

## Rotating Slipping Torque Sensor DR-2335 with Nominal Torque from 1 ... 20 N·m



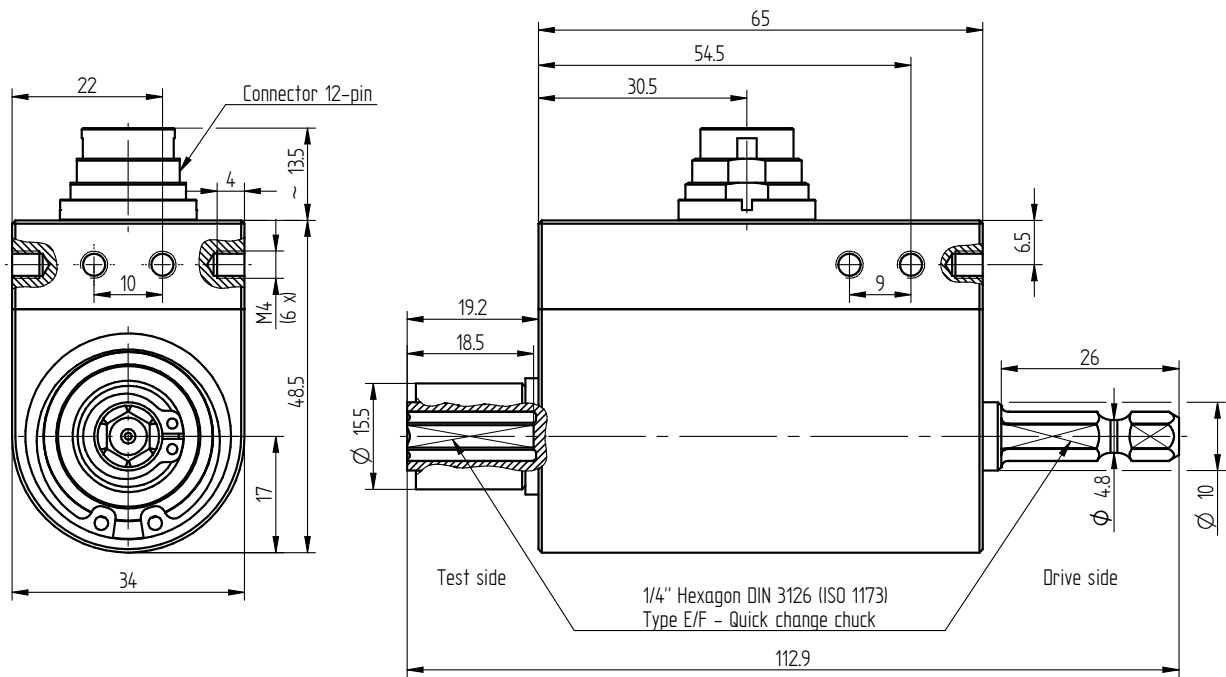
### Performance Features

- Slipping torque sensor for screw driving systems
- High accuracy
- Integrated speed/angle measurement
- 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-2335 in mm


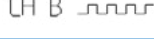


Nominal Torque [N·m]	Hexagon	Weight [kg]
1/2/5/10/20	1/4"	0.3

## Connection Assignment

12-pin	DR-2335	Series 581
Pin A	Excitation (-)	
Pin B	Excitation (+)	
Pin C	Signal (+)	
Pin D	Signal (-)	
Pin E	Excitation angle (GND)	
Pin F	Excitation angle (5V)	
Pin G	Signal angle A (5V TTL)	
Pin H	Signal angle B (5V TTL)	
Pin J	Signal angle (GND)	
Pin K	Control signal (option)	
Pin L	NC	
Pin M	Shield	

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

Rotating Slipring Torque Sensor DR-2335		
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 ±0.1%
Bridge resistance $R_{Br}$	Ω	350
Operating range of excitation voltage SG	VDC	2 ... 12
Operating range of excitation voltage angle	VDC	5
Electrical connection		12-pin series 581 <sup>1</sup>
Reference temperature $T_{ref}$	°C	23
Rated temperature range	°C	5 ... 50
Operating temperature range	°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.	5x10 <sup>7</sup>
Permissible oscillation stress when subjected to torque $M_{df}$	% $M_{nom}$	70 (peak-to-peak)
Speed/angle measurement, 2 x 360 impulses, 90° displaced, 5V TTL		CW-turn CH A  CH B 
Level of protection		IP50

Article-No.	Nominal 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		
104481	1	2000	2.2E+02	1.5E-06	4.0E-06	380	5
106383	2	2000	2.2E+02	1.5E-06	4.0E-06	380	5
106384	5	2000	3.5E+02	1.5E-06	4.0E-06	700	12
100973	10	2000	4.7E+02	1.5E-06	4.0E-06	1150	23
106385	20	2000	4.7E+02	1.5E-06	4.0E-06	1150	23

## 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
401023	Proprietary calibration for rotation angles acc. to VDI/VDE 2648-1	
	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
41382	Female cable connector 12-pin series 581
45598	Female angled connector 12-pin series 682
10267	Connection cable, 3 m, with 12-pin female cable connector series 581 and free strands
10374	Connection cable angled, 3 m, with 12-pin female angled connector series 682 and free strands

### Amplifiers

Examples of suitable amplifiers for the slipping torque sensor DR-2335:



Further suitable amplifiers you can find on our homepage under <https://www.lorenz-messtechnik.de/english/products/>.