

Torque Sensor, rotating Series 86-2208

These sensors have a contactless and digital signal transmission from rotor to stator, which means no signal falsification and maintenance-free.



86-2208

86-2208-xxxx

Dual-Range Torque Sensor, Analog Output
Nominal torque from 5/0.5Nm...20.000/2.000Nm
High accuracy 0.1% f. scale
Active output ± 5 V (optional ± 10 V)
Speed up to 15000min^{-1}
Integrated speed/angle measurement optional
Very short axial length
High torsional stiffness
Reliable and durable
Simple handling and assembly
Special versions on request

86-2508-xxxx

Dual-Range Torque Sensor,
Nominal torque from 5/0.5Nm...20.000/2.000Nm
High accuracy 0.1% f. scale
Digital output RS485
Speed up to 15000min^{-1}
Integrated speed/angle measurement optional
Very short axial length
High torsional stiffness
Reliable and durable
Simple handling and assembly
Special versions on request
Auto identification of: measuring range, serial number, date of calibration

Technical Data Model 86-2208

Order code	Article No. 86-2208	Measuring range [Nm]	Limit Speed [min ⁻¹]	Springrate [N·m/rad]	Mass moment of inertia [kg·m ²] ¹		Limit Thrust Load [N] ²	Limit Thrust Load [N] ³
					Drive side	Test side		
86-2208-5005	109844	5/0,5	15000	2,1E+02	9,0E-06	8,4E-06	450	3
86-2208-5010	100911	10/1	15000	7,1E+02	9,3E-06	8,5E-06	710	12
86-2208-5020	100912	20/2	15000	1,9E+05	1,1E-05	9,9E-06	1150	23
86-2208-5030	100910	30/3	15000	2,9E+03	1,1E-05	9,9E-06	1500	35
86-2208-5050	100913	50/5	15000	5,4E+03	1,3E-05	1,1E-05	2150	45
86-2208-5100	100914	100/10	12000	8,0E+03	1,3E-05	1,2E-05	3400	90
86-2208-5200	100915	200/20	12000	3,4E+04	1,1E-04	8,4E-05	5800	175
86-2208-5500	100917	500/50	10000	6,3E+04	1,2E-04	8,6E-05	10000	410
86-2208-6001	100918	1000/100	8000	2,0E+05	1,6E-03	1,1E-03	16200	530
86-2208-6002	100919	2000/200	5500	5,1E+05	5,3E-03	4,2E-03	25000	720
86-2208-6005	100921	5000/500	5500	7,2E+05	5,3E-03	4,3E-03	42000	1850
86-2208-6010	107792	10000/1000	5000	3,1E+06	4,1E-02	3,6E-02	66000	2700
86-2208-6020	107793	20000/2000	5000	3,7E+06	4,1E-02	3,7E-02	98000	5200

Technical Data

	86-2208	86-2508
Accuracy class	0,1 % f. s.	0,1 % f. s.
Repeatability (DIN 1319)	±0,02 %	±0,02 %
Excitation voltage	12 ... 28 VDC	12...28 VDC
Current consumption	<60 mA	< 60 mA
Output signal	±5 V	±25000 digits per Software
Control signal excitation	L <2,0; H >3,5 V	
Sample rate	5	kSample/s
Sample rate channel A or B		5* kSample/s
Sample rate channel A and B		3,5* kSample/s
Reference temperature	23 °C	23 °C
Nominal temperature range	5 ... 45 °C	5 ... 45 °C
Service temperature range	0 ... 60 °C	0 ... 60 °C
Storage temperature range	-10 ... 70 °C	-10 ... 70 °C
Temp. coeff. of sensitivity	±0,01 % f. s.	±0,01 % f. s.
Temp. coeff. of zero signal	±0,02 % f. s.	±0,02 % f. s.
Service torque (static)	150 % f. s.	150 % f. s.
Limit torque (static)	200 % f. s.	200 % f. s.
Ultimate torque (static)	>300 % f. s.	>300 % f. s.
Bandwidth (DIN 50100)	70 % (peak - peak)	70 % (peak - peak)
Level of protection (DIN EN 60529)	IP50	IP50
Electrical connection	12-pin series 581 ^[4]	12-pin series 581 ^[4]

