

Model T12 Square Drive Torque Transducer

- Capacities from 0.10 to 5K Nm (0.88 to 44K lb-in)
- ±5 VDC output
- 12 to 28 VDC supply
- Contactless - no slip rings



OPTIONS

Angle measurement - 360 pulse TTL,
 2-tracks 90° offset, available on capacities up to
 1,000 Nm only
 +10 V torque output
 Enhanced accuracy – combined error ±0.1%
 RS485 output (requires enhanced accuracy)

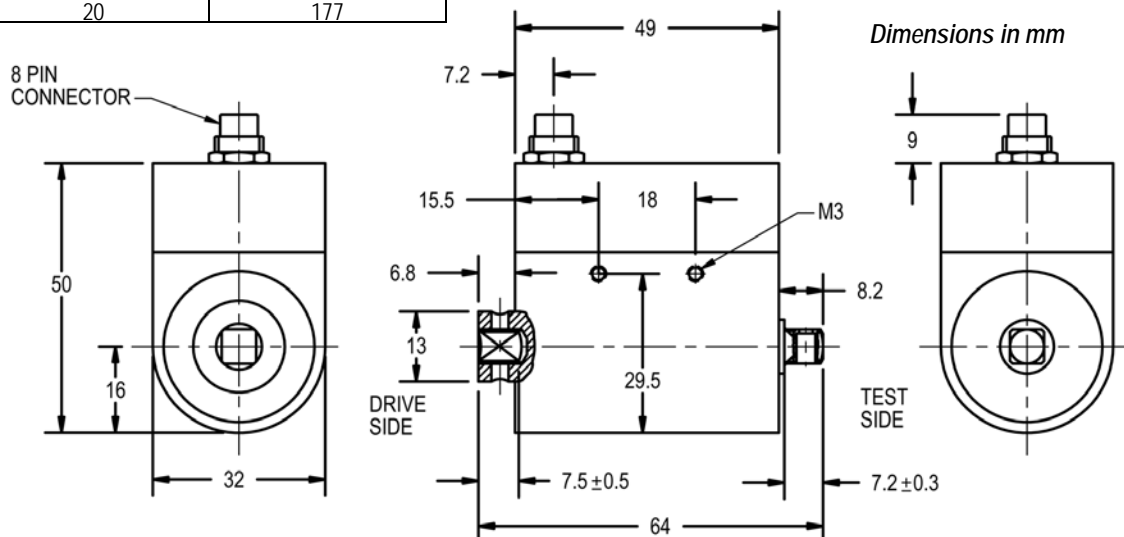
Model T12 Square Drive Torque Transducer – Capacities 0.1 to 20 Nm – 1/4" Drive

DIMENSIONS

See Drawing	1/4" Drive – Nominal Torque	
	CAPACITY (Nm)	EQUIVALENT (lb-in)
	0.1	0.85
	0.2	1.77
	0.5	4.43
	1	8.85
	2	17.7
	5	44.3
	10	88.5
	15	133
	20	177

SPECIFICATIONS

ACCURACY – (MAX ERROR)	Standard	Enhanced
Combined Error-% FS	±0.25	±0.1
Nonrepeatability-%	±0.05	±0.02
TEMPERATURE		
Effect on Zero- % RO/°C	±0.05	±0.02
Effect on Output-%/°C	±0.02	±0.01
Rated Range-°C	+5 to +45	+5 to +45
Operating Range-°C	0 to +60	0 to +60
ELECTRICAL		
Torque Output-VDC	±5	±5
Bandwidth, Hz	1 kHz-3dB	3 kHz-3dB
Calibration Signal-%RO	100	100
Supply Voltage-VDC	12 to 28	12 to 28
Supply Current-mA	60	60
Electrical Connection	8 or 12-pin	8 or 12-pin
Resolution	12-bit	16-bit
Sample Rate-kHz	10	10
MECHANICAL		
Safe Overload-% RO	200	200
Cycle Load Rating-% RO	±70 peak	±70 peak
Max Speed-rpm	See Table	See Table
Housing	Aluminum	Aluminum

