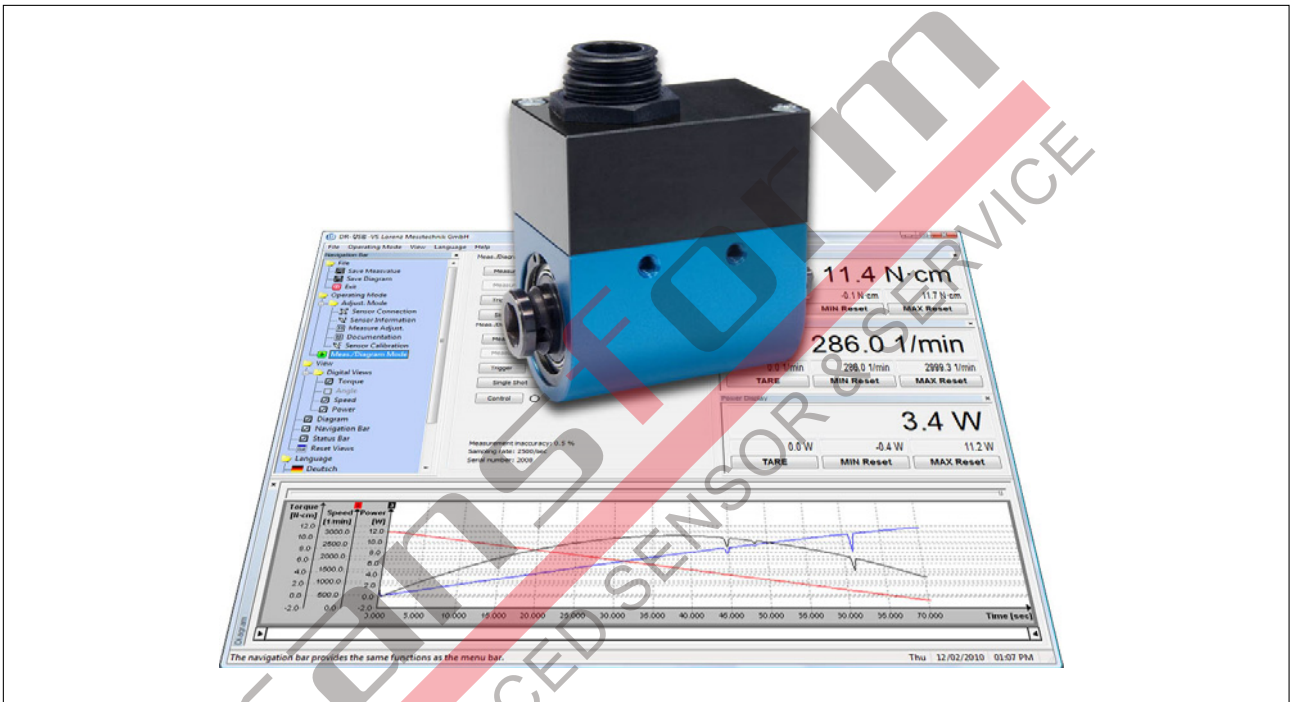


USB - Torque Sensor with Configuration and Evaluation Software

DR-3001

- Nominal torque from 0.1 N·m ... 5000 N·m
- High accuracy 0.1% f. scale
- Up to 2500 Measurements/s
- Feed-in from USB, without ext. power supply
- Drive-square socket
- Output-square drive
- Very short axial length
- Reliable and durable
- Special versions on request
- Suited for mobile operation with a notebook
- Calibration parameter lodged in sensor
- Calibration control actuation by software
- Integrated speed/angle measurement
- Speed up to 4000 min⁻¹
- Power computation by software
- High torsional stiffness
- Simple handling and assembly



This sensor has a contactless and digital signal transmission from rotor to stator, which means no signal falsification and maintenance-free.

