

Rotating Slipping Torque Sensor DR-2 with Nominal Torque from 1 ... 500 N·m



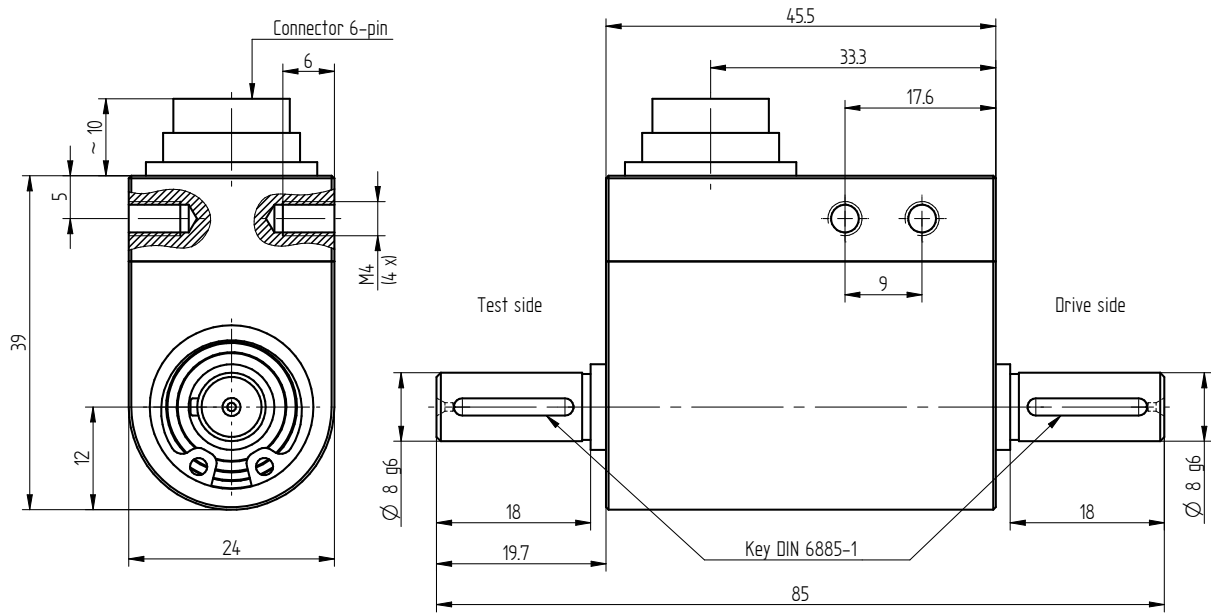
Performance Features

- Slipping torque sensor for e.g. test bench applications
- High accuracy
- 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 DR-2 in mm

