

## TLSM Rotary Torque Transducer

Non-contacting in-line rotary torque transducer with bearings.

The TLSM is a foot-mounted version with the same capacities and options as the TLS series.

The TLSM series of rotary torque transducers provide accurate torque measurement at speeds of up to 15,000 rpm.

The range is utilised in a number of applications including test bench applications, research and development, process measurement and control, machining centres, tool engineering and special mechanical engineering applications. Special versions are also available on request.

The TLSM is available in a variety of sizes ranging from 0.1Nm up to 20,000Nm.

For pricing, availability or further technical information about the TLSM series, contact us via our website at [www.crane-electronics.com](http://www.crane-electronics.com) or get in touch via email at [sales@crane-electronics.com](mailto:sales@crane-electronics.com).

### Technical Specification

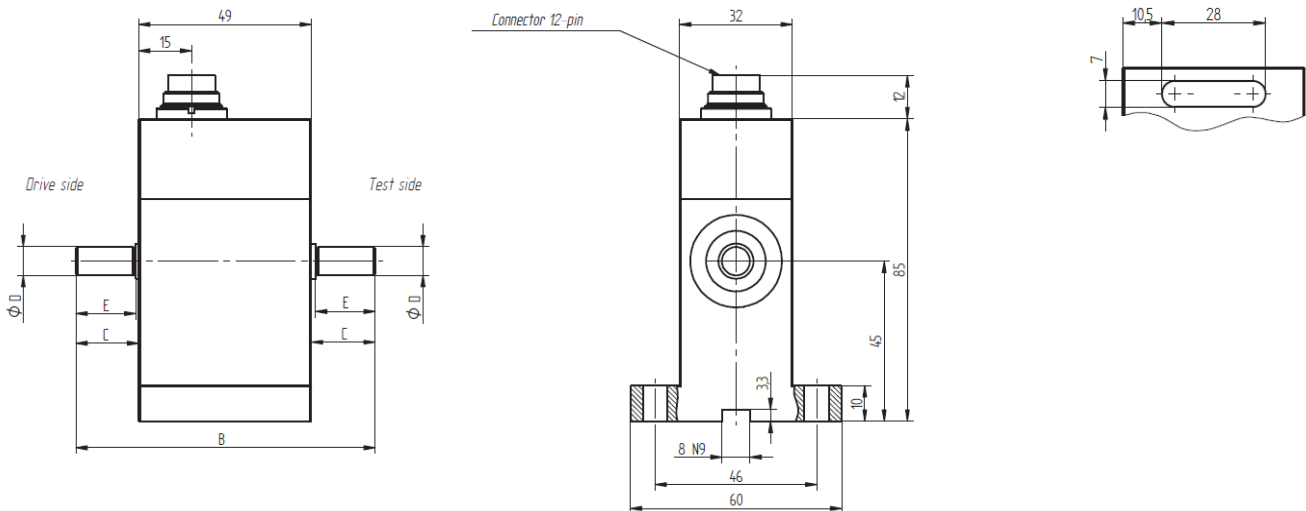
<b>Accuracy Class:</b>	0.1%
<b>Operating Temp:</b>	0 to +60°C
<b>Optional Accuracy Class:</b>	0.2% (upto 1kNm)
<b>Zero Shift:</b>	< ±0.01%/°C
<b>Full Scale Analogue Output:</b>	0±5V
<b>Supply Voltage:</b>	12 to 28VDC
<b>Analogue Output Option:</b>	0±10V
<b>Supply Current:</b>	<60mA
<b>Repeatability (class 0.1):</b>	±0.02% fs
<b>Overload Capacity:</b>	150% fs
<b>Repeatability (class 0.2):</b>	±0.04% fs
<b>Protection:</b>	IP50
<b>Span Shift:</b>	<±0.01%/°C