Specifications

Article-No.	Nominal Torque [N·m]	Limit Speed [min ⁻¹]	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m ²]		Limit Thrust Load [N] ¹	Limit Shear Force [N] ¹
				Drive Side	Test Side		
112859	0.1	3000	1.8E+01	2.1E-06	3.3E-07	42	1.2
112861	0.2	3000	1.8E+01	2.1E-06	3.3E-07	42	1.2
112862	0.5	3000	1.2E+02	2.1E-06	3.3E-07	185	2.9
112863	1	4000	1.2E+02	2.1E-06	3.3E-07	260	4.7
112916	2	4000	3.0E+02	2.1E-06	3.3E-07	480	12.2
112917	5	4000	5.9E+02	2.1E-06	3.5E-07	870	30
112918	10	4000	7.3E+02	2.1E-06	3.6E-07	1150	45
112919	15	4000	7.3E+02	2.1E-06	3.6E-07	1150	45
112920	20	4000	7.3E+02	2.1E-06	3.6E-07	1150	45
112921	35	3000	8.6E+03	1.0E-05	1.1E-05	3300	110
112922	50	3000	1.0E+04	1.0E-05	1.1E-05	4200	155
112923	63	3000	1.1E+04	1.0E-05	1.1E-05	4900	190
112924	100	2500	1.2E+04	1.6E-05	1.1E-05	4000	135
112925	160	2500	1.5E+04	1.6E-05	1.2E-05	5500	215
112926	200	2500	1.5E+04	1.6E-05	1.2E-05	5500	215
112928	500	2500	8.8E+04	9.9E-05	7.7E-05	13500	840
112929	1000	1500	1.3E+05	2.1E-04	1.1E-04	16500	1000
112930	2000	1000	2.1E+05	3.5E-03	1.8E-03	27000	1650
112932	5000	1000	2.6E+05	3.5E-03	1.8E-03	51000	4000

