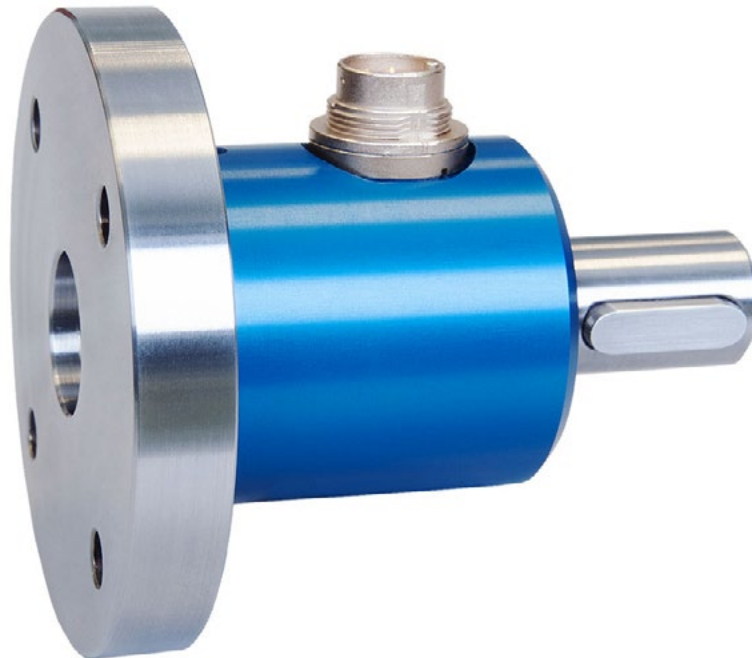


Reactive Torque Sensor DFW-25 with Nominal Torque from 2 ... 2000 N·m



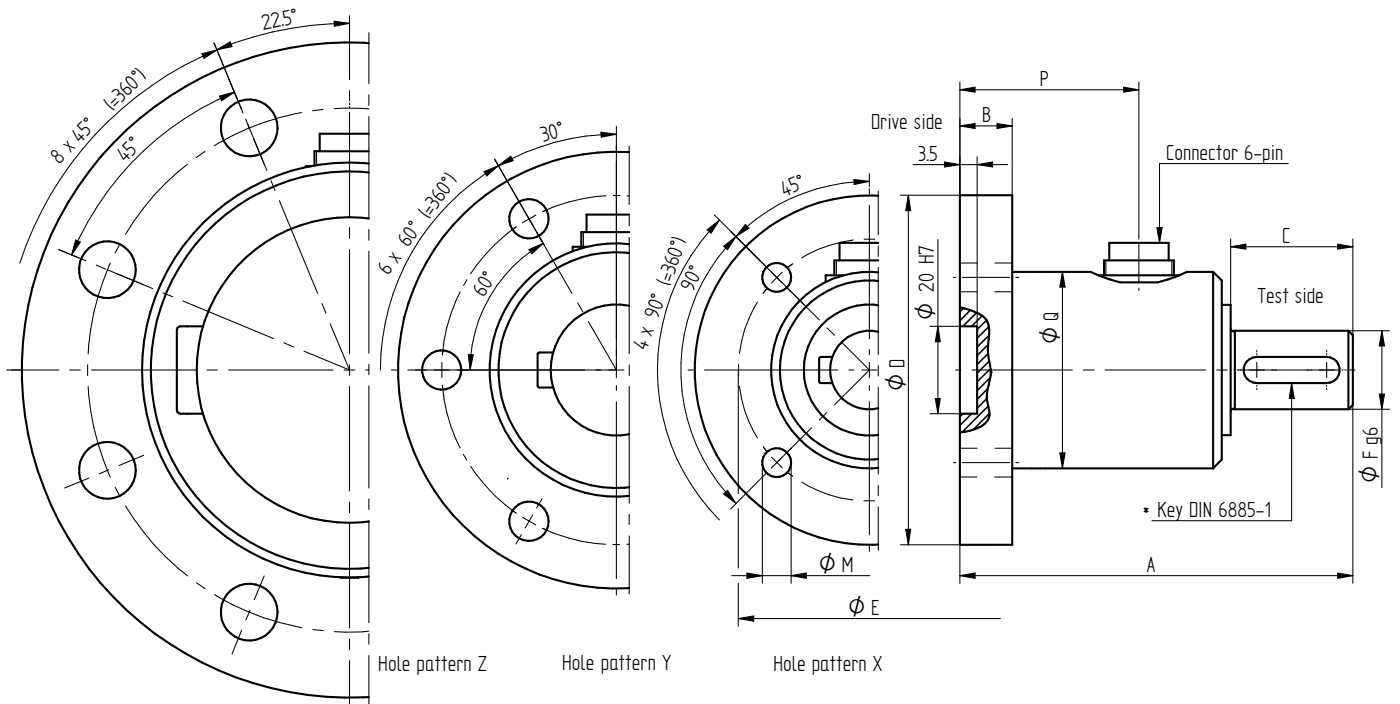
Performance Features

- Torque sensor e.g. for testing and calibrating of power screwdrivers and torque wrenches
- With flange and shaft with feather key
- 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 DFW-25 in mm



* The position has no reference to the mounting holes.

Nominal Torque [N·m]	Dimensions [mm]									Hole Pattern	Weight [kg]
	A	B	C	ØD	ØE	ØF	ØM	P	ØQ		
2/5/10/20	70	10	15	70	50	12	5.5	36	40	X	0.5
50/100	90	12	28	80	60	18	6.6	41	45	X	0.8
200/500	120	15	50	100	80	30	9	43	58	Y	1.8
1000	140	15	70	120	100	40	11	41	65	Y	3.0
2000	165	20	90	150	120	70	13	46	95	Z	7.0

Connection Assignment

6-pin	DFW-25	Series 723
Pin 1	Excitation (-)	
Pin 2	Excitation (+)	
Pin 3	Shield	
Pin 4	Signal (+)	
Pin 5	Signal (-)	
Pin 6	Control signal (option)	

Technical Data acc. to VDI/VDE/DKD 2639

Reactive Torque Sensor DFW-25

Nominal torque M_{nom}	N·m	2 ... 2000
Accuracy class	% M_{nom}	0.2 (optional 0.1)
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		6-pin series 723 ¹
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		
114351	2	2.3E+02	2.0E-04	1.0E-06	400	7.5
108107	5	7.0E+02	2.0E-04	1.0E-06	710	18
100347	10	1.6E+03	2.0E-04	1.0E-06	1150	37
114354	20	3.6E+03	2.0E-04	1.1E-06	1800	70
100345	50	1.2E+04	4.1E-04	8.9E-06	3400	125
100344	100	2.7E+04	4.1E-04	9.5E-06	5600	255
100343	200	5.5E+04	1.2E-03	4.4E-05	8600	320
100342	500	1.0E+05	1.2E-03	4.8E-05	12600	600
100341	1000	2.6E+05	2.4E-03	2.0E-04	20000	950
100340	2000	4.3E+05	2.4E-03	2.1E-04	28400	1600

Options

Article-No.	Description	
100933	Accuracy class	0.1 % M_{nom}
100218	Control signal	100 % M_{nom}
42828	Extended temperature range	-30 $^{\circ}C$... 100 $^{\circ}C$
42829	Extended temperature range	-30 $^{\circ}C$... 120 $^{\circ}C$

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, 6-pin series 581, free strands
10387	Connection cable angled, 3 m, 6-pin series 682, free strands

Amplifiers

Examples of suitable amplifiers for the torque sensor DFW-25:

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/>.