

Rotating Torque Sensor DR-2600 (contactless) with Rated Torque from 0.005 ... 150 N·m



This sensor has a contactless and digital signal transmission from rotor to stator without signal falsification of the measurement data - it is therefore highly accurate and maintenance-free.

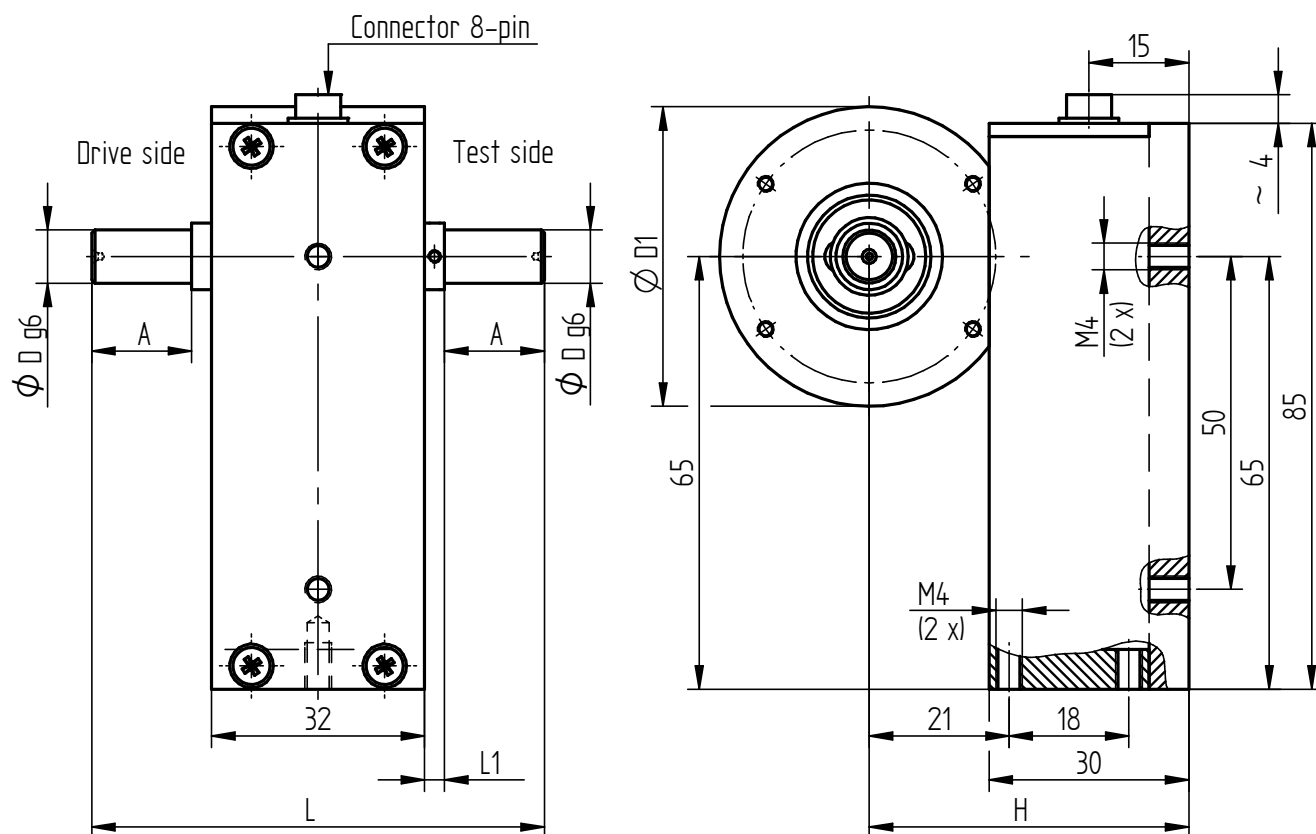
Performance Features

- Bearingless miniature sensor for e. g. test bench applications
- High accuracy
- Digital output RS485
- Integrated speed measurement (option)
- Speed up to 30000 min⁻¹
- Very short axial length
- High torsional stiffness
- Simple handling and assembly
- Auto identification of measuring range, serial number and calibration date
- Special versions on request

Application

- Research and development
- Process measuring and control technology
- Fully automated machining centres
- Measuring and control devices
- Tool engineering
- Special mechanical engineering

Dimensions of DR-2600 in mm



Rated Torque [N·m]	Dimensions [mm]						Weight [kg]
	Ø D	Ø D1	A	L	L1	H	
0.005/0.01	4	45	5	48	3	48	0.3
0.02/0.05/0.1/0.2/0.5/1	6	45	7	52	3	48	0.3
2/5	8	45	15	68	3	48	0.3
10	10	45	15	68	3	48	0.3
20/50/100/150	18	59.5	36	122	9	53	0.6

Connection Assignment

8-pin	DR-2600		Series 711
Pin 1	Supply (+)	12 ... 28VDC	
Pin 2	Supply (GND)	0V	
Pin 3	RS485	RS485 (+)	
Pin 4	RS485	RS485 (-)	
Pin 5	NC	-	
Pin 6	NC	-	
Pin 7	NC	-	
Pin 8	NC	-	
Housing	Shielding		

Technical Data acc. to VDI/VDE/DKD 2639

Torque Sensor DR-2600

Rated torque M_{nom}	N·m	0.005 ... 150
Accuracy class	% M _{nom}	0.1
Relative repeatability error in unchanged mounting position b'	% M _{nom}	±0.02
Rated range of supply voltage	VDC	12 ... 28
Current consumption	mA	≤60
Output signal	digits	±25000
Control signal excitation		per software
Sample rate	kSample/s	5
Electrical connection		8-pin series 711
Reference temperature T_{ref}	°C	23
Rated temperature range	°C	5 ... 45
Operating temperature range	°C	0 ... 60
Storage temperature range	°C	-10 ... 70
Temperature effect on zero signal TK₀	% M _{nom} /10 K	±0.2
Temperature effect on characteristic value TK_C	% M _{nom} /10 K	±0.1
Maximum operating torque M_G (static)	% M _{nom}	150
Torque limit M_{max} (static)	% M _{nom}	200
Breaking torque M_B (static)	% M _{nom}	>300
Permissible oscillation stress when subjected to torque M_{df}	% M _{nom}	70 (peak-to-peak)
Level of protection		IP50

Article-No.	Rated Torque [N·m]	Limit Speed [min ⁻¹]	Spring Rate [N·m/rad]	Mass Moment of Inertia [kg·m ²] ¹		Axial Force Limit [N]	Lateral Force Limit [N]
				Drive Side	Test Side		
107951	0.005	20000	4.6E-01	7.5E-07	1.1E-08	35	1
108095	0.01	20000	4.6E-01	7.5E-07	1.1E-08	35	1
108096	0.02	30000	3.7E+00	7.6E-07	1.3E-08	35	1
108097	0.05	30000	3.7E+00	7.6E-07	1.3E-08	40	1.1
108098	0.1	30000	1.8E+01	8.6E-07	3.8E-08	43	1.5
108124	0.2	30000	1.8E+01	8.6E-07	3.8E-08	59	2.3
108278	0.5	30000	1.2E+02	8.6E-07	3.8E-08	185	4.2
108530	1	30000	1.2E+02	8.6E-07	3.8E-08	255	7.2
108093	2	30000	6.2E+02	9.1E-07	8.3E-08	520	14
108358	5	30000	6.2E+02	9.1E-07	8.3E-08	520	14
108359	10	30000	1.5E+03	9.8E-07	1.6E-07	900	33
108279	20	20000	7.4E+03	1.2E-05	3.6E-06	2150	62
108280	50	20000	1.1E+04	1.2E-05	3.9E-06	4000	160
108094	100	20000	1.1E+04	1.2E-05	3.9E-06	4000	160
109253	150	20000	1.2E+04	1.2E-05	4.2E-06	5000	220

¹ Without option speed measurement

Options

Article-No.	Description	
119079	Speed measurement, 1 x 6 impulses, RS485	
	Speed resolution	1 min ⁻¹
	Speed accuracy	1 % full scale ±1 digit
	Output signal speed	±32511 digits
106154	Control signal	50 % M _{nom}
100739	Control signal	80 % M _{nom}

Calibrations

Article-No.	Description	
400676	Linearity diagram in accordance to factory standard	25 % steps
400664	Linearity diagram in accordance to factory standard	10 % steps
400961	Proprietary calibration acc. to VDI/VDE 2646	3 steps
400700	Proprietary calibration acc. to VDI/VDE 2646	5 steps
400688	Proprietary calibration acc. to VDI/VDE 2646	8 steps
	DAkkS-Calibration/Standard on request	

Accessories

Electrical Connection

Article-No.	Description
10307	Female cable connector 8-pin series 712
10366	Female angled connector 8-pin series 712
102669	Connection cable, 3 m, with 8-pin female cable connector series 712 and free strands
106082	Connection cable angled, 3 m, with 8-pin female angled connector series 712 and free strands