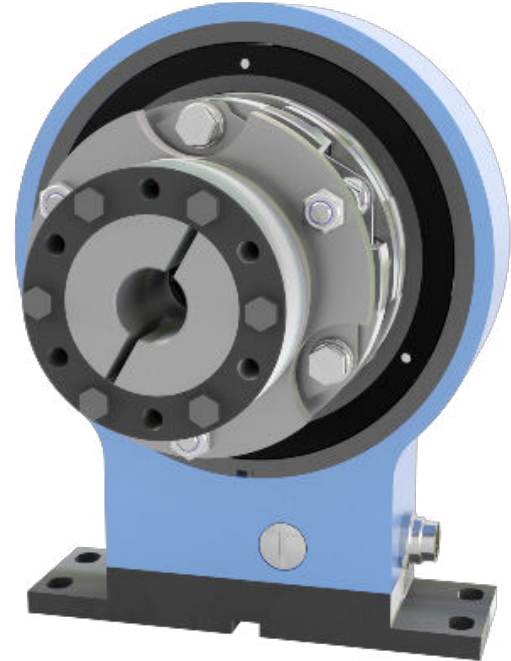
### FEATURES & BENEFITS

- Capacities from 50 to 1K Nm (443 to 8.85K)
- Shortest installed length
- Integrated double-flex disc coupling
- Hollow
- Bearingless non-contact design
- 16-bit resolution

### SPECIFICATIONS

ACCURACY – (MAX ERROR)		
Combined Error – %FS		±0.1
Nonrepeatability – %		±0.02
TEMPERATURE		
Effect on Zero – %RO / deg	°C	±0.02
Effect on Output – % / deg	°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, Hz		3 kHz, 3dB
Sample Rate – kHz		10
Calibration Signal – %FS		100
Supply Voltage – VDC		12 - 18
Supply Current – mA		< 100
Electrical Connection – pin		12
Resolution – bit		16
MECHANICAL		
Safe Overload – %RO		200
Ultimate Overload – %RO		300
Max Speed – rpm		13.6K – See table
Material		Alloy steel

### STANDARD CONFIGURATION



MODEL T1 (Shown)

### OPTIONS

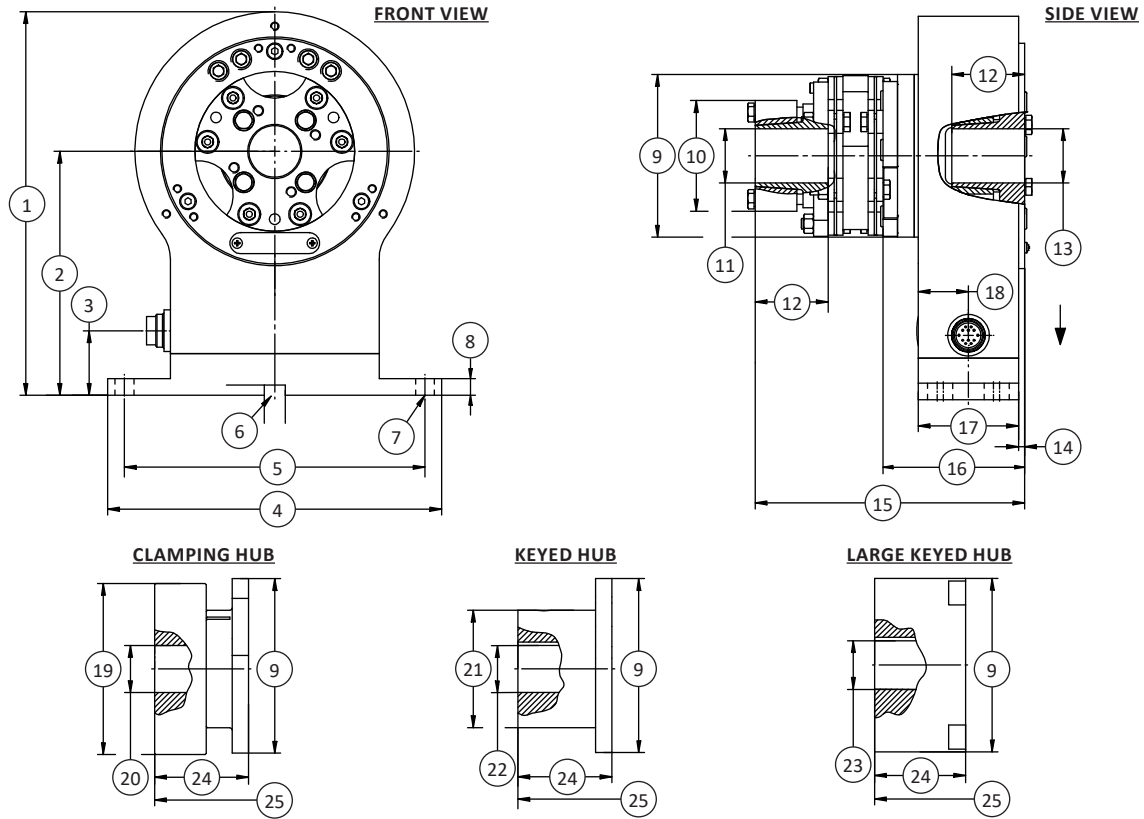
- Speed Measurement – 30 Pulse +5V TTL
- Keyway Side 1 (Reduced max diam dA)
- ±10 VDC Output
- RS485