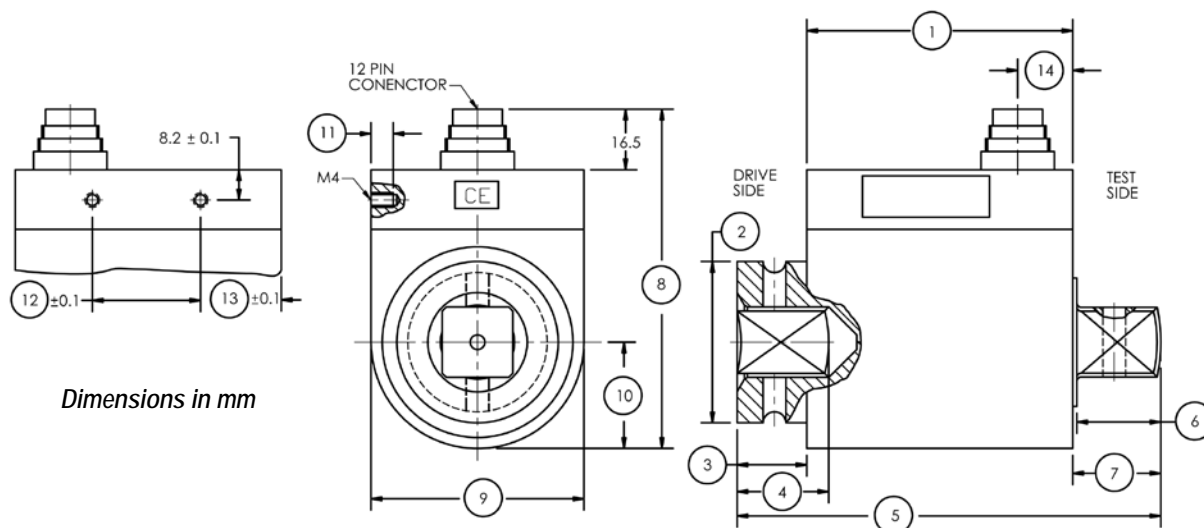


T12 050511

Model T12 Square Drive Torque Transducer –
Capacities 35 to 1,000 Nm

DIMENSIONS

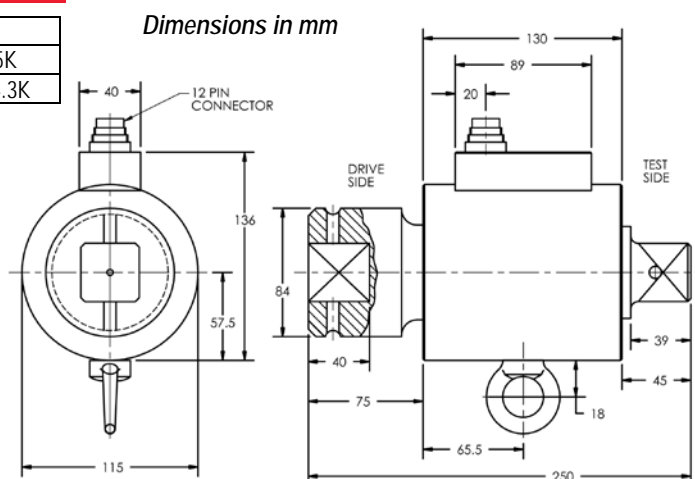
Capacity (Nm)	Nominal Torque							
	35, 50, 63		100, 160, 200		300, 500		1K	
	Equivalent (lb-in)		885, 1.41K, 1.77K		2.26K, 4.43K		8.85K	
Square	3/8"		1/2"		3/4"		1"	
	inch	mm	inch	mm	inch	mm	inch	mm
(1)	2.82	71.5	2.82	71.5	2.86	72.5	2.86	72.5
(2)	0.87	22	1.17	29.8	1.73	44	2.13	54
(3)	0.43	11	0.51	13	0.75	19	1.14	29
(4)	0.44	11.2	0.63	15.9	0.94	23.9	1.13	28.6
(5)	3.72	94.5	3.96	100.5	4.55	115.5	5.14	130.5
(6)	0.40	10.7	0.61	15.4	0.90	22.9	1.09	27.6
(7)	0.47	12	0.63	16	0.95	24	1.14	29
(8)	2.32	59	2.32	59	2.99	76	2.99	76
(9)	1.58	40	1.58	40	2.29	58	2.29	58
(10)	0.79	20	0.79	20	1.14	29	1.14	29
(11)	0.20	5	0.20	5	0.24	6	0.24	6
(12)	1.64	41.5	1.64	41.5	1.16	29.5	1.16	29.5
(13)	.591	15	.591	15	0.87	22	0.87	22
(14)	0.47	12	0.47	12	0.59	15	0.59	15



