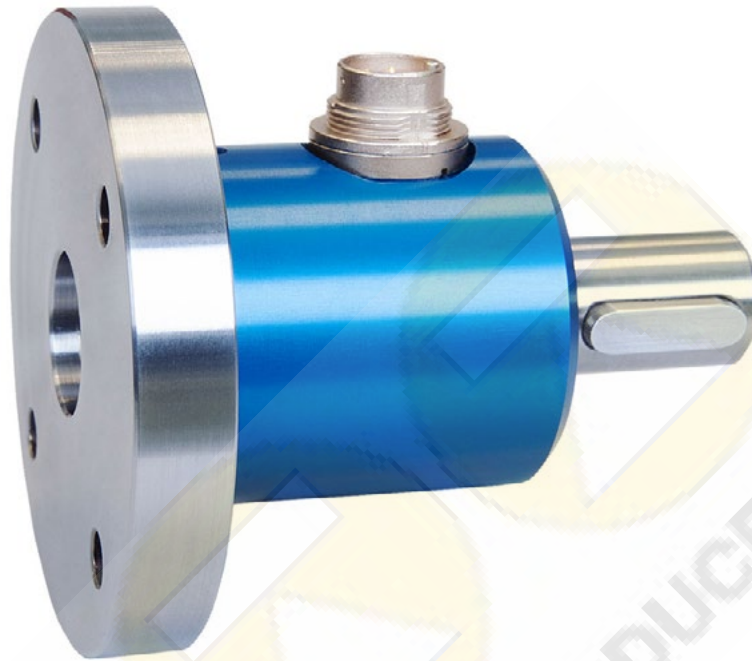


## Reactive Torque Sensor DFW-25 with Nominal Torque from 2 ... 2000 N·m



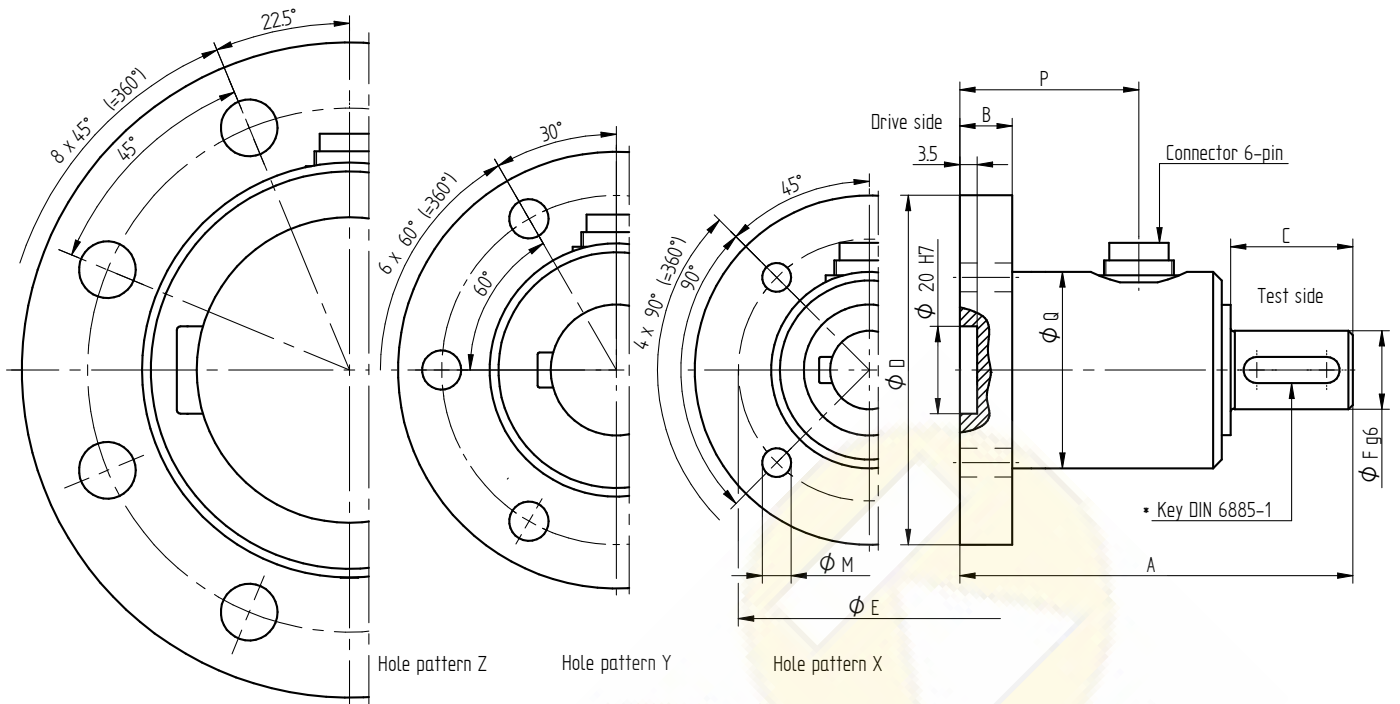
### Performance Features

- 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 $b'$	% $M_{nom}$	$\pm 0.02$
Rated characteristic value $C_{nom}$	mV/V	$1 \pm 0.2\%$
Bridge resistance $R_{Br}$	$\Omega$	350
Operating range of excitation voltage	VDC	2 ... 12
Electrical connection		6-pin series 723 <sup>1</sup>
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 $TK_0$	% $M_{nom}/10 K$	$\pm 0.2$
Temperature effect on characteristic value $TK_C$	% $M_{nom}/10 K$	$\pm 0.1$
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 <sup>2</sup> ]		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 $^{\circ}C$

<sup>1</sup> 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
				