



Description

The torque sensor consists of an outer flange and an inner flange which are connected by 4 s-shaped spiral springs. Outer and inner flange have 4 threads M4 each for torque introduction.

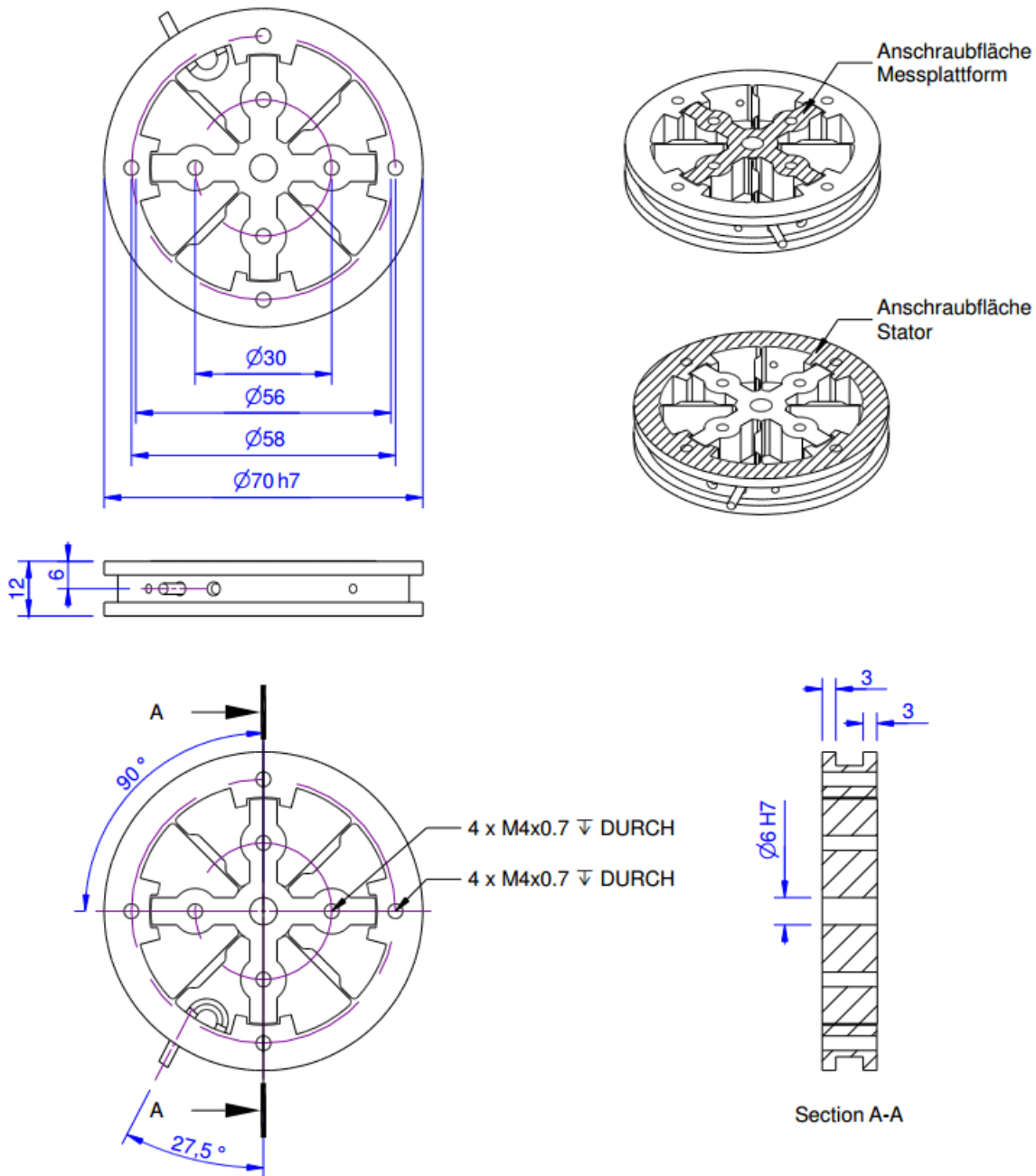
The sensor is suitable for measurement of reaction moment e.g. in the clock industry, in wind tunnel weighers for measurement of frictional forces.