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

Size	Nominal Torque		Max Revolution	*Max Thrust Load		*Axial Displacement Max		*Angular Displacement Max (°)	*Radial Displacement Max	Spring-rate (Nm/rad)	Moment of Inertia (kg•m <sup>2</sup> )	
	Nm	lbf-in		N	lbf	mm	in				Side 1	Side 2
16	50	443	13,600	150	38.7	0.25	0.01	0.4° (0.2° per disc pack)	0.05	4.9E+04	2.1E-03	1.0E-03
	100	885								6.2E+04		
	150	1.33K								6.2E+04		
25	150	1.33K	11,800	190	42.7	0.25	0.01		0.05	1.2E+05	4.0E-03	1.8E-03
	200	1.77K								1.2E+05		
	250	2.21K								1.2E+05		
40	200	1.77K	10,100	250	56.2	0.3	0.012		0.06	1.3E+05	6.4E-03	3.7E-03
	300	2.66K								1.3E+05		
	400	3.54K								1.3E+05		
64	400	3.54K	8,500	450	101	0.3	0.012		0.06	3.1E+05	9.3E-03	8.5E-03
	500	4.43K								3.1E+05		
	600	5.31K								3.1E+05		
100	600	5.31K	7,300	600	135	0.45	0.018	0.07	4.8E+05	1.9E-02	1.6E-02	
	750	6.64K							4.8E+05			
	1K	8.85K							4.8E+05			

T1 V2.7 02-02-2021

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### DIMENSIONS

See Drawing	(1)		(2)		(3)		(4)		(5)		(6)		(7)	(8)		(9)		
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		mm	in	mm	in	
Size	16	184	7.2	117 <sup>±0.1</sup>	4.6 <sup>±0.004</sup>	31	1.2	160	6.3	144 <sup>±0.1</sup>	9.7 <sup>±0.004</sup>	∅10 <sup>±0.1</sup> ↓ 5	∅0.4 <sup>±0.004</sup> ↓ 0.2	M8	8	0.3	77	3.0
	25	195	7.7	122.5 <sup>±0.1</sup>	4.8 <sup>±0.004</sup>	31	1.2	160	6.3	144 <sup>±0.1</sup>	9.7 <sup>±0.004</sup>	∅10 <sup>±0.1</sup> ↓ 5	∅0.4 <sup>±0.004</sup> ↓ 0.2	M8	8	0.3	89	3.5
	40	211	8.3	130.5 <sup>±0.1</sup>	5.1 <sup>±0.004</sup>	31	1.2	160	6.3	144 <sup>±0.1</sup>	9.7 <sup>±0.004</sup>	∅10 <sup>±0.1</sup> ↓ 5	∅0.4 <sup>±0.004</sup> ↓ 0.2	M8	8	0.3	104	4.1
	64	230	9.1	140 <sup>±0.1</sup>	5.5 <sup>±0.004</sup>	31	1.2	160	6.3	144 <sup>±0.1</sup>	9.7 <sup>±0.004</sup>	∅10 <sup>±0.1</sup> ↓ 5	∅0.4 <sup>±0.004</sup> ↓ 0.2	M8	8	0.3	123	4.8
	100	250	9.8	150 <sup>±0.1</sup>	5.9 <sup>±0.004</sup>	31	1.2	160	6.3	144 <sup>±0.1</sup>	9.7 <sup>±0.004</sup>	∅10 <sup>±0.1</sup> ↓ 5	∅0.4 <sup>±0.004</sup> ↓ 0.2	M8	8	0.3	143	5.6

See Drawing	(10)		(11)		(12)		(13)		(14)		(15)		(16)		(17)		
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Size	16	53	2.1	14-26	0.6-1.0	35	1.4	14-26	0.6-1.0	3	0.1	129	5.1	68	2.7	48	1.9
	25	64	2.5	20-36	0.8-1.4	40	1.6	20-36	0.8-1.4	3	0.1	134.6	5.3	68	2.7	48	1.9
	40	74	2.9	25-45	1.0-1.8	45	1.8	25-45	1.0-1.8	3	0.1	143.8	5.7	68	2.7	48	1.9
	64	84	3.3	30-45	1.2-1.8	50	2.0	30-45	1.2-1.8	3	0.1	155.2	6.1	68	2.7	48	1.9
	100	104	4.1	35-55	1.4-2.2	55	2.2	35-55	1.4-2.2	3	0.1	160.2	6.3	68	2.7	48	1.9

See Drawing	(18)		(19)		(20)		(21)		(22)		(23)		(24)		(25)		
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Size	16	24	0.9	73	2.9	20-35	0.8-1.4	50	2.0	16-32	0.6-1.3	30-45	1.2-1.8	40	1.6	121	4.8
	25	24	0.9	84	3.3	22-40	0.9-1.6	60	2.4	20-40	0.8-1.6	35-55	1.4-2.2	45	1.8	139.6	5.5
	40	24	0.9	97	3.8	25-45	1.0-1.8	70	2.8	25-50	1.0-2.0	45-65	1.8-2.6	55	2.2	153.8	6.1
	64	24	0.9	115	4.5	28-55	1.1-2.2	80	3.1	30-55	1.2-2.2	55-75	2.2-3.0	65	2.6	170.2	6.7
	100	24	0.9	135	4.5	32-68	1.3-2.7	100	3.9	35-70	1.4-2.8	65-95	2.6-3.7	75	3.0	180.2	7.1

T1 V2.7 02-02-2021