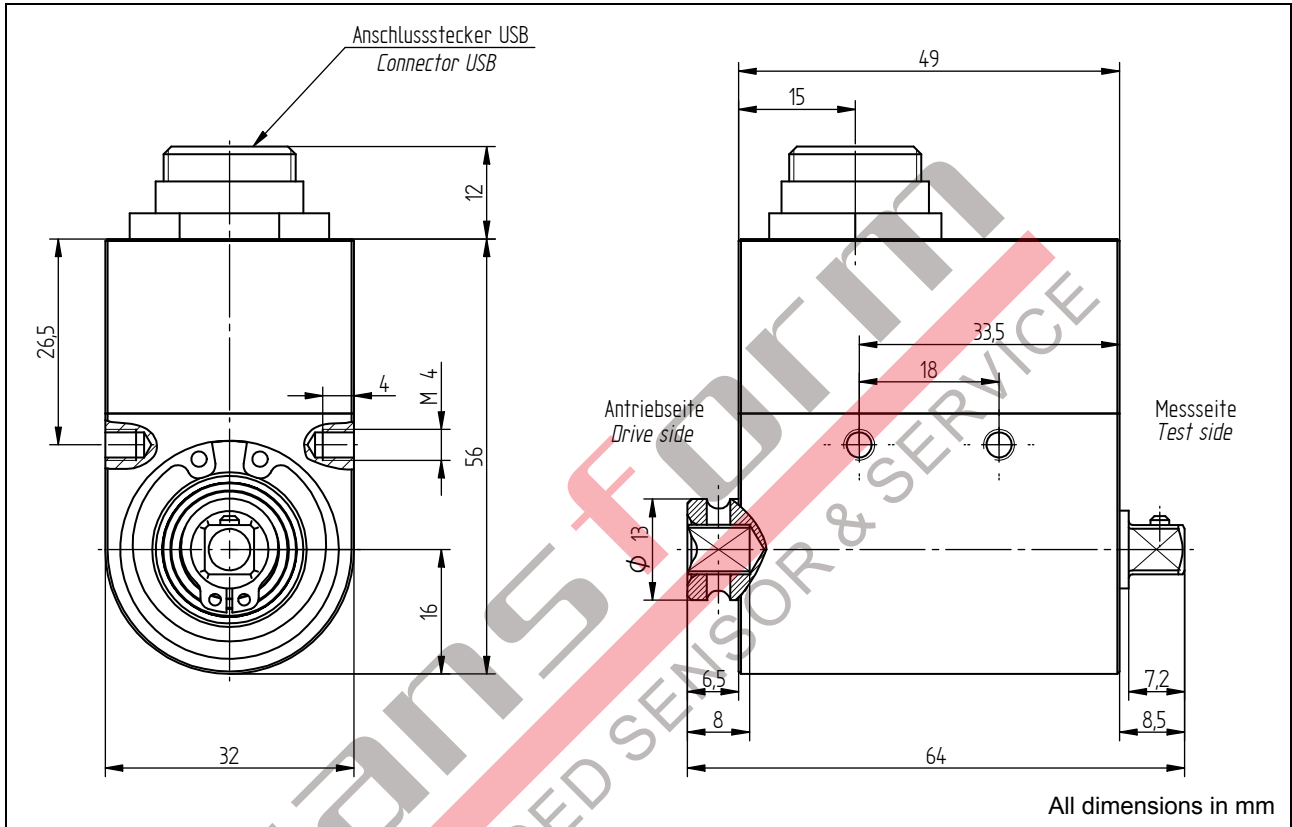
DR-3001		
Accuracy class torque	% f. s.	0.1
Speed resolution	min ⁻¹	1
Speed accuracy	% f. s.	1 ±1 digit
Angle of rotation resolution	degree	0.25
Repeatability (DIN 1319)	%	±0.02
Feed-in from USB	VDC	4 ... 6
Current consumption	mA	≤250
Output signal torque	digits	±25,000
Output signal speed/ angle of rotation	digits	±32,511
Control signal excitation		per Software
Sample rate	kSample/s	2.5
Reference temperature	°C	23
Nominal temperature range	°C	5 ... 45
Service temperature range	°C	0 ... 60
Storage temperature range	°C	-10 ... 70
Temperature coefficient of sensitivity	% f. s./K	±0.01
Temperature coefficient of zero signal	% f. s./K	±0.02
Service torque (static)	% f. s.	150
Limit torque (static)	% f. s.	200
Ultimate torque (static)	% f. s.	>300
Bandwidth (DIN 50 100)	%	70 (peak - peak)
Level of protection (DIN EN 60529)		IP50
Electrical connection		PX0446 IP68 B Mini USB, incl. 3 m connection cable to PC