Model T12 Square Drive Torque Transducer –
Capacities 2K to 5K Nm – 1 1/2" Drive

DIMENSIONS

See Drawing	1 1/2" Drive – Nominal Torque		
	Capacity (Nm)	2K	5K
	Equivalent (lb-in)	17K	44.3K



T12 SQUARE DRIVE TORQUE TRANSDUCER PERFORMANCE PARAMETERS

CAPACITY (Nm)	SQUARE (INCH)	MAX RPM	SPRINGRATE (Nm/rad)	MOMENT OF INERTIA , J (Kgx ^m ²)		MAX THRUST LOAD (N)
				Drive Side	Test Side	
0.1	1/4	3,000	1.8x10 ¹	2.1x10 ⁻⁶	2.3x10 ⁻⁷	15
0.2	1/4	3,000	1.8x10 ¹	2.1x10 ⁻⁶	2.3x10 ⁻⁷	20
0.5	1/4	3,000	1.2x10 ²	2.1x10 ⁻⁶	2.3x10 ⁻⁷	30
1	1/4	4,000	1.2x10 ²	2.1x10 ⁻⁶	2.3x10 ⁻⁷	40
2	1/4	4,000	3.0x10 ²	2.1x10 ⁻⁶	2.4x10 ⁻⁷	50
5	1/4	4,000	3.5x10 ²	2.1x10 ⁻⁶	2.4x10 ⁻⁷	50
10	1/4	4,000	7.3x10 ²	2.1x10 ⁻⁶	2.7x10 ⁻⁷	50
15	1/4	4,000	7.3x10 ²	2.1x10 ⁻⁶	2.7x10 ⁻⁷	100
20	1/4	4,000	7.3x10 ²	2.1x10 ⁻⁶	2.7x10 ⁻⁷	100
35	3/8	3,000	8.6x10 ³	9.8x10 ⁻⁶	1.1x10 ⁻⁵	1,300
50	3/8	3,000	1.0x10 ⁴	9.9x10 ⁻⁶	1.1x10 ⁻⁵	1,600
63	3/8	3,000	1.1x10 ⁴	1.0x10 ⁻⁵	1.1x10 ⁻⁵	1,900
100	1/2	2,500	1.2x10 ⁴	1.6x10 ⁻⁵	1.1x10 ⁻⁵	2,600
160	1/2	2,500	1.5x10 ⁴	1.6x10 ⁻⁵	1.2x10 ⁻⁵	3,200
200	1/2	2,500	1.5x10 ⁴	1.6x10 ⁻⁵	1.2x10 ⁻⁵	3,200
300	3/4	2,500	8.8x10 ⁴	9.8x10 ⁻⁵	7.7x10 ⁻⁵	5,500
500	3/4	2,500	8.8x10 ⁴	9.8x10 ⁻⁵	7.7x10 ⁻⁵	7,500
1,000	1	1,500	1.3x10 ⁵	2.1x10 ⁻⁴	1.1x10 ⁻⁴	10,000
2,000	1 1/2	1,000	2.1x10 ⁵	3.5x10 ⁻³	1.8x10 ⁻³	18,000
3,000	1 1/2	1,000	2.3x10 ⁵	3.5x10 ⁻³	1.8x10 ⁻³	22,500
5,000	1 1/2	1,000	2.7x10 ⁵	3.5x10 ⁻³	1.8x10 ⁻³	32,000

ELECTRICAL CONNECTION

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

12-Pin Electrical Connection			12-Pin RS485 Option	
Pin	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	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 / H > 3.5V	NC	-
L	NC	-	RS485 Option	RS485 (A)
M	Housing		Housing	