℗ *LORENZ MESSTECHNIK GmbH*

Obere Schloßstr.131 ☎ 07172 /93730-0
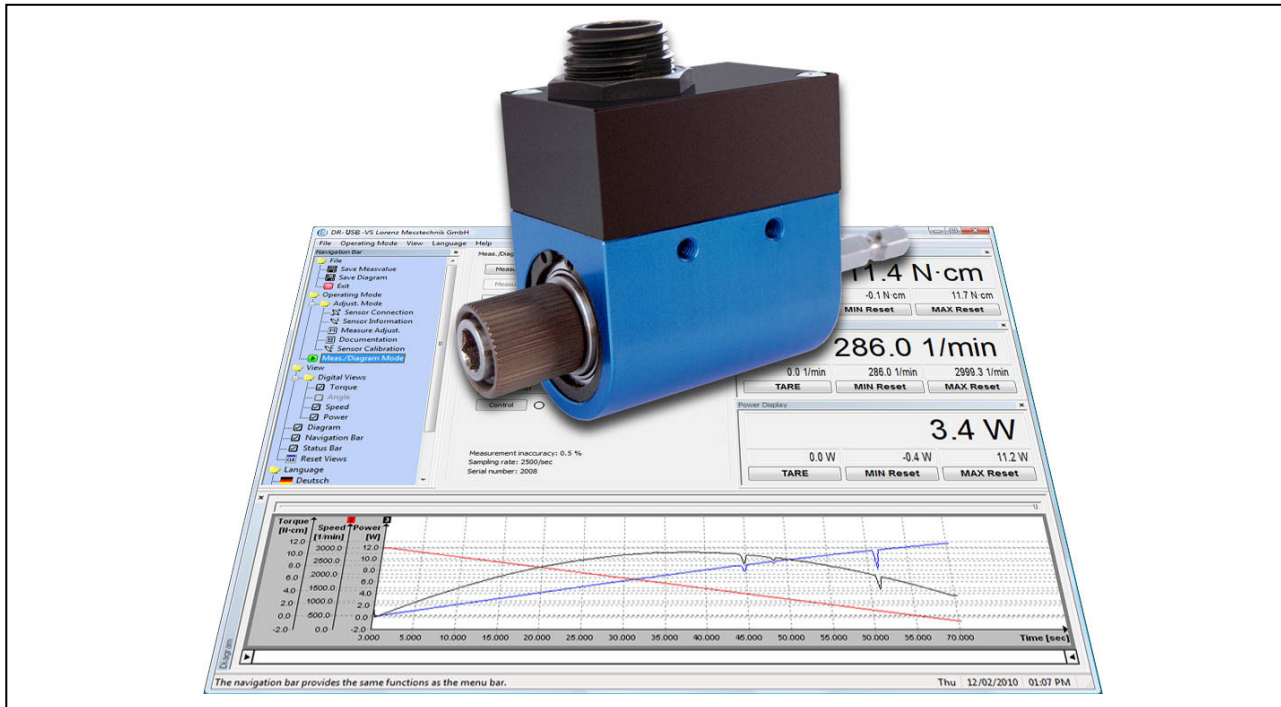73553 Alfdorf Fax 07172 /93730-22

USB - Torque Sensor with Configuration and Evaluation Software   DR-3003

- ❍ Nominal torque from 0.1 N·m ... 20 N·m
- ❍ Up to 2500 Measurements/s
- ❍ 16-Bit digitalization in sensor directly
- ❍ Feed-in from USB, without ext. power supply

- ❍ Suited for mobile operation with a notebook
- ❍ Calibration parameter lodged in sensor
- ❍ Calibration control actuation by software
- ❍ Power computation by software

