

Precision Flanged Torque Sensor

Rotary, non-contact

MODEL 8675 **NEW**



Highlights

- Measuring ranges from 0 ... 100 N·m up to 0 ... 5000 N·m
- Low non-linearity ≤ 0.2 % F.S.
- Attractively priced
- Flange connection with DIN hole pattern
- Space-saving extremely short design
- Analog output: ± 10 V
- Frequency output (RS 422)
- Sensor configurable via USB

Options

- Non-linearity 0.1 % F.S.

Applications

- Mechanical and plant engineering
- End-of-line monitoring
- Quality monitoring for electric motors and gearboxes
- Test bench construction
- Research and development

Product description

The type 8675 rotary flanged torque sensor consists of the sensor (rotor) and receiver (stator).

Torque is measured via the torsion of the rotor using strain gages. Transmission is optically and fully contactless. As there is no bearing, the sensor is maintenance free. Signals are digitized directly on the shaft and made available via the evaluation electronics as a voltage signal, frequency (RS 422) or USB. The direction of rotation is indicated by the polarity of the output voltage: clockwise produces a positive output voltage, anticlockwise negative.

Thanks to its ringless design and extremely compact dimensions, the sensor is easy to integrate. The flange dimensions conform to the DIN standard and are compatible with existing systems.