Nominal Torque (Nm)	Limit Speed (min <sup>-1</sup> )	Springrate (Nm/rad)	Mass Moment of Inertia (kg/m <sup>2</sup> ) <sup>2</sup>		Limit Thrust Load (N)	Limit Shear Force (N)
			Drive Side	Test Side		
0.1	15000	1.8E+01	1.9E-06	2.8E-07	30	0.9
0.2	15000	1.8E+01	1.9E-06	2.8E-07	30	1.2
0.5	15000	1.2E+02	1.9E-06	2.8E-07	30	2.9
1	15000	1.2E+02	2.0E-06	2.8E-07	30	2.9
2	12000	4.4E+02	1.0E-05	8.1E-06	62	8.5
5	12000	4.4E+02	1.0E-05	8.1E-06	62	8.5
10	12000	1.7E+03	1.0E-05	8.2E-06	62	28
20	12000	4.5E+03	1.2E-05	9.9E-06	62	43
30	12000	4.5E+03	1.2E-05	9.9E-06	62	65
50	12000	8.5E+03	1.3E-05	1.2E-05	62	64
100	12000	8.4E+03	1.3E-05	1.2E-05	62	64
200	7000	9.2E+04	1.3E-05	8.0E-04	760	350
500	7000	9.2E+04	1.3E-05	8.0E-04	760	420
1000	7000	3.1E+05	1.6E-03	1.1E-03	760	800
2000	5500	7.2E+05	5.3E-03	4.3E-03	1100	860
5000	5500	8.0E+05	5.4E-03	4.3E-03	1100	860
10000	3500	3.1E+06	4.0E-02	3.7E-02	2800	2300
20000	3500	3.7E+06	4.0E-02	3.8E-02	2800	2300

2 - Without Speed/Angle measurement option.

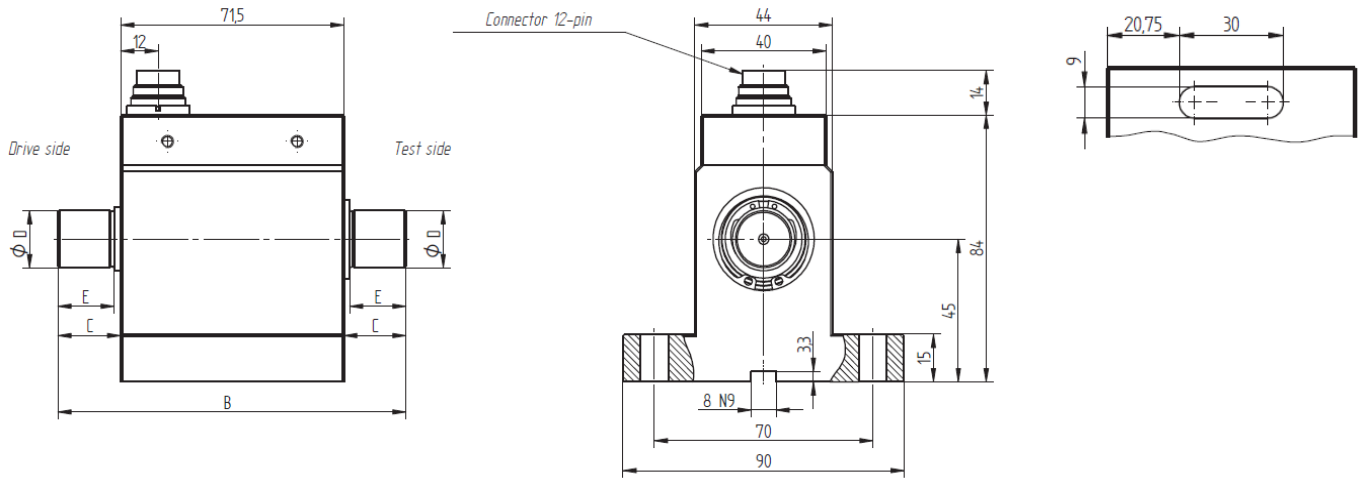
## Dimensions

TLSM Dimensions 0.1 - 1.0 (Optional metric keyways are to BS4235 and DIN6885/1)