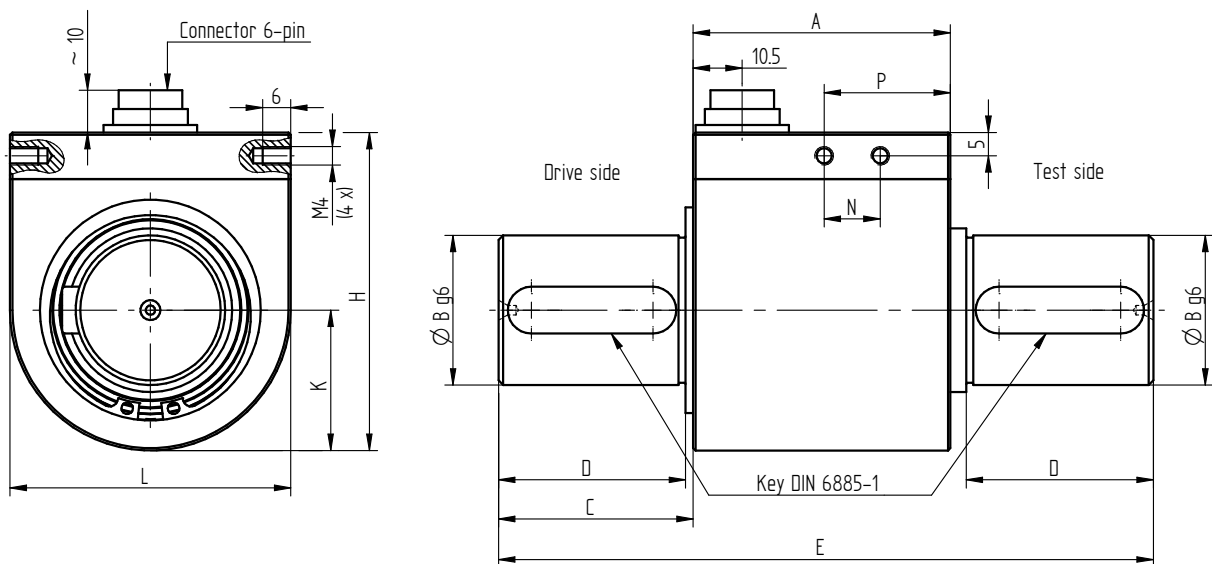


Nominal Torque [N·m]

1/2/5/10

Weight [kg]

0.2



Nominal Torque [N·m]	Dimensions [mm]										Weight [kg]
	A	ØB	C	D	E	H	K	L	N	P	
20/50	47.4	15	21.1	20	90	54	21	42	9.5	20.5	0.4
100	47.4	18	24.1	22	95	54	21	42	9.5	20.5	0.5
200/500	55	32	41.6	40	140	68	30	60	12	27	1.3

Connection Assignment

6-pin	DR-2	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

Rotating Slipring Torque Sensor DR-2

Nominal torque M_{nom}	N·m	1 ... 500
Accuracy class	% M_{nom}	0.1
Relative repeatability error in unchanged mounting position b'	% M_{nom}	± 0.05
Rated characteristic value C_{nom}	mV/V	1 [1 N·m; 0.5] $\pm 0.1\%$
Bridge resistance R_{Br}	Ω	350
Operating range of excitation voltage SG	VDC	2 ... 12
Electrical connection		6-pin series 723 ¹
Reference temperature T_{ref}	$^{\circ}C$	23
Rated temperature range	$^{\circ}C$	5 ... 50
Operating temperature range	$^{\circ}C$	-10 ... 60
Temperature effect on zero signal TK_0	% $M_{nom}/10 K$	± 0.4
Temperature effect on characteristic value TK_C	% $M_{nom}/10 K$	± 0.2
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
Durability of brushes	rev.	5×10^7
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]	Limit Speed [min ⁻¹]	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m ²]		Axial force limit [N] ²	Lateral force limit [N] ²
				Drive Side	Test Side		
100414	1	2000	2.1E+02	1.3E-06	3.1E-07	380	6
100413	2	2000	2.1E+02	1.3E-06	3.1E-07	380	6
100412	5	2000	5.5E+02	1.4E-06	3.3E-07	690	14.5
103852	10	2000	6.4E+02	1.4E-06	3.3E-07	780	15.5
101065	20	1500	4.1E+03	1.2E-05	6.7E-06	1750	53
101006	50	1500	1.1E+04	1.2E-05	7.0E-06	3300	135
101066	100	1500	1.9E+04	1.4E-05	8.6E-06	5200	260
100880	200	1000	5.4E+04	9.6E-05	6.7E-05	8500	340
100407	500	1000	9.0E+04	1.0E-04	7.3E-05	15000	850

Options

Article-No.	Description	
100218	Control signal	100 % M_{nom}

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	

¹ Female cable connector in scope of delivery at first delivery

² Unsupported shaft

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, with 3 m, 6-pin female angled connector series 682 and free strands

Amplifiers

Examples of suitable amplifiers for the slipping torque sensor DR-2:

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/>.