Pin Connection Model 86-2208

12pin

Pin A	NC	-
Pin B	Opt.Signal angle B	5V TTL
Pin C	Signal 1 (+)	±5 V (±10V)
Pin D	Signal (GND)	0 V
Pin E	Supply (GND)	0 V
Pin F	Supply (+)	12 ... 28 VDC
Pin G	Opt. Signal angle A	5V TTL
Pin H	Signal 2 (+)	±5 V
Pin J	NC	-
Pin K	Calibration control	L <2,0 V; H >3,5 V
Pin L	NC	-
Pin M	Shield	

Model 86-2508

12pin

Pin A	NC	-
Pin B	Opt. signal angle B	5V TTL
Pin C	NC	-
Pin D	NC	-
Pin E	Supply (GND)	0 V
Pin F	Supply (+)	12 ... 28 VDC
Pin G	Opt. signal angle A	5V TTL
Pin H	NC	-
Pin J	RS485	RS485 (B)
Pin K	NC	-
Pin L	RS485	RS485 (A)
Pin M	shield	

[1] Without option speed/angle measurement

[2] Unsupported shaft

[3] Unsupported shaft

[4] Female cable connector in scope of delivery at first delivery

Technical changes reserved.

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

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Option/Accessories

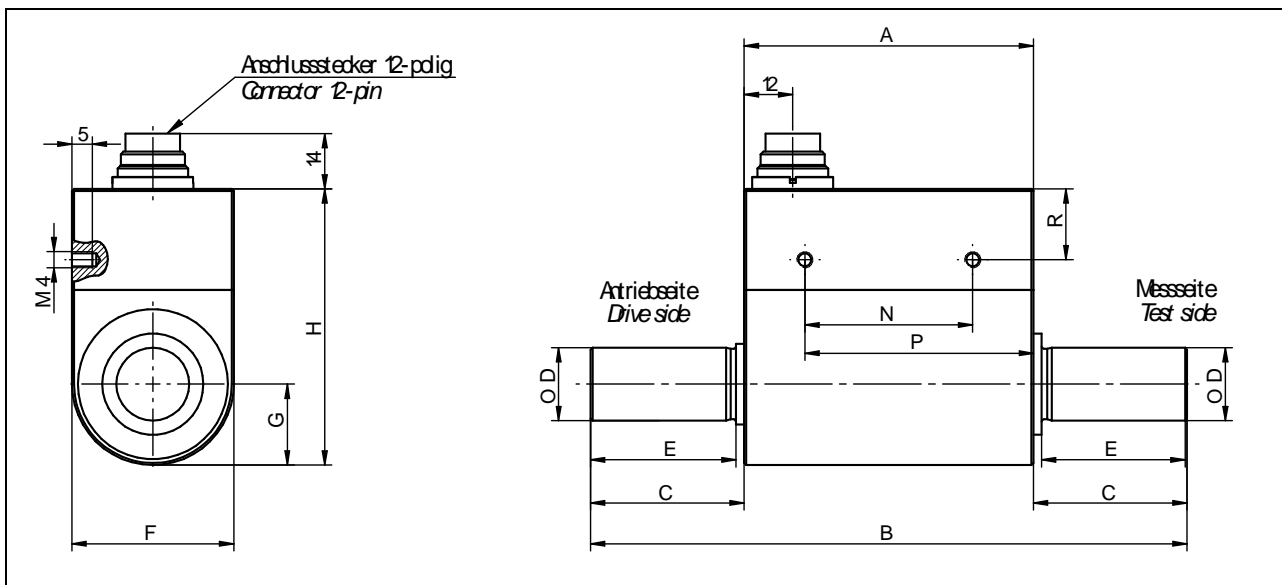
Article No.	Description	
101560	Angle control 360 impulses, 2 traces, 90° displaced	CW-turn
104097 ⁵	≥2000Nm, 60 impulses, 1 trace	CH A CH B
103562	Output signal	±10 V
41382	Female cable connector 12-pin series 581	
45598	Female angled connector 12-pin series 682	
10270	Connection cable, 3m, 12-pin series 581, free soldered ends	
10345	Connection cable angled, 3m, 12-pin series 682, free soldered ends	
On request	Key according DIN 6885	

