Lorenz® messtechnik gmbh

Reactive Torque Sensor DH-15 with Rated Torque from 0.005 ... 20 N·m

TEDS

Data sheet

Performance Features

- Torque sensor for survey of screw connection
- TEDS (Transducer Electronic Data Sheet) Standard IEEE 1451.4 (optional)
- Sensors with nominal torque to 2 N·m with integrated overload protection
- Flange with spigot and cylindrical shaft
- Very short axial length
- High torsional stiffness
- Simple handling and assembly
- Special versions on request

Application

- Process measuring and control technology
- Fully automated machining centers
- Measuring and control devices
- Tool engineering
- Special mechanical engineering

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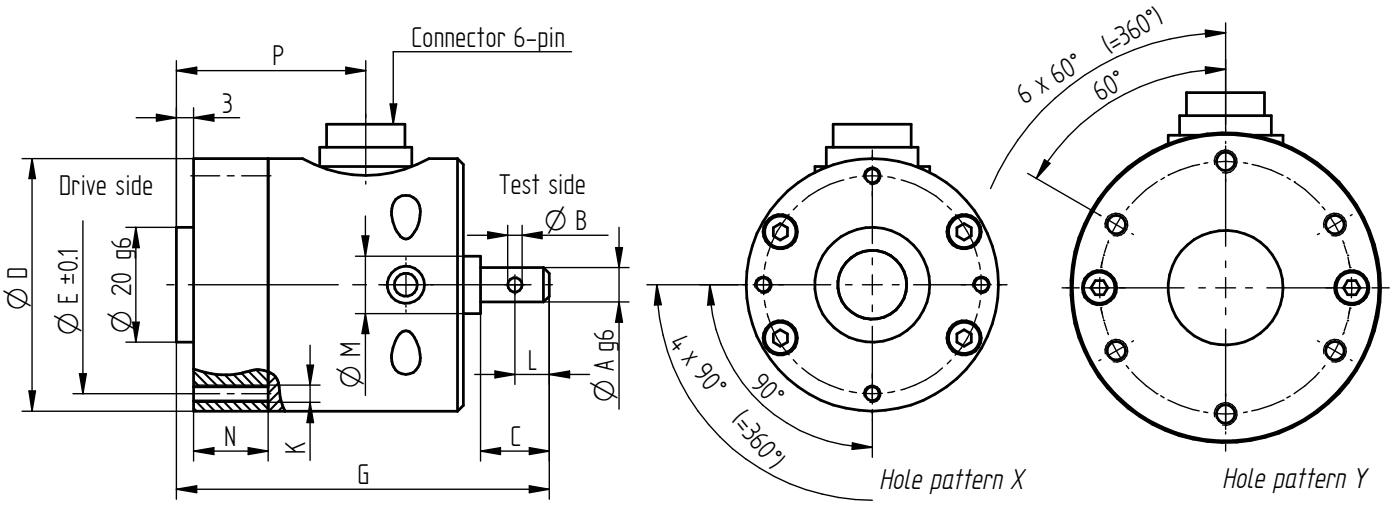
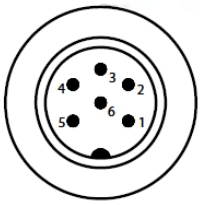
Dimensions in mm



Rated Torque [N·m]	Dimensions [mm]											Hole Pattern	Screws		Weight [kg]
	ØA	ØB	C	ØD	ØE	G	K	L	ØM	N	P		Tightening Torque [N·m]	Property Class	
0.005/0.01	3	-	5	44	38	58	M3	-	10	13	33	X	1.8	10.9	0.3
0.02/0.05/0.1/ 0.2/0.5/1/2	6	2.5	12	44	38	65	M3	6	10	13	33	X	1.8	10.9	0.4
5/10/20	12	4	18	54	44	65	M4	8	14	14	31	Y	4.6	10.9	0.6

Connection Assignment

6-pin	DH-15	Series 723
Pin 1	Excitation (-)	
Pin 2	Excitation (+)	
Pin 3	Shield	
Pin 4	Signal (+)	
Pin 5	Signal (-)	
Pin 6	Control signal or TEDS (option)	

Technical Data acc. to VDI/VDE/DKD 2639

Reactive Torque Sensor DH-15		
Rated torque **M_{nom}**	N·m	0.005 ... 20
Accuracy class	% M_{nom}	0.2 (optional 0.1)
Relative repeatability error in unchanged mounting position **b'**	% M_{nom}	±0.02
Bridge resistance **R_{Br}**	Ω	1000 [≥5 N·m; 350]
Rated range of excitation voltage	VDC	2 ... 12
Electrical connection		6-pin series 723[1]
Reference temperature **T_{ref}**	°C	23
Rated temperature range	°C	-5 ... 45
Operating temperature range	°C	-15 ... 55
Storage temperature range	°C	-30 ... 95
Temperature effect on zero signal **TK_0**	% 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 [≤2 N·m; 500]
Breaking torque **M_B** (static)	% M_{nom}	>300 [≤2 N·m; >800]
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]	Rated Charac-teristic Value [mV/V] ±0.2 %	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m²]		Axial Force Limit [N]	Lateral Force Limit [N]
				Drive Side	Test Side		
107773	0.005	0.3	0.5	6.7E-05	6.2E-07	36	0.6
107762	0.01	0.5	0.5	6.7E-05	6.2E-07	36	0.6
107653	0.02	0.5	3.7	6.7E-05	6.2E-07	36	0.6
107761	0.05	0.5	3.7	6.7E-05	6,2E-07	39	0.6
107760	0.1	0.5	18	6.7E-05	7,6E-07	39	0.7
100333	0.2	0.5	18	6.7E-05	7,6E-07	57	1.2
100332	0.5	0.5	182	6.7E-05	8.0E-07	185	2
100331	1	1	182	6.7E-05	8.0E-07	260	3.2
100330	2	1	276	6.7E-05	8.0E-07	400	6.5
100329	5	1	757	1.4E-04	5.7E-07	710	16
100328	10	1	2379	1.4E-04	6.1E-07	450	35
100325	20	1	3913	1.4E-04	6.6E-07	1050	68

Options

Article-No.	Description	
100933	Accuracy class	0.1 % M_{nom}
100218	Control signal	100 % M_{nom}
100739	Control signal	80 % M_{nom}
106154	Control signal	50 % M_{nom}
113134	TEDS-standard IEEE 1451.4	
42828	Extended temperature range	-30 °C…100 °C
42829	Extended temperature range	-30 °C…120 °C [≥1 N·m]

[1] Female cable connector in scope of delivery at first delivery

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
10301	Female cable connector 6-pin series 581
10315	Female angled connector 6-pin series 682
10266	Connection cable, 3 m, with 6-pin female cable connector series 581 and free strands
10387	Connection cable angled, 3 m, with 6-pin female angled connector series 682 and free strands

Amplifiers

Examples of suitable amplifiers for the torque sensor DH-15:

LCV	GM 78	GM 40	GM 80	SI
				

Further suitable amplifiers you can find on our homepage under https://www.lorenz-messtechnik.de/english/products/.