

Warranty: 24 months

burster

High Precision Flange Torque Sensor rotating, contactless

MODEL 8670 **NEW**

Preliminary data sheet



Highlights

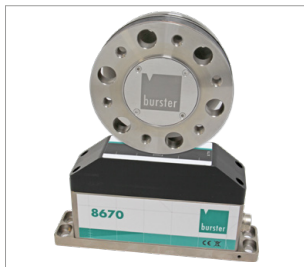
- Measuring ranges from 0 ... 100 N·m up to 0 ... 5000 N·m
- Linearity error ≤ 0.05 % F.S.
- Flange connection with DIN hole pattern
- Output signal 0 ... ± 10 V

Options

- Frequency output or CAN

Applications

- Test station construction
- Quality monitoring of electric motors and gearboxes
- Research & development
- Machinery and plant engineering



Rotor incl. Stator



Evaluation electronics



Stator

Product description

The rotating flange torque sensor model 8670 consists of the sensor (rotor), the receiver (stator) and the evaluation electronics.

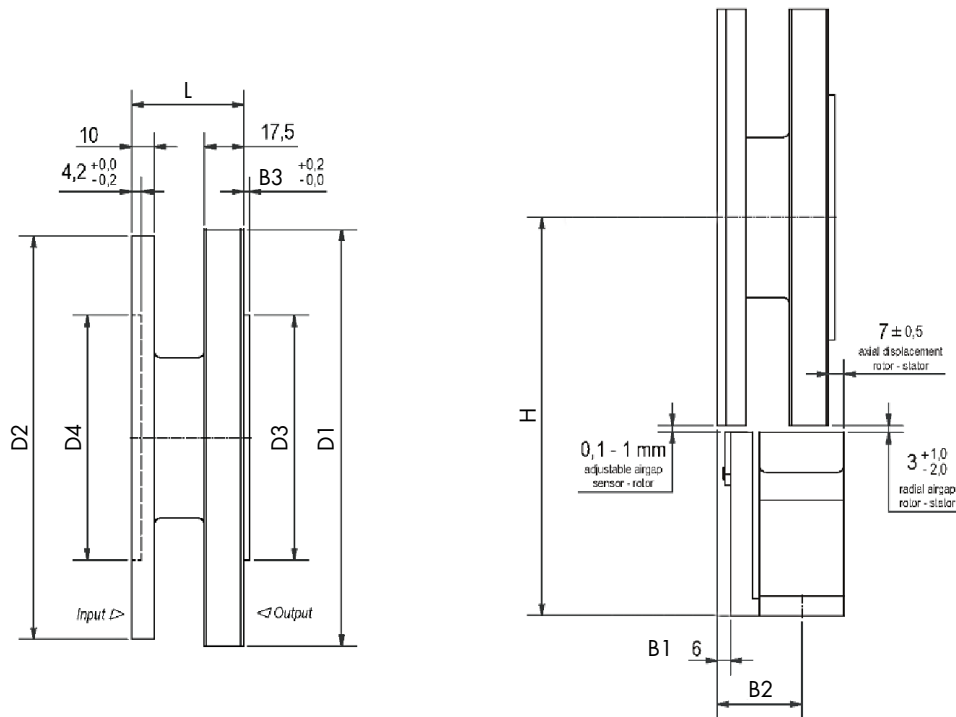
The torque is detected by the torsion of the rotor with the strain gage principle and transmitted completely contactless by radio technology. By omitting a bearing, the sensor is maintenance-free, the signals are digitized directly on the shaft and made available by the evaluation electronics as a voltage signal, as a frequency or as CAN signals. The direction of rotation can be seen by the potential of the output voltage, clockwise corresponds to positive output voltage, anticlockwise the voltage level is negative.

The hole pattern corresponds to the DIN standard and is compatible with already existing systems.

Technical Data

8670	-	5100	5200	5500	6001	6002	6003	6004	6005
Measuring range calibrated in N·m from 0 ...		100	200	500	1000	2000	3000	4000	5000
Accuracy									
Relative non-linearity, incl. hysteresis		0.05 % F.S.							
Tolerance of sensitivity		0.1 % F.S.							
Temperature effect on zero output		±0.03 % F.S./10 K							
Temperature effect on nominal sensitivity		±0.03 % F.S./10 K							
Electrical values									
Rated supply voltage range		24 V DC ±1 V							
DC power consumption		< 24 W							
Output voltage at pos. rated torque		5 V/10 V (adjustable)							
Frequency at pos. nominal torque		15/80/90/360 kHz (adjustable)							
Environmental conditions									
Range of nominal temperature rotor/stator		+10 °C ... +80 °C							
Range of operating temperature rotor/stator		-20 °C ... +80 °C							
Mechanical values									
Max. operation torque		300 % of nominal torque							
Breakaway torque		600 % of nominal torque							
Maximum limit axial load	[kN]	13	17	26	46	57	83	89	
Maximum limit radial load	[kN]	3	4	7	11	15	20	23	
Max. rotary speed	[min. ₁]	21000		20000	16000		15000		
Spring constant	[kN·m/rad]	152	266	647	1461	1988	3317	3894	
Mass moment of inertia rotor	[kg·m ²]	0.0017		0.0034	0.0085		0.0188	0.0189	
Installation									
Radial distance rotor/stator	[mm]	3 (+1/-2)							
Axial distance rotor/stator	[mm]	7 (±1)							
Other									
Weight rotor	[kg]	1.2	1.3	1.7	2.9		4.4	4.5	
Weight stator	[kg]	0.6							

Dimensional drawing



8670	-	5100	5200	5500	6001	6002	6003	6004	6005
Measuring range from 0 ...		100	200	500	1000	2000	3000	4000	5000
Geometry									
D1	[mm]	107		128		158		181	
D2	[mm]	101		122		152		187	
D3	[mm]	57 g5		75 g5		90 g5		110 g5	
D4	[mm]	57 H6		75 H6		90 h6		110 H6	
H	[mm]	139		149.5		164.5		179	
B1	[mm]	14		17		18		19	
B2	[mm]	33		55		56		38	
B3	[mm]	2				2.5		2.8	
Bolt circle Ø	[mm]	84		101.5		130		155.5	
L	[mm]	45				49		50	
Balancing grade DIN ISO 1949		2.5							

For detailed dimensional data, please find the CAD data of the sensor on our website www.burster.com

