

Torque Sensor, rotating with configuration and evaluation software Series 86-3000

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



86-3000-xxxx

Nominal torque from 0,1 Nm ... 5.000Nm
Accuracy class optional 0.05% f. scale
Feed-in from USB, without ext. power supply
Speed up to 30,000 min⁻¹
Up to 2500 Measurements/s per Measuring Channel
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
Virtually no influence of the bearing friction on the measuring signal
Power computation by software
High Torsional stiffness
Simple handling and assembly

86-3000

Technical Data Model 86-3000

Type	Article number	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] ²
					Drive side	Test side		
86-3000-4100	114357	0,1	30000	1,8E+01	9,2E-06	2,5E-07	43	1,5
86-3000-4200	114358	0,2	30000	1,8E+01	9,2E-06	2,5E-07	58	2
86-3000-4500	111231	0,5	30000	9,4E+01	9,2E-06	2,5E-07	240	3
86-3000-5001	111177	1	30000	9,4E+01	9,2E-06	2,5E-07	240	3
86-3000-5002	111232	2	30000	3,7E+02	9,2E-06	2,5E-07	480	7
86-3000-5005	111233	5	30000	7,7E+02	9,2E-06	2,6E-07	900	16,5
86-3000-5010	111234	10	30000	8,8E+02	9,3E-06	3,4E-07	1050	21
86-3000-5020	111235	20	20000	5,1E+03	1,2E-04	6,8E-06	2300	44
86-3000-5030	111236	30	20000	5,1E+03	1,2E-04	6,8E-06	2300	44
86-3000-5050	111114	50	20000	9,6E+03	1,2E-04	7,4E-06	5000	142
86-3000-5100	111237	100	20000	9,6E+03	1,2E-04	7,4E-06	5000	142
86-3000-5200	111238	200	15000	8,9E+04	5,4E-04	4,4E-04	10000	275
86-3000-5500	110554	500	15000	1,3E+05	5,4E-04	4,4E-04	13000	400
86-3000-6001	111240	1000	15000	1,7E+05	6,4E-04	5,3E-04	20000	920
86-3000-6002	112801	2000	12000	6,3E+05	5,7E-03	5,1E-03	34000	1250
86-3000-6005	112803	5000	12000	9,6E+05	5,8E-03	5,2E-03	64000	2900

Technical Data

Accuracy class torque	±0.1%	% f. s.
Speed resolution	1	min ⁻¹
Speed accuracy	±1	% f. s.
Angle of rotation resolution	0.25	degree
Relative spread	±0.02	%
Feed-in from USB	4 ... 6	V DC
Current consumption	≤250	mA
Output signal torque	±25,000	digits
Output signal speed / angle of rotation	±32.511	digits
Input calibration control signal actuation	per Software	
Sample rate	2.5	kSample
Reference temperature	+23	°C
Nominal temperature range	+5 ... +45	°C
Service temperature range	0 ... +60	°C
Storage temperature range	-10 ... +70	°C
Temperature coefficient of characteristic value	+0.01	% f. s./K
Temperature coefficient of zero signal	±0.02	% f. s./K
Service torque (static)	150	% f. s.
Limit torque (static)	200.	% f. s.
Ultimate torque (static)	>300	% f. s.
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	

Option Calibrations

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

Option/Accessories

Article No.	Description	
101695	Accuracy class	0,05 % f.s.
	Keys according DIN 6885	On request

[1]Unsupported shaft

[2]Unsupported shaft

Technical changes reserved.

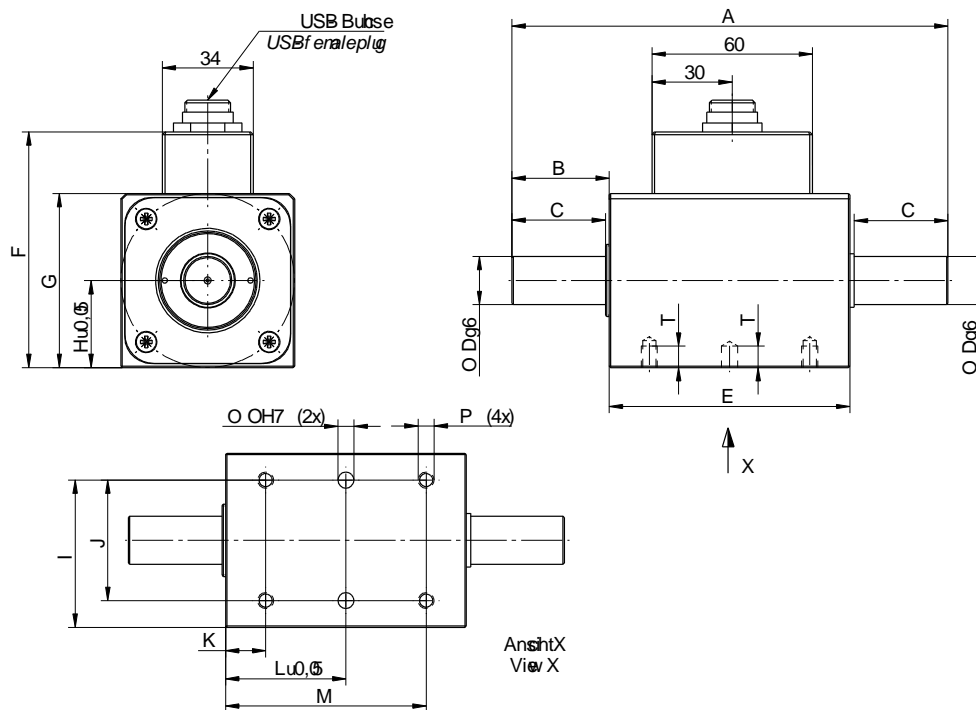
Latest updates of data sheet always under www.burster.it