¹ Unsupported shaft

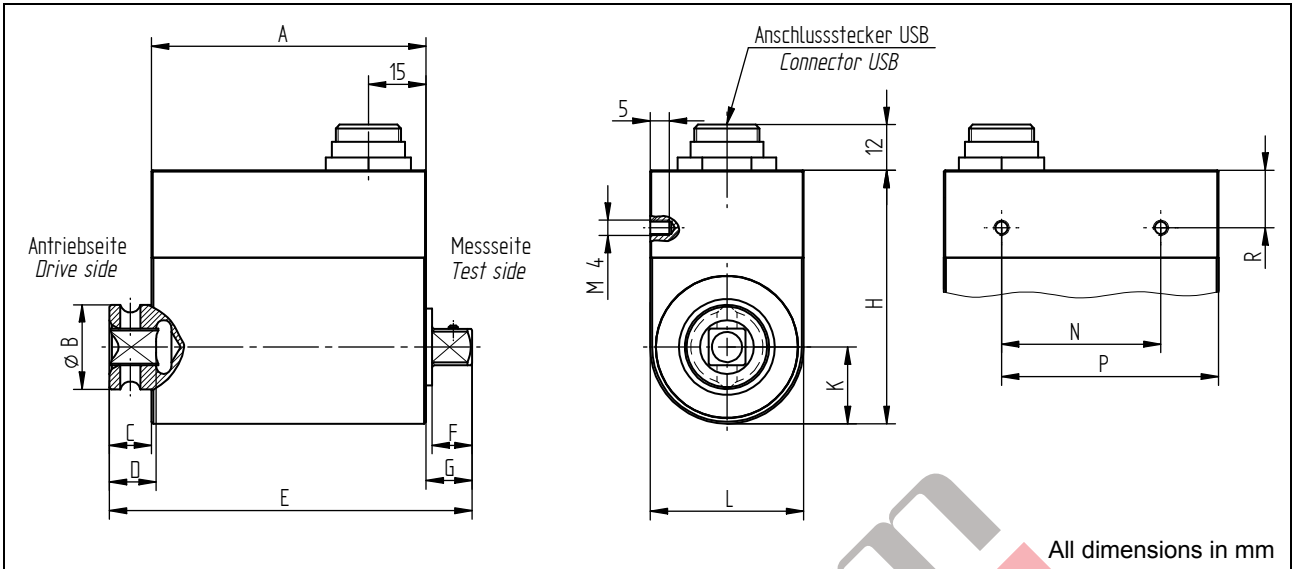
Option Calibrations

Article-No.	Description	Steps	Norm
400676	Linearity diagram	25%	Factory standard
400664	Linearity diagram	10%	
400961	Proprietary calibration	3	VDI/VDE 2646
400700	Proprietary calibration	5	
400688	Proprietary calibration	8	
	DAkkS- Calibration		on request

Dimensions

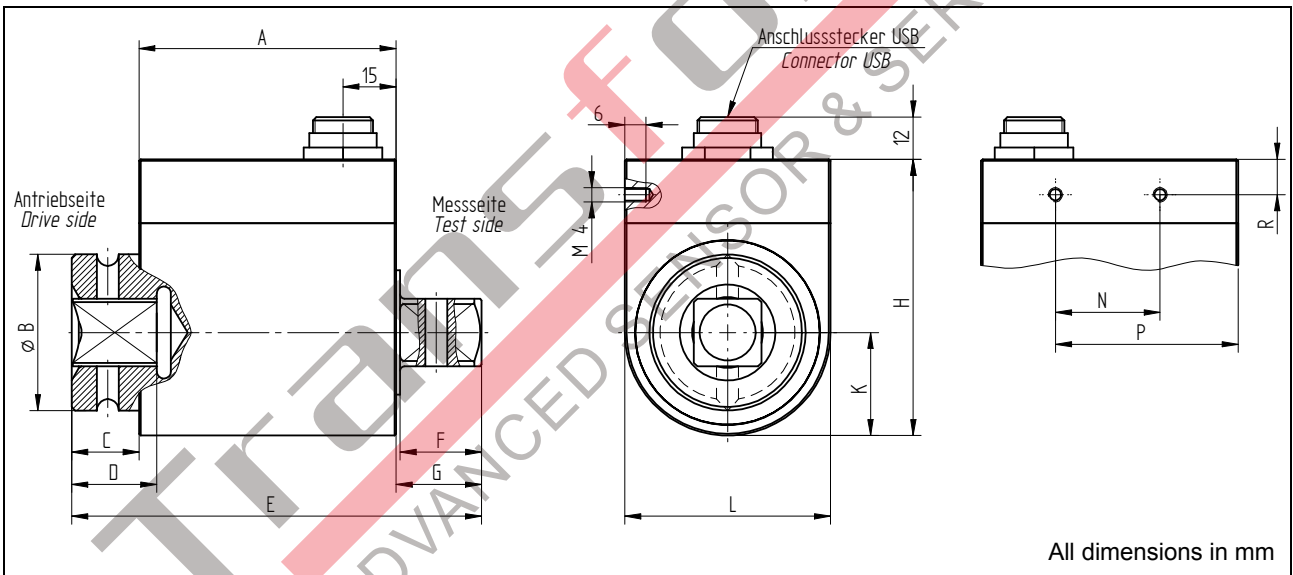


Nominal Torque [N·m]	Square
0,1 / 0,2 / 0,5 / 1 / 2 / 5 / 10 / 15 / 20	1/4"



