

2 - Range - Torque Transducer Type DRDL with Speed or Angle detection



Special features:

- no maintenance needed
- contactless
- build-in measurement amplifier
- single supply voltage
- wide application range
- 2 ranges
- small outline
- low moment of inertia
- speed detection (option)
- angle detection (option)

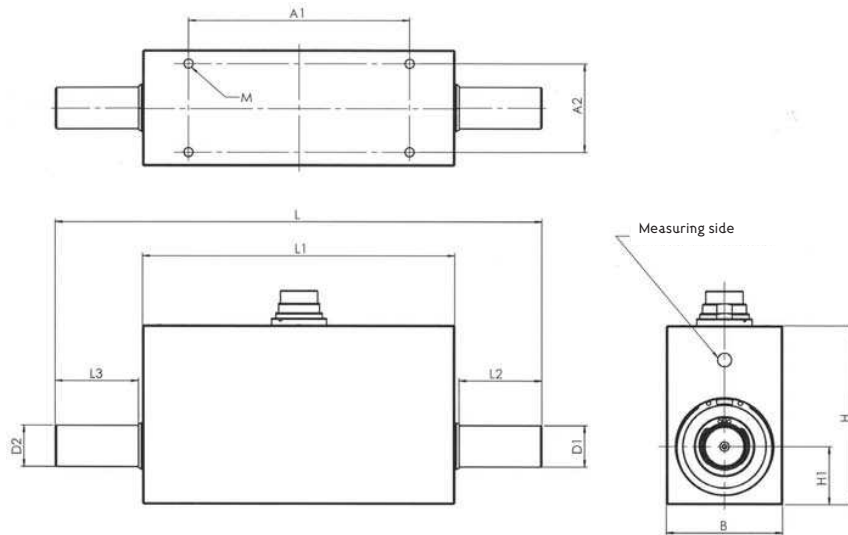
Description:

The torque transducers series DRDL are suitable for applications in laboratory as well as in industrial environment because of their compact outline. The contactless transmission of supply voltage and measuring signal enables continuous operation with low wear out and no service.

For varying applications these transducers are available also with optional speed or angle detection. The integrated measurement amplifier is supplied with 12V DC and outputs an analog signal of 0 to $\pm 10V$ per range, which is galvanic isolated against supply voltage.

Supply Voltage:	12V DC $\pm 10\%$	Option Speed:	(n)
Current Consumption:	approx. 200mA	rev. max:	up to 10 000 rpm *
Rise Time 10-90%	2ms	Output:	Open- Collector
Limit Frequency -3dB	200Hz	Internal Pull Up	10k Ω (5 V level)
Voltage Output:	0 to $\pm 10V$	External Pull Up	24 V max / 20mA
Internal Resistance:	100 Ω	Pulses/rev.:	60
Ripple:	< 100mVss	Option Angle:	(w)
Nonlinearity:	< 0,1%	rev. max:	up to 3 000 min ⁻¹ **
Hysteresis:	< 0,1%	Output:	Open- Collector
Maximum Measurement Fault:	0,1% (of full scale)	Internal Pull Up	10k Ω (5 V level)
Operating Temperature:	0-60°C	External Pull Up	24 V max / 20mA
Compensated Temperature Range:	5-45°C	Pulses/rev.:	360
Temperature Fault		Resolution:	1°
Zero Point:	0,02%/K	Phase shift:	Channel A 90° at right spin of propulsion side
Sensitivity:	0,01%/K	With suitable external wiring	* 20.000 min ⁻¹ ** 15.000 min ⁻¹ (or speed max.)
Mechanical Overload:	100%		
Internal Protection:	IP 40 DIN 40050		
Connection:	12 pin Connector		

Mechanical Dimensions:



Type	DRDL-I	DRDL-II	DRDL-III	DRDL-IV
1.Measurement range: [Nm]	0,5/1/2	5/10/20/50	50/100/200/300	500/1000/1500
2.Measurement range: [Nm]	free choice on order (from 1/10 to 1/2 of the 1. measurement range)			
Dimensions:	Different measurement ranges on demand			
L [mm]	108	176	184	280
L1 [mm]	76	113	92	107
L2 [mm]	14	30	45	85
L3 [mm]	14	30	45	85
B [mm]	44	42	60	97
H [mm]	65	65	75	106
H1 [mm]	20	21	28	45
D1 g6 [mm]	Ø6	Ø15	Ø26	Ø45
D2 g6 [mm]	Ø6	Ø15	Ø26	Ø45
A1 [mm]	60	80	70	70
A2 [mm]	32	32	45	70
M	M3 x 6	M4 x 8	M5 x 10	M6 x 15
General tolerances DIN 2768-m				
Weight approx.: [g]	420	800	1500	5600
rev. max.[rpm]	36000	19000	13500	7900

Technical Data:

The values for axial load and radial load refer to the non-fixed case

Type	1. Measurement range [Nm]	Spring Constant C [Nm/rad]	Mass Moment of Inertia J [g·cm ²]	Max. Axial Load [N]	Max. Radial Load [N]
DRDL-I	0,5	16	16	88	1
	1	38	18	288	2,4
	2	66	18	311	3,8
DRDL-II	5	230	400	585	5,5
	10	520	400	915	11
	20	1100	400	1300	21
	50	2350	400	1300	53
DRDL-III	50	4100	1800	1820	40
	100	9800	1800	1820	80
	200	21 x 10 ³	1800	1820	160
	300	30 x 10 ³	1800	1820	235
DRDL-IV	500	80 x 10 ³	10625	4560	210
	1000	160 x 10 ³	10680	4560	415
	1500	200 x 10 ³	10740	4560	620

Ordering example: DRDL-III-100-10-n

Torque transducer measurement range 100 Nm / 10 Nm, option speed detection

Available Accessories:

Measuring cable, counterplug , supply and display unit, couplings

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