This sensor has a contactless and digital signal transmission from rotor to stator, which means no signal falsification and maintenance-free.
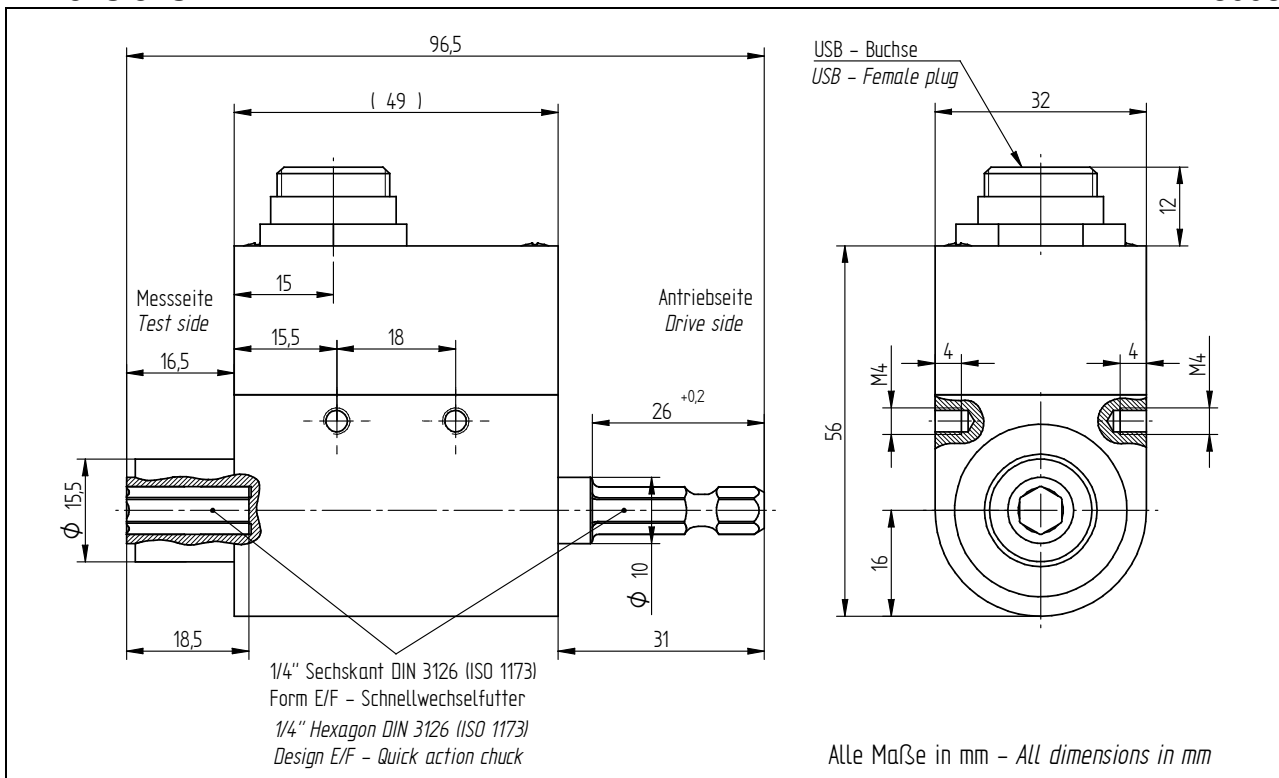
Article Number	Nominal Torque [N·m]	Weight approx. [kg]	Hexagon	Limit Speed [min⁻¹]	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m²]		Natural Frequency [Hz]	Limit Thrust Load [N]
						Drive side	Test side		
112831	0.1	0.2		3000	18	2.6E-06	3.9E-07	$1.1 \cdot 10^3$	43
112832	0.2	0.2		3000	18	2.6E-06	3.9E-07	$1.1 \cdot 10^3$	39
112833	0.5	0.2		3000	112	2.6E-06	3.9E-07	$2.9 \cdot 10^3$	170
112834	1	0.2		4000	112	2.6E-06	3.9E-07	$2.9 \cdot 10^3$	170
112828	2	0.2	1/4"	4000	285	2.6E-06	3.9E-07	$4.6 \cdot 10^3$	240
112835	5	0.2		4000	457	2.6E-06	4.0E-07	$5.8 \cdot 10^3$	430
112836	10	0.2		4000	516	2.6E-06	4.2E-07	$6.0 \cdot 10^3$	570
112837	15	0.2		4000	516	2.6E-06	4.2E-07	$6.0 \cdot 10^3$	570
112838	20	0.2		4000	516	2.6E-06	4.2E-07	$6.0 \cdot 10^3$	570

