

Reactive Torque Sensor DFW-35 with Rated Torque from 2 ... 2000 N·m



Data sheet

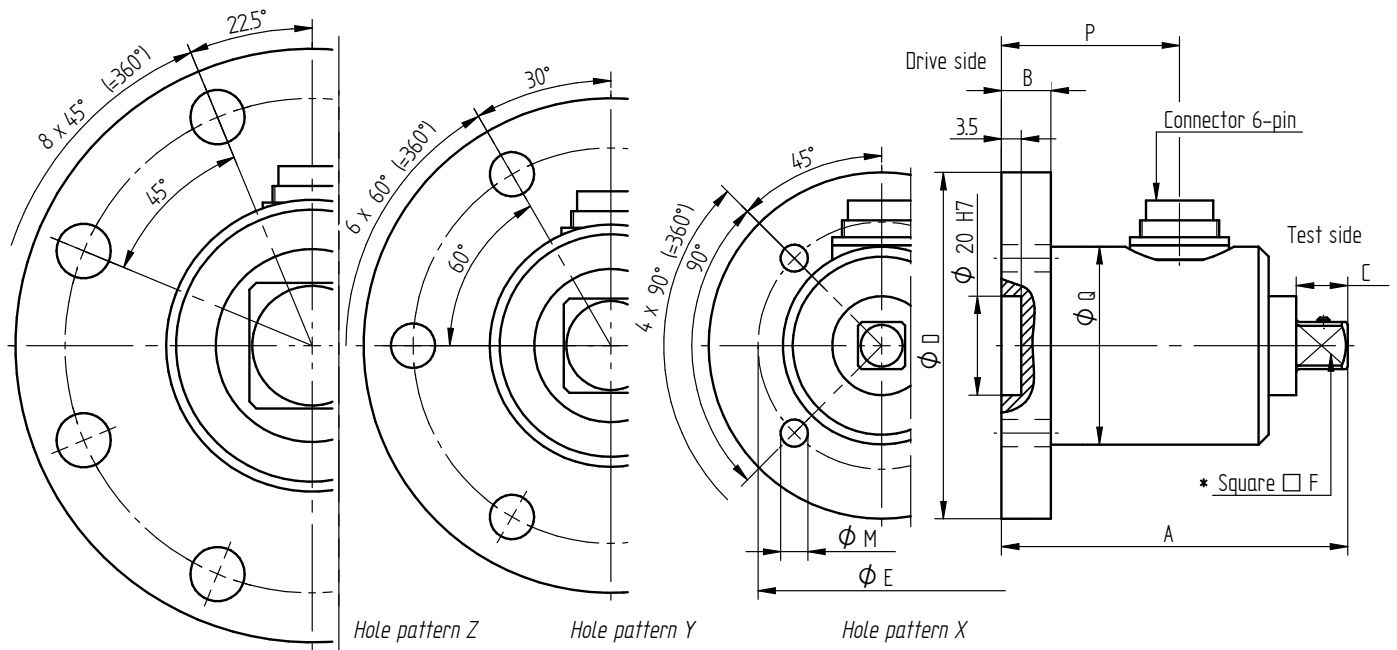
Performance Features

- Torque sensor for survey of assembly tools screws and nuts
- TEDS (Transducer Electronic Data Sheet)
Standard IEEE 1451.4 (optional)
- With flange and standard square end
- Very short axial length
- High torsional stiffness
- Simple handling and assembly
- Special versions on request

Application

- Assembly technology
- Process measuring and control technology
- Automotive industry
- Measuring and control devices
- Tool engineering
- Special mechanical engineering

Dimensions in mm



* The position has no reference to the mounting holes.

Rated Torque [N·m]	Dimensions [mm]									Hole Pattern	Weight [kg]
	A	B	C	ØD	ØE	ØF	ØM	P	ØQ		
2 / 5 / 12	70	10	7.2	70	50	1/4"	5.5	36	39	X	0.5
25 / 63	70	10	10.4	70	50	3/8"	5.5	36	40	X	0.5
100 / 160 / 200	90	12	15.1	80	60	1/2"	6.6	41	45	X	0.9
500	120	15	22.6	100	80	3/4"	9	60	49	Y	1.7
1000	140	15	27.4	120	100	1"	11	70	59	Z	2.7
2000	180	20	39.3	145	120	1 1/2"	13	82	70	Z	6.3

Connection Assignment

6-pin	DFW-35	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 DFW-35

Rated 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 ±0.2%
Bridge resistance R_{Br}	Ω	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 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]	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m²]		Axial Force Limit [N]	Lateral Force Limit [N]
			Drive Side	Test Side		
100901	2	2.1E+02	2.1E-04	2.8E-06	400	7.3
108592	5	6.5E+02	2.1E-04	2.9E-06	720	18
100564	12	1.5E+03	2.1E-04	2.9E-06	1150	37
100339	25	4.5E+03	2.1E-04	1.6E-06	2100	88
100338	63	1.2E+04	2.1E-04	1.8E-06	3050	160
114352	100	2.0E+04	4.1E-04	1.5E-05	5000	220
100337	160	2.9E+04	4.1E-04	1.6E-05	6600	340
101058	200	3.5E+04	4.1E-04	1.6E-05	8000	450
100336	500	6.6E+04	1.2E-03	2.5E-05	12500	750
100335	1000	3.1E+05	2.4E-03	7.4E-05	20000	1300
100334	2000	2.5E+05	4.0E-03	3.7E-04	35000	2200

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 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 DFW-35:

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/>.