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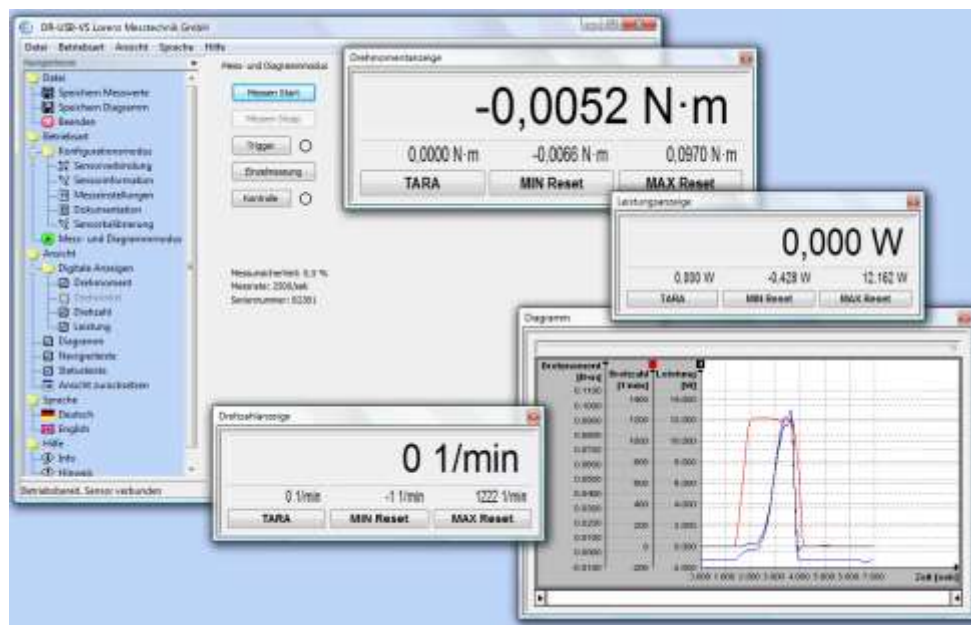
Mechanical Dimensions



Measuring range [N·m]	Dimensions [mm]															
	A	B	C	Ø D	E	F	G	H	I	J	K	L	M	O	P	T
0.1	110	19	17	8	71	63	40	20	35	30	12	35.5	59	4	M4	8
0.2	110	19	17	8	71	63	40	20	35	30	12	35.5	59	4	M4	8
0.5	110	19	17	8	71	63	40	20	35	30	12	35.5	59	4	M4	8
1	110	19	17	8	71	63	40	20	35	30	12	35.5	59	4	M4	8
2	110	19	17	8	71	63	40	20	35	30	12	35.5	59	4	M4	8
5	110	19	17	8	71	63	40	20	35	30	12	35.5	59	4	M4	8
10	110	19	17	10	71	63	40	20	35	30	12	35.5	59	4	M4	8
20	163	36.5	35	18	90	88	65	32.5	55	45	15	45	75	6	M6	8
30	163	36.5	35	18	90	88	65	32.5	55	45	15	45	75	6	M6	8
50	163	36.5	35	18	90	88	65	32.5	55	45	15	45	75	6	M6	8
100	163	36.5	35	18	90	88	65	32.5	55	45	15	45	75	6	M6	8
200	234	56.5	55	32	120	118	95	47.5	82.5	70	20	60	100	8	M8	14
500	234	56.5	55	32	120	118	95	47.5	82.5	70	20	60	100	8	M8	14
1000	234	56.5	55	42	120	118	95	47.5	82.5	70	20	60	100	8	M8	14
2000	372	114	110	70	144	163	140	70	120	100	25	72	119	12	M12	20
5000	372	114	110	70	144	163	140	70	120	100	25	72	119	12	M12	20

Configuration and Evaluation Software

- 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 Bit²
- 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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