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

[5] Nominal torque ≥2000Nm

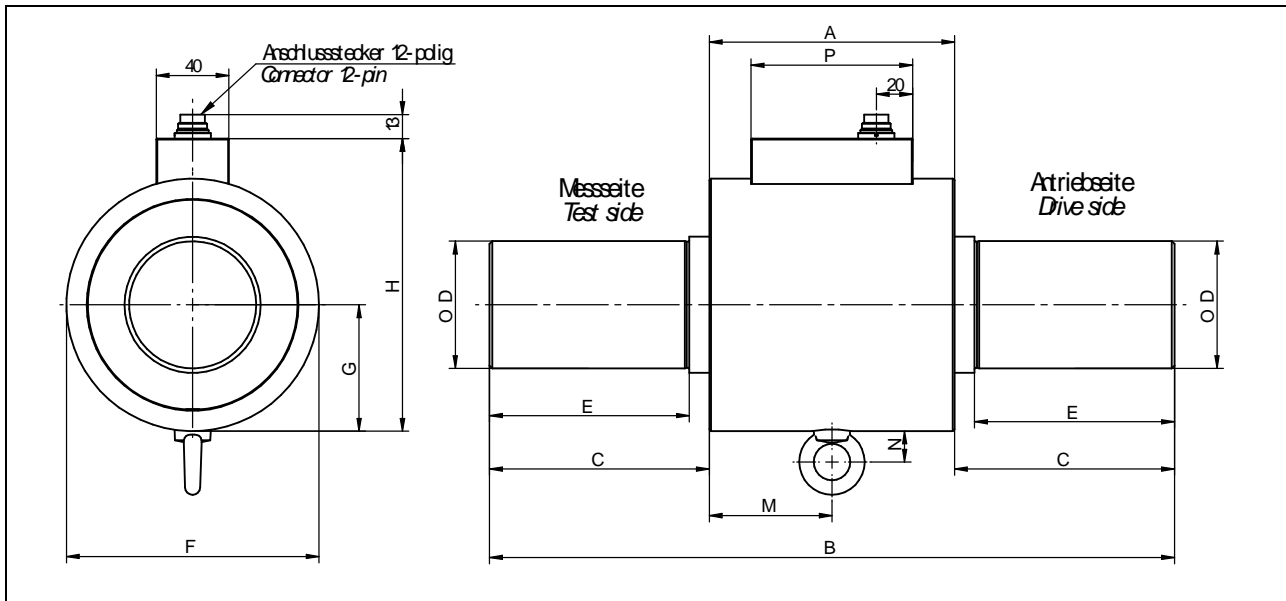
Mechanical Dimensions



Measuring range [Nm]	Dimensions [mm]										
	A	B	C	ØD	E	F	G	H	N	P	R
5/0,5	71,5	107,5	18	8 g6	17	40	20	68,2	41,5	56,5	17,5
10/1	71,5	107,5	18	10 g6	17	40	20	68,2	41,5	56,5	17,5
20/2	71,5	111,5	20	18 h6	18	40	20	68,2	41,5	56,5	17,5
30/3	71,5	111,5	20	18 h6	18	40	20	68,2	41,5	56,5	17,5
50/5	71,5	147,5	38	18 h6	36	40	20	68,2	41,5	56,5	17,5
100/10	71,5	147,5	38	18 h6	36	40	20	68,2	41,5	56,5	17,5
200/20	80,5	159,5	39,5	32 h6	38	61	30,5	86,2	29,5	55,5	17
500/50	80,5	159,5	39,5	32 h6	38	61	30,5	86,2	29,5	55,5	17

86-2208

Mechanical Dimensions



Measuring range [N·m]	Dimensions [mm]										
	A	B	C	ØD	E	F	G	H	M	N	P
1000/100	130	262	66	50 g6	58	115	57,5	136	65,5	18	89
2000/200	135	377	121	70 g6	110	139	69,5	161	67,5	18	89
5000/500	135	377	121	70 g6	110	139	69,5	161	67,5	18	89
10000/1000	190	470	140	110 g6	120	210	105	233	95	18	89
20000/2000	190	470	140	110 g6	120	210	105	233	95	18	89