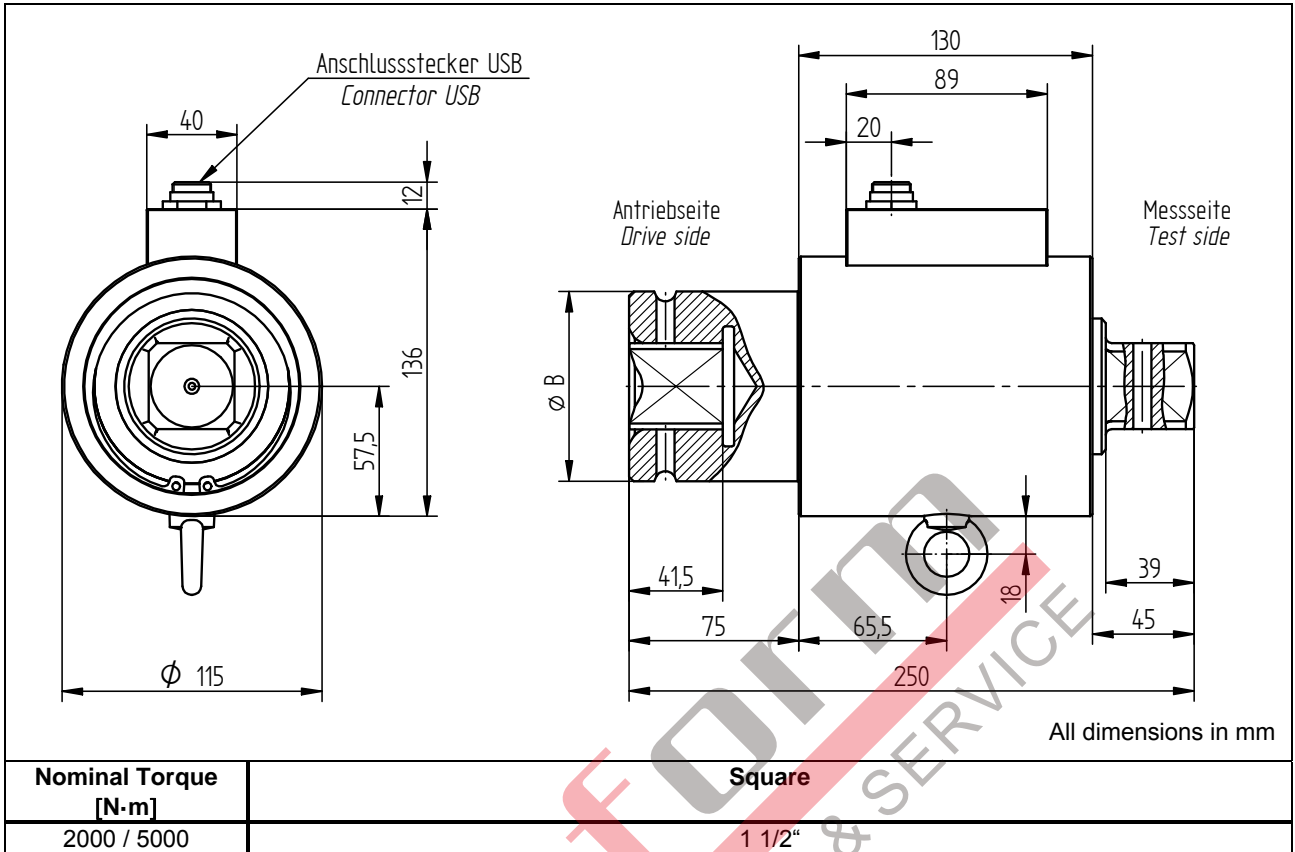
All dimensions in mm

Nominal Torque [N·m]	Square	Dimensions [mm]												
		A	B	C	D	E	F	G	H	K	L	N	P	R
35 / 50 / 63	3/8"	71.5	22	11	12.2	94.5	10.4	12	66	20	40	41.5	56,5	15
100 / 160 / 200	1/2"	71.5	29.8	13	15	100.5	15.1	16	66	20	40	41.5	56,5	15



