

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



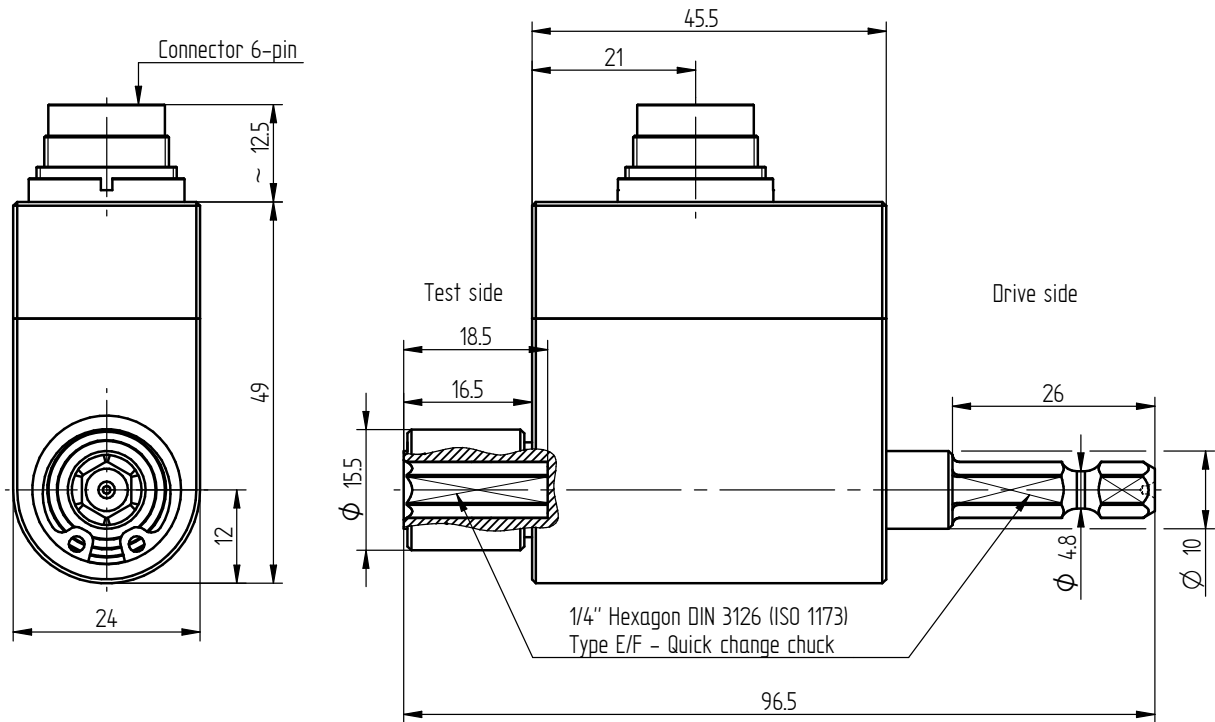
### Performance Features

- Slipping torque sensor for screw driving systems
- TEDS (Transducer Electronic Data Sheet) Standard IEEE 1451.4 (optional)
- 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 in mm



Rated 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	Shielding	
Pin 4	Signal (+)	
Pin 5	Signal (-)	
Pin 6	Control signal or TEDS (option)	

## Technical Data acc. to VDI/VDE/DKD 2639

### Rotating Slipring Torque Sensor DR-2291

Rated torque $M_{nom}$	N·m	1 ... 20
Accuracy class	% $M_{nom}$	0.1
Relative repeatability error in unchanged mounting position $b'$	% $M_{nom}$	$\pm 0.05$
Rated characteristic value $C_{nom}$	mV/V	$1 \pm 0.1\%$
Bridge resistance $R_{Br}$	$\Omega$	350
Rated range of excitation voltage SG	VDC	2 ... 12
Electrical connection		6-pin series 723 <sup>1</sup>
Reference temperature $T_{ref}$	°C	23
Rated temperature range	°C	5 ... 50
Operating temperature range	°C	-10 ... 60
Storage temperature range	°C	-20 ... 70
Temperature effect on zero signal $TK_0$	% $M_{nom}/10$ K	$\pm 0.4$
Temperature effect on characteristic value $TK_C$	% $M_{nom}/10$ K	$\pm 0.2$
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.	$5 \times 10^7$
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]	Limit Speed [min <sup>-1</sup> ]	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m <sup>2</sup> ]		Axial force limit [N] <sup>2</sup>	Lateral force limit [N] <sup>2</sup>
				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 % $M_{nom}$
100739	Control signal	80 % $M_{nom}$
106154	Control signal	50 % $M_{nom}$
113134	TEDS-standard IEEE 1451.4	

## 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	

<sup>1</sup> Female cable connector in scope of delivery at first delivery

<sup>2</sup> 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/>.