Rotor with stator



Contactless data transmission



Stator

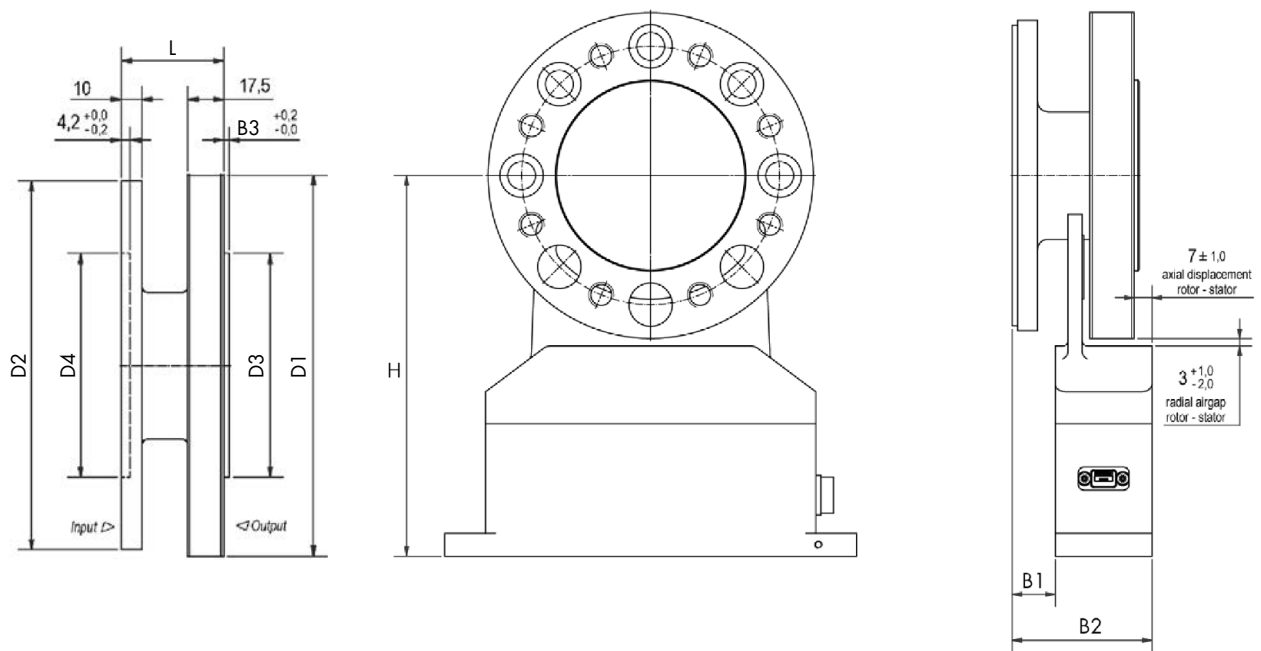


USB connection

Technical data

8670	-	5100	5200	5500	6001	6002	6003	6005
Measuring range calibrated in N·m from 0 ...	[N·m]	100	200	500	1000	2000	3000	5000
Accuracy								
Relative non-linearity, including hysteresis		±0.2 % F.S. (optional ±0.1 % F.S.)						
Characteristic value tolerance		±0.1 % F.S.						
Temperature effect on zero		±0.2 % F.S./10 K						
Temperature effect on characteristic value		±0.2 % F.S./10 K						
Electrical values								
Supply voltage		12 ... 26 V DC						
DC power consumption		< 12 W						
Output signals (configurable)		Frequency output (RS-422): 60±20 kHz Analog output: 0 - 5 V, 0 - 10 V, ±5 V, ±10 V						
Ambient conditions								
Rated temperature range rotor/stator		+10 °C ... +80 °C						
Operating temperature range rotor/stator		-20 °C ... +85 °C						
Mechanical values								
Max. operating torque		300 % of rated torque						
Breaking torque		600 % of rated torque						
Max. axial load	[kN]	13	17	26	46	57	89	
Max. radial load	[kN]	3	4	7	11	15	23	
Max. speed	[min ⁻¹]	21000		20000	16000		15000	
Spring constant	[kN.m/rad]	152	266	647	1461	1988	3894	
Moment of inertia rotor	[kg·m ²]	0.0017		0.0034	0.0085		0.0189	
Installation								
Radial distance rotor/stator	[mm]	3 (+1/-2)						
Axial distance rotor/stator	[mm]	7 (±1)						
Miscellaneous								
Weight rotor	[kg]	1.0	1.2	1.6	1.7	2.9	4.5	
Weight stator	[kg]	1.0						

Dimensional drawing



8675	-	5100	5200	5500	6001	6002	6003	6005
Measuring range from 0 ...		100	200	500	1000	2000	3000	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
W1	[mm]		14		17		18	19
W2	[mm]		33		55		56	38
W3	[mm]		2				2.5	2.8
Hole circle Ø	[mm]		84		101.5		130	155.5
L	[mm]		45		48		49	50
Balance quality grades ISO 1940			2.5					

For detailed dimensional specifications, please refer to the CAD data and separate technical drawings of the sensor on our website www.burster.de

Accessories

Order code	
9900-V680	Mating connector for X10 (included with device)
9900-K501	Connecting cable for X10: one end open, length 5 meters

Calibration

Test and calibration log	
Is supplied with the sensor	With details of the zero point, full-scale output and shunt calibration.
Standard factory calibration certificate for torque sensors or measurement chains (WKS)	
Optionally available	Calibration of the clockwise and/or anticlockwise torque in steps of 20 % of the measuring range, rising and falling.
Special factory calibration certificate for torque sensors or measurement chains (WKS)	
On request	We are happy to calibrate sensors and measurement chains to the customer's specification.
Calibration certificate with accreditation symbol for 8675 torque sensor	
Optionally available	Calibration is based on the accreditation of calibration laboratory D-K-15141-01-00, for the scope of parameters listed in the annex to the accreditation certificate. Traceability to national standards and wide international recognition is therefore assured (DAkkS is a signatory to the EA, ILAC and IAF Multilateral Recognition Arrangements). Calibration services not covered by the D-K-15141 calibration laboratory may be carried out by an external laboratory that has DAkkS accreditation for the required scope of services.

Order code

Measuring range		Code			
0 ... 100 N·m		5	1	0	0
0 ... 200 N·m		5	2	0	0
0 ... 500 N·m		5	5	0	0
0 ... 1000 N·m		6	0	0	1
0 ... 2000 N·m		6	0	0	2
0 ... 3000 N·m		6	0	0	3
0 ... 5000 N·m		6	0	0	5

										Standard					
										0	0	0	3	0	
8	6	7	5	-	X	X	X	X	-	V	0	0	0	3	0

■ Non-linearity 0.2 % F.S.	0
■ Non-linearity 0.1 % F.S.	1