Through the integrated mechanical stopper overload is prevented.

It is recommended to insert distance pieces as shown in the assembly drawing. These can be shock absorbers with M4 threads.

By using distance pieces the torque sensor is also isolated thermally from the traction unit.

Dimensions



Technical Data - Version $\pm 25\text{mNm}$

Electrical Data

Input resistance	350 Ohm
Tolerance input resistance	10 Ohm
Output resistance	350 Ohm
Tolerance output resistance	10 Ohm
Insulation resistance	5 GOhm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	0.4 mV/V / FS
characteristic value range min	0.2 mV/V / FS
characteristic value range max	0.6 mV/V / FS

Precision

Accuracy class	0,1%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.1 %FS
Temperature effect on zero signal	0.01 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.05 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-31V-4
Cable length	2 m

Temperature

Rated temperature range f	-10 ... 60 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

Basis Data

Type	bending spring
Rated torque	25 mNm
Bending moment limit	5 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	100 N
Lateral force limit	100 N
Torque introduction	pitch circle
Dimension 1	Ø30
drehmomentausleitung	pitch circle

Technical Data - Version $\pm 50\text{mNm}$

Electrical Data

Input resistance	350 Ohm
Tolerance input resistance	10 Ohm
Output resistance	350 Ohm
Tolerance output resistance	10 Ohm
Insulation resistance	5 GOhm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	0.4 mV/V / FS
characteristic value range min	0.2 mV/V / FS
characteristic value range max	0.6 mV/V / FS

Precision

Accuracy class	0,1%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.1 %FS
Temperature effect on zero signal	0.01 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.05 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-31V-4
Cable length	2 m

Temperature

Rated temperature range f	-10 ... 60 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

Basis Data

Type	bending spring
Rated torque	50 mNm
Bending moment limit	5 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	100 N
Lateral force limit	100 N
Torque introduction	pitch circle
Dimension 1	Ø30
drehmomentausleitung	pitch circle

Technical Data - Version $\pm 150\text{mNm}$

Electrical Data

Input resistance	350 Ohm
Tolerance input resistance	10 Ohm
Output resistance	350 Ohm
Tolerance output resistance	10 Ohm
Insulation resistance	5 GOhm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	0.4 mV/V / FS
characteristic value range min	0.2 mV/V / FS
characteristic value range max	0.6 mV/V / FS

Precision

Accuracy class	0,1%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.1 %FS
Temperature effect on zero signal	0.01 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.05 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-31V-4
Cable length	2 m

Temperature

Rated temperature range f	-10 ... 60 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

Basis Data

Type	bending spring
Rated torque	150 mNm
Bending moment limit	5 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	100 N
Lateral force limit	100 N
Torque introduction	pitch circle
Dimension 1	Ø30
drehmomentausleitung	pitch circle

Technical Data - Version $\pm 300\text{mNm}$

Electrical Data

Input resistance	350 Ohm
Tolerance input resistance	10 Ohm
Output resistance	350 Ohm
Tolerance output resistance	10 Ohm
Insulation resistance	5 GOhm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	0.4 mV/V / FS
characteristic value range min	0.2 mV/V / FS
characteristic value range max	0.6 mV/V / FS

Precision

Accuracy class	0,1%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.1 %FS
Temperature effect on zero signal	0.01 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.05 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-31V-4
Cable length	2 m

Temperature

Rated temperature range f	-10 ... 60 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

Basis Data

Type	bending spring
Rated torque	300 mNm
Bending moment limit	5 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	100 N
Lateral force limit	100 N
Torque introduction	pitch circle
Dimension 1	Ø30
drehmomentausleitung	pitch circle

Technical Data - Version $\pm 1\text{Nm}$

Electrical Data

Input resistance	350 Ohm
Tolerance input resistance	10 Ohm
Output resistance	350 