

Features

- **Co-rotating measurement electronics** no slip ring and no stator
- **Torque, speed and acceleration** in one device
- **Nominal torque 400 Nm to 40 kNm** in seven sizes
- **Bluetooth Low Energy** with integrated battery, live display and logging via coreVIEWER
- **coreGATE interfaces** depending on variant for 0...10 V, USB, CAN, RS232/422/485

Applications

- Fast and simple measurements in drivetrains
- Product development and test series
- Condition monitoring
- Quality assurance



Description

coreFLANGE is a robust, wireless torque measuring flange with an integrated battery and telemetry for compact integration into the drivetrain of machines and systems. Typical applications are rotating and non-rotating drivetrains, including in harsh environments. The transducer is based on resistive strain gauges and measures torque in the standard version. In addition, the flange captures speed, acceleration and temperature.

On request, we realise individual solutions: additional or alternative measured quantities such as bending moment and axial force, customised geometries and flange patterns, extended temperature ranges, and a power supply matched to the application, either by battery or inductively for continuous operation. coreFLANGE is available in various sizes. The potted electronics in the robust metal housing are designed for IP67.

Operation, configuration, data logging, live display and pre-processing of the measurement data are handled via the free coreVIEWER app, available in the App Store and Play Store. Further information can be found in the app or in the corresponding datasheet.

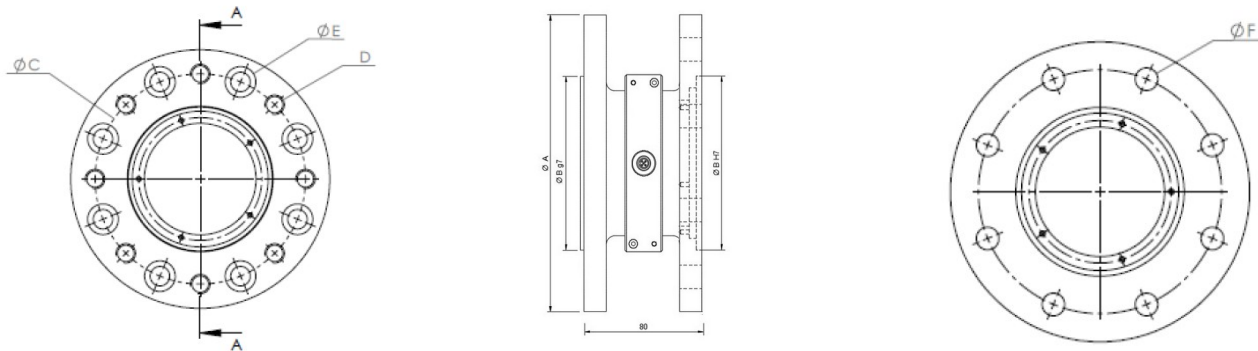
Measurement chain and interfaces

- coreVIEWER app, natively via Bluetooth: live display, configuration, logging
- coreGATE gateways, depending on variant: 0...10 V, USB, CAN, RS232/422/485
- Further interfaces on request
- Synchronous acquisition of further measured quantities via an additional coreLIME with a suitable sensor

Technical data



Torque measuring flange coreFLANGE



Size	cF400	cF1000	cF3000	cF5000	cF10000	cF25000	cF40000
Nominal torque (Nm)	400	1000	3000	5000	10000	25000	40000
A (mm)	101	124	160	188	230	230	256
B (mm)	57	75	90	110	140	140	140
C (mm) (bolt circle)	84	101.5	130	155.5	196	194.7 ³	219
Number of mounting holes	6	8	8	8	8	12	12
D (mm)	M8	M10	M12	M14	M16	Ø 17 (M16)	Ø 22 (M20)
E (mm) (mounting hole)	14	17	19	22	26	-	-
F (mm) (through hole)	8.2	10.2	12.2	14.2	16.2	Ø 17	Ø 22
Bolt property class	12.9						
Bolt tightening torque (Nm)	42	83	146	220	320	340	680
Weight (kg)	1.6	2.4	3.9	5.6	8.1	10.2	12.5
Max. operating time ¹ (h)	600	2040	3120	3120	3120	3120	3120
Min. operating time ² (h)	47	160	245	245	245	245	245
Permissible bending moment ⁴ (Nm)	40	100	300	500	1000	2500	4000
Permissible static bending moment ⁴ (Nm)	500	1250	3750	6250	12500	31250	50000
Permissible static torsional overload ⁴ (Nm)	560	1400	4200	7000	14000	35000	56000

Custom flange patterns and/or three mechanical measured quantities are also available on request.

¹ Runtime applies to data transmission at 1 Hz with firmware version 5.4.4.

² Runtime applies to data transmission at 500 Hz with firmware version 5.4.4.

³ Additional bolt circle on cF25000 (C = 194.7 mm, F = Ø 17 mm) for maximum torsion.

⁴ Related to nominal torque (torsion): bending moment 10 %, static bending moment 125 %, static torsional overload 140 %.

Integrated sensor telemetry

Moment sensors		
Sampling rate	1 ... 1,000	Hz
Torque accuracy	0.2	%
Crosstalk bending to torsion	0.15	Nm/Nm
Speed sensor		
Number of axes	1	
Measuring range	-3,000 ... 3,000	rpm
Accuracy ¹	1	%
Sampling rate	1 ... 1,000	Hz
Acceleration sensor		
Number of axes	3	
Resolution	16	Bit

Measuring range	-30 ... 30	g
Sampling rate (max.)	1 ... 1,000	Hz
Internal temperature sensor		
Accuracy ²	0.2	K
Resolution	14	Bit
Measuring range	-20 ... 60	°C
Sampling rate	0.2	Hz
Data transmission		
Frequency band	2.45	GHz
Bluetooth version	Bluetooth Low Energy 4.2	
Transmission rate	1 ... 500	Hz
Transmit power (max.)	4	dBm
Receive sensitivity	-95 ... 4	dBm
Range (max.)	20	m
Power supply		
Energy storage	Li-Ion battery	
Industrial socket, charging cable with USB connector included	5	V
Standby time ³ (typ.)	1	year
Operation		
Firmware version	5.4.4	
Temperature range	-20 ... 60	°C
ESD	4	kV
Relative centrifugal acceleration	30	g
Protection class	IP67	

¹ Related to nominal value.

² The temperature corresponds to the temperature of the electronics inside the flange.

³ Visible in coreVIEWER, no measurement data.

coreVIEWER app for iOS and Android



The coreVIEWER app for configuration, live display and data logging is provided free of charge in the Apple App Store and the Google Play Store and is compatible with smartphones and tablets.



Apple App Store



Google Play Store

Battery and charging



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The integrated Li-Ion battery is charged via the industrial socket using the supplied USB charging cable (5 V). The current charge level is shown in the coreVIEWER app.

Scope of delivery

The scope of delivery includes:

- coreFLANGE measuring flange
- Charging cable with USB connector
- Transport case
- Factory calibration certificate
- Quick guide

Change log

Version	Change	Release
0.5	Layout unified, technical data restructured, sizes cF25000 and cF40000 added, accuracies updated	30.06.2026
0.0	Initial release	26.06.2024

Figures, descriptions and technical data are non-binding and may be changed without prior notice.
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