SPECIFICATIONS

Type		DR-3003
Accuracy class torque	% f. s.	±0.1
Speed resolution	min⁻¹	1
Speed accuracy	% f. s.	±1
Angle of rotation resolution	degree	0.25
Relative spread	%	±0.02
Feed-in from USB	V DC	4 … 6
Current consumption	mA	max. 250
Output signal torque	digits	±25,000
Output signal speed / angle of rotation	digits	±32,511
Input calibration control actuation		per Software
Sample rate	kSample	2.5
Reference temperature	℃	+23
Nominal temperature range	℃	+5 ... +45
Service temperature range	℃	0 ... +60
Storage temperature range	℃	-10 ... +70
Temperature coefficient of characteristic value	% 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
Oscillation amplitude (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

Dimensions   DR-3003

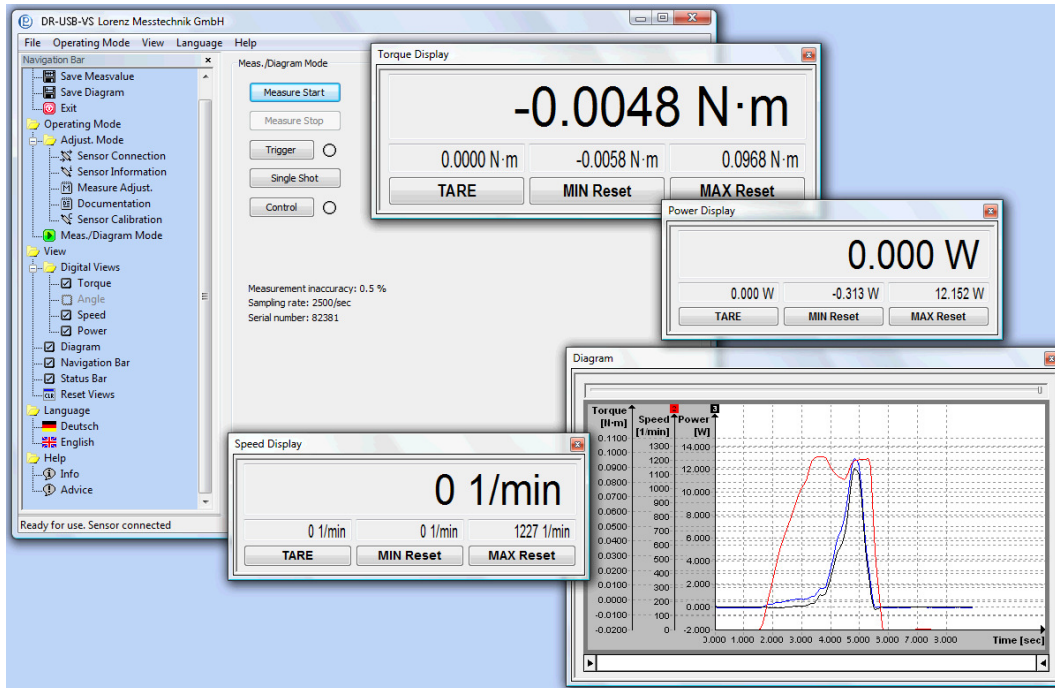

Configuration and Evaluation Software　　　**DR-USB-VS**

- ○ 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	ex Win2000[®1] Single- Core ex 2.0 GHz (without diagram) 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	✓
Resettable minimum value memory for each measured value	✓
Resettable maximum value memory for each measured value	✓
Variable average determination	✓
Tare for each measured value	✓

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[1] Windows® is either a registered brand or brand of the Microsoft Corporation in the USA and/or other countries.