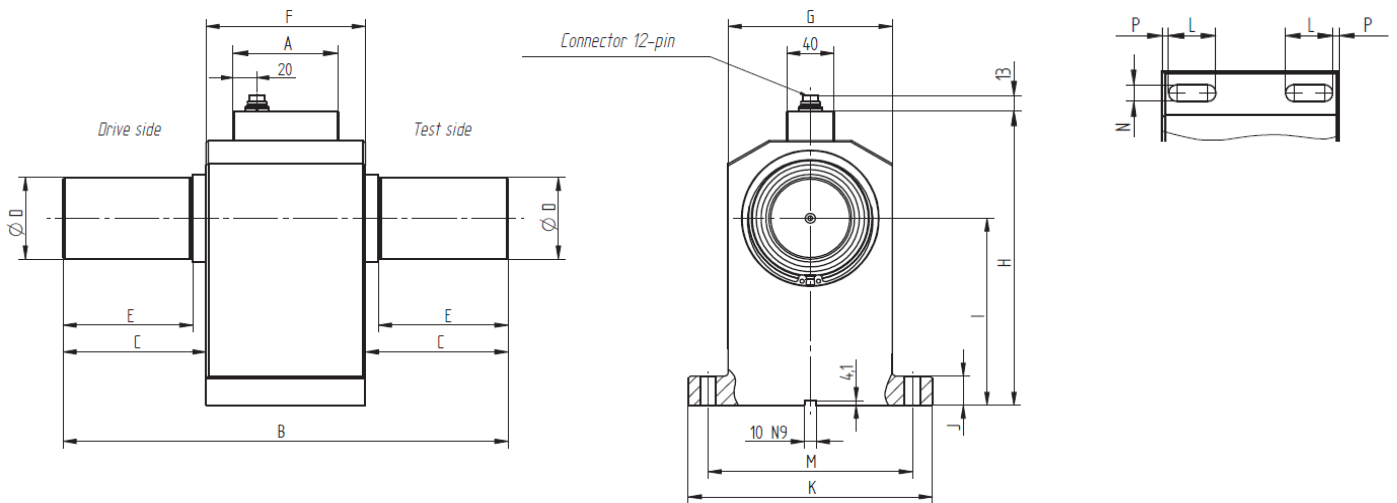
Nominal Torque (Nm)	B	C	D	E
0.1/0.2/0.5/1	85	18	8 g6	17

**TLSM Dimensions 2 - 100** (Optional metric keyways are to BS4235 and DIN6885/1)



Nominal Torque (Nm)	B	C	D	E
2 / 5	107.5	18	8 g6	17
10	107.5	18	10 g6	17
20 / 30	111.5	20	18 g6	18
50 / 100	147.5	38	18 g6	36

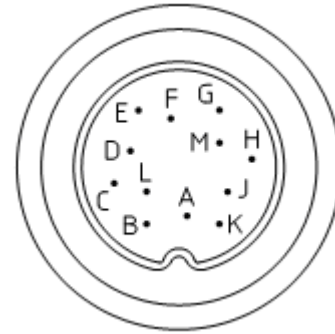
**TLSM Dimensions 200 - 20000** (Optional metric keyways are to BS4235 and DIN6885/1)



Nominal Torque (Nm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
200 / 500	89	217	43.5	32 g6	38	130	115	190.4	112	20	175	30	145	11	5
1000	89	262	66	50 g6	58	130	115	190.4	112	20	175	30	145	11	5
2000 / 5000	89	377	121	70 g6	110	135	139	251.5	160	25	207	36	173	13	5
10000 / 20000	89	470	140	110 g6	120	190	210	343	215	40	300	45	260	17	15

## Wiring Details

PIN	Designation	Value
A	N/C	
B	Angle Signal (Option)	5V TTL
C	Torque Output	±5V hi (Optional ±10V)
D	Torque Output Com	0V
E	PSU	0V
F	PSU	12 - 28Vdc
G	Angle Signal (Option)	5V TTL
H	N/C	
J	N/C	
K	Calibration	Off 0 to 2V On 3.5 to 30V
L	N/C	
M	Cable Screen	



### Locations