All dimensions in mm

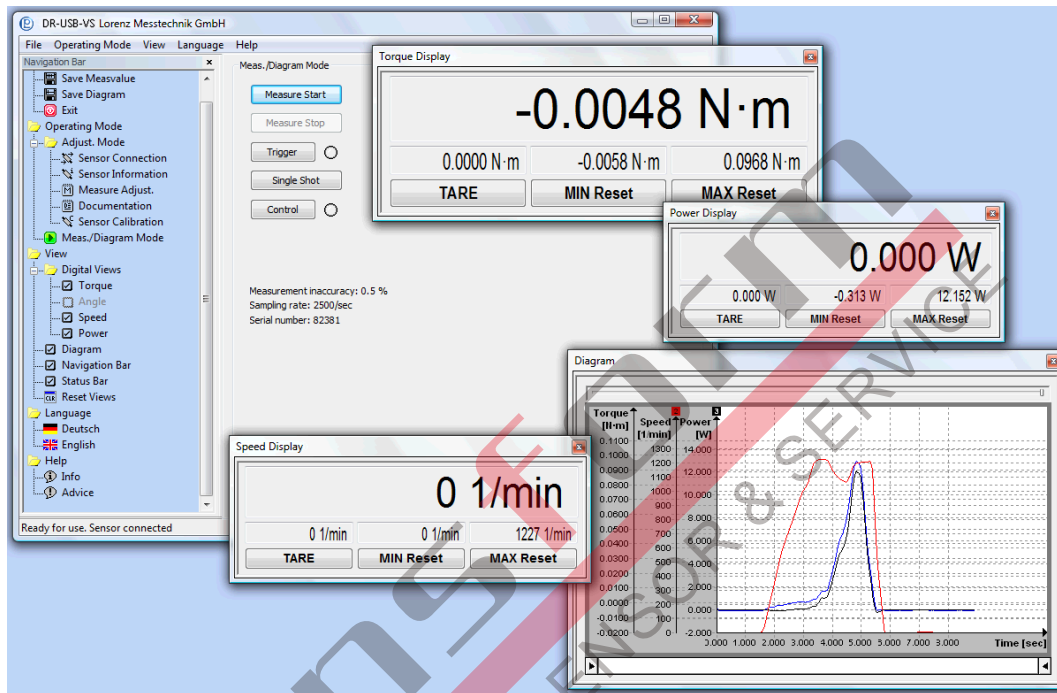
Nominal Torque [N·m]	Square	Dimensions [mm]												
		A	B	C	D	E	F	G	H	K	L	N	P	R
500	3/4"	72.5	44	19	24	115.5	22.9	24	77.8	29	58	29.5	51.5	10
1000	1"	72.5	54	29	29	130.5	27.4	29	77.8	29	58	29.5	51.5	10



Configuration and Evaluation Software

DR-USB-VS

- Convenient configuration and evaluation software
- Graphic presentation of torque/ speed/ power or torque/ angle of rotation
- Automatic scaling of y-axis
- Simultaneous storage of up to 3 physical values
- Automatic storage function of the measured values as CSV- or BMP-File



Description

Configuration and evaluation software for easy analysis and graphic presentation on a PC.

The software allows direct read in of measured data into a text file in CSV-Format through the USB-Port of a PC. This enables further analyses with a commercially available spreadsheet program at any time.

Specifications

Type	DR-USB-VS
Interface	USB
Protocol	Lorenz standard protocol
System Requirements	Windows® '03/ '08/ Vista/ 7/ 8 32/64 Bit ² Dual-Core ex 1.8 GHz (with diagram)

Conversion in physical values	✓
Simultaneous measuring	1 Sensor
Graphic presentation of a physical value	✓
Automatic or manual storage in a CSV and BMP file	✓
Mathematical computation of the mechanical power	✓
Calibration function	✓
Resetable minimum value memory for each measured value	✓
Resetable maximum value memory for each measured value	✓
Variable average determination	✓
Tare for each measured value	✓

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