

Rotating Slipping Torque Sensor DR-2291 with Nominal Torque from 1 ... 20 N·m



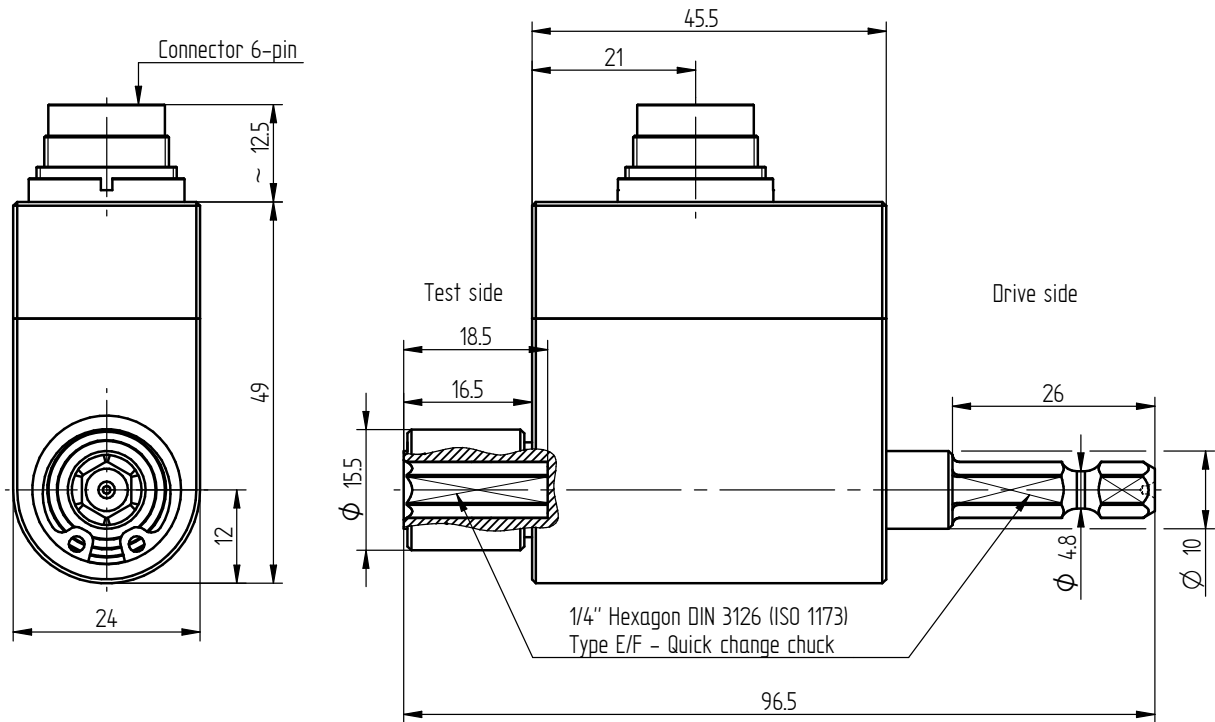
Performance Features

- Slipping torque sensor for screw driving systems
- High accuracy
- Output-hexagon socket with quick action chuck
- Drive-hexagon
- 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 of DR-2291 in mm



Nominal Torque [N·m]	Hexagon	Weight [kg]
1/2/5/10/20	1/4"	0.2

Connection Assignment

6-pin	DR-2291	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-2291

Nominal torque M_{nom}	N·m	1 ... 20
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	$1 \pm 0.1\%$
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		
104103	1	2000	2.2E+02	1.5E-06	7.9E-07	380	7
106381	2	2000	2.2E+02	1.5E-06	7.9E-07	380	7
106382	5	2000	3.6E+02	1.5E-06	7.9E-07	690	17
105083	10	2000	5.0E+02	1.5E-06	8.1E-07	1150	35
104797	20	2000	5.0E+02	1.5E-06	8.1E-07	1150	35

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

Amplifiers

Examples of suitable amplifiers for the slipping torque sensor DR-2291:

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/>.