

Lebow® Products Inc.

Model 1700 Series

TORQUE TRANSDUCERS

These transducers are suitable for laboratory applications as well as industrial environments because of their compact size and multiple mounting options. The contactless transmission of supply voltage and measuring signal enables continuous operation with low maintenance.



Special features:

- ✓ built-in instrumentation amplifier (±10 V output)
- ✓ contactless
- ✓ single supply voltage
- ✓ compact size
- ✓ wide application range

Options:

- ✓ Speed Sensing (rpm)
- ✓ Angle Encoder

Technical Specifications:

	1700	1701	1702	1703	1706
Capacity Range:	0.02;0.05 Nm	0.1;0.2;0.5;1;2 Nm	5;10;20 Nm	50;100;200;300 Nm	500;1000;1500 Nm
Supply Voltage:	12 VDC ±10%	12 VDC ±10%	12 VDC ±10%	12 VDC ±10%	12 VDC ±10%
Current Consumption:	approx. 160 mA	approx. 160 mA	approx. 250 mA	< 200 mA	approx 250 mA
Rise Time:	2 ms	2 ms	2 ms	2 ms	1 ms (1Hz)
Limit Frequency - 3dB	200 Hz	200 Hz	200 Hz	200 Hz	---
Voltage Output:	0 to ±10V	0 to ±10V	0 to ±10V	0 to ±10V	0 to ±10V
Internal Resistance:	100Ω	100Ω	100Ω	100Ω	100Ω
Ripple:	< 100mVpp	< 100mVpp	< 100mVpp	< 100mVpp	< 100mVpp
Overall Accuracy:	<0.25%	<0.25%	<0.25%	<0.25%	<0.25%
Operating Temperature:	0 - 60°C	0 - 60°C	0 - 60°C	0 - 60°C	0 - 60°C
Compensated Temperature Range:	5 - 45°C	5 - 45°C	5 - 45°C	5 - 45°C	5 - 45°C
Temperature error					
Zero Point:	0.02%/K	0.02%/K	0.02%/K	0.02%/K	0.02%/K
Sensitivity:	0.01%/K	0.01%/K	0.01%/K	0.01%/K	0.01%/K
Mechanical Overload:	100%	100%	100%	100%	100%
Weight:	approx. 200g	approx. 200g	approx. 600g	approx. 1300g	approx 4500g
Max. Sensor Speed (rpm):	15,000	37,000	19,000	13,500	7,900

Options

Speed Sensing (rpm):

(n)
 speed max.: 10000 rpm
 Output: open collector
 internal pull up: 100kΩ (5V level)
 external pull up: 24V max
 I max: 20mA
 Pulses/rev.: 60

Angle:

(w)
 speed max.: 3000 rpm
 Pulses/rev.: 360
 Resolution: 1°
Phase Shift: Quadrature

Model 1701				
Range	spring constant C [Nm/rad]	Moment of Inertia I [kgm2]	allowable axial load [N]	allowable load [N]
0...0.1Nm	20	1x10 ⁻⁶	2	2
0...0.2Nm	20	1x10 ⁻⁶	3	3
0...0.5Nm	20	1x10 ⁻⁶	3	3
0... 1Nm	43	1x10 ⁻⁶	4	4
0... 2Nm	103	1x10 ⁻⁶	5	5
0... 5Nm	355	1x10 ⁻⁶	5	5

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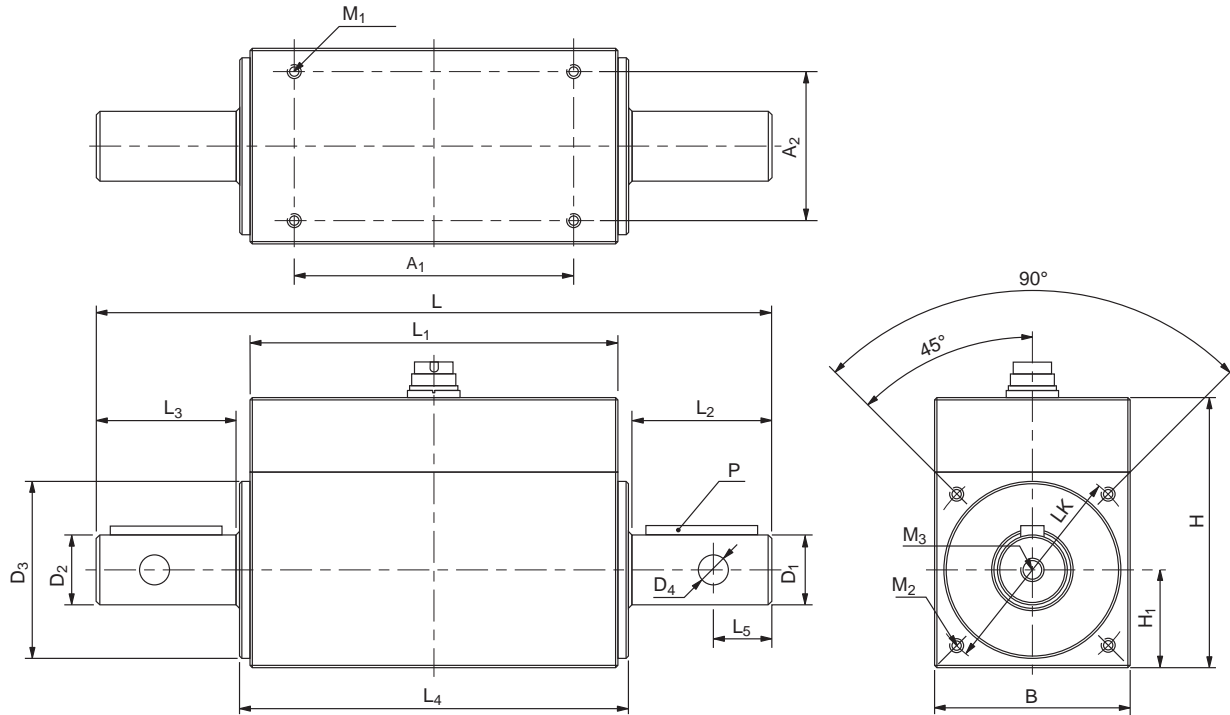
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Model 1700 Series

TORQUE TRANSDUCERS



Model	1700	1701	1702	1703	1706	
Capacity (Nm)	0.02 / 0.05	0.1 / 0.2 0.5 / 1	2	5 / 10 / 20	50 / 100 200 / 300 500 / 1000 1500	
Dimensions						
L (mm)	70	89	95	145	170	270
B (mm)	32	28		42	56	88
H (mm)	46	48,5		58	73	104
H1 (mm)	14	14		21	28	44
D1 g6 (mm)	Ø3	Ø5	Ø6	Ø15	Ø26	Ø45
D2 g6 (mm)	Ø3	Ø8	Ø8	Ø15	Ø26	Ø45
D3 -0,1 (mm)	Ø15	Ø27		Ø38	Ø54	Ø80
D4 H7 (mm)	---	Ø2	Ø2.5	---	---	---
LK ±0,1 (mm)	*	Ø32		Ø46	Ø65	Ø98
L1 (mm)	51	62		79	72	84
L2 (mm)	7.5	10	14	30	45	85
L3 (mm)	7.5	11	14	30	45	85
L4 (mm)	55	66		83	78	90
L5 -0,1 (mm)	---	4	5	---	---	---
A1 (mm)	38	40		60	42	46
A2 (mm)	24	22		32	40	70
M1	M2.5 x 5 DEEP	M3 x 5 DEEP		M3 x 6 DEEP	M4 x 8 DEEP	M6 x 12 DEEP
M2	M2.5 x 5 DEEP	M3 x 6 DEEP		M3 x 6 DEEP	M4 x 8 DEEP	M6 x 12 DEEP
M3	---	---		---	M8 x 15 DEEP	M10 x 20 DEEP
P (DIN6885)	---	---		2 x A5x5x25	2 x A8x7x40	4 x A14x9x80

Dimensions are in mm

* Consult factory.

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