

Reactive Torque Sensor DK-15 with Nominal Torque from 1 ... 100 N·m



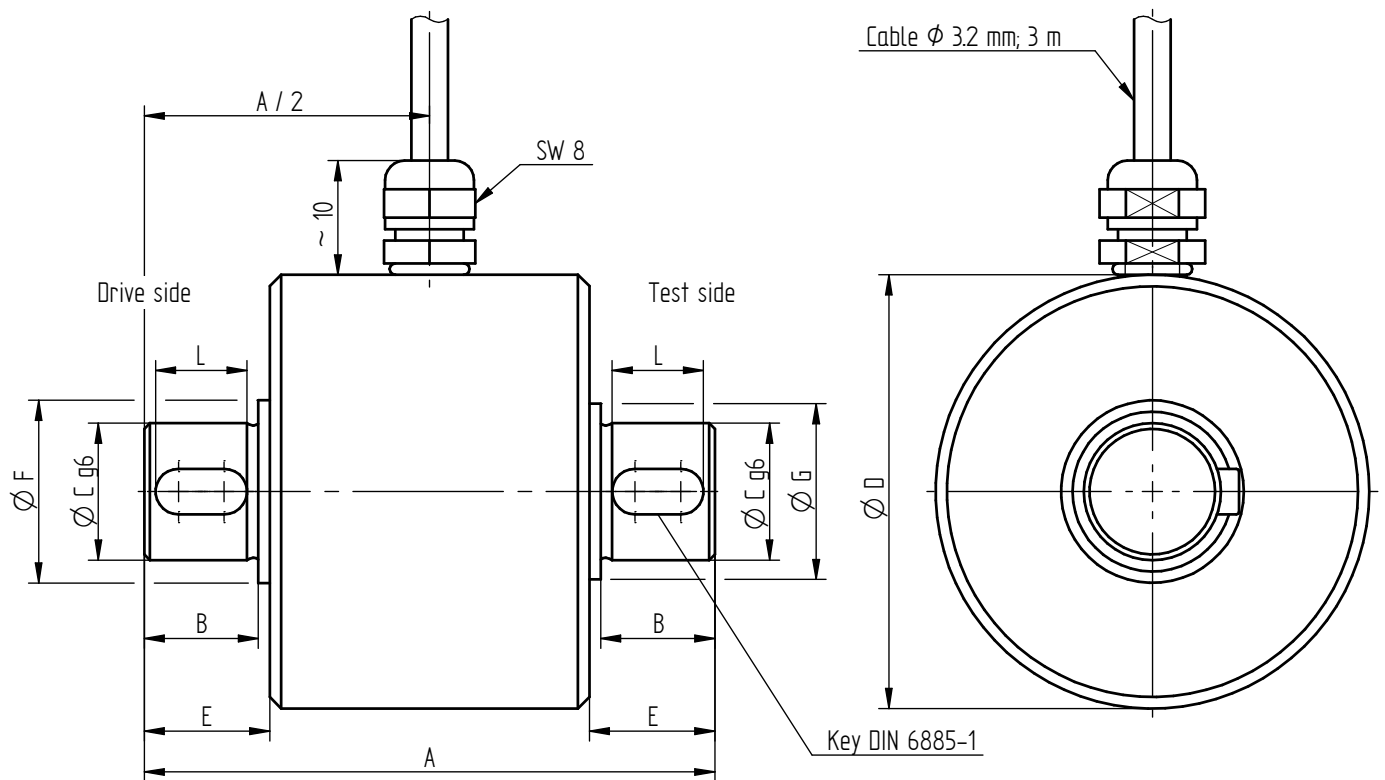
Performance Features

- Torque sensor for reaction torque measurement
- Both shaft ends with feather keys
- Very short axial length
- High torsional stiffness
- Simple handling and assembly
- Special versions on request

Application

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

Dimensions of DK-15 in mm



Nominal Torque [N·m]	Dimensions [mm]								Weight [kg]
	A	B	ØC	ØD	E	ØF	ØG	L	
1/2/5/10/20	50	10	12	38	11	16	15.4	8	0.2
50/100	70	20	18	49	21.5	21	20.5	18	0.3

Connection Assignment

Electrical Connection

Excitation (-)	green	●
Excitation (+)	brown	●
Signal (+)	yellow	●
Signal (-)	white	○
Control signal (option)	grey	●
Shield	shield	⊕

Technical Data acc. to VDI/VDE/DKD 2639

Reactive Torque Sensor DK-15

Nominal torque M_{nom}	N·m	1 ... 100
Accuracy class	% M_{nom}	0.2
Relative repeatability error in unchanged mounting position b'	% M_{nom}	± 0.02
Rated characteristic value C_{nom}	mV/V	1 $\pm 0.2\%$
Bridge resistance R_{Br}	Ω	350
Operating range of excitation voltage	VDC	2 ... 12
Electrical connection		3 m with free strands
Reference temperature T_{ref}	$^{\circ}C$	23
Rated temperature range	$^{\circ}C$	-5 ... 45
Operating temperature range	$^{\circ}C$	-15 ... 55
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
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.	Nominal Torque [N·m]	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m ²]		Axial Force Limit [N]	Lateral Force Limit [N]
			Drive Side	Test Side		
100384	1	2.78E+02	1.10E-05	3.78E-07	400	11
100383	2	2.78E+02	1.10E-05	3.78E-07	400	11
100382	5	8.03E+02	1.10E-05	3.86E-07	700	25
100381	10	3.22E+03	1.10E-05	4.07E-07	1150	51
100378	20	3.50E+03	1.11E-05	4.47E-07	1700	95
100377	50	1.17E+04	3.24E-05	2.44E-06	3700	190
100376	100	1.55E+04	3.26E-05	2.63E-06	4350	270

Options

Article-No.	Description	
100218	Control signal	100 % M_{nom}
42828	Extended temperature range	-30 $^{\circ}C$... 100 $^{\circ}C$
42829	Extended temperature range	-30 $^{\circ}C$... 120 $^{\circ}C$

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
10323	Cable connector KS6 (6-pin series 581) incl. sensor mounting
10320	Cable connector KSSH15 (15-pin) incl. sensor mounting
43418	Input connector ZA9612FS (ALMEMO) incl. sensor mounting and connector calibration
49205	Input connector ZKD712FS (ALMEMO 202) incl. sensor mounting and connector calibration

Amplifiers

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

LCV	SI-USB	GM 40	GM 80	GM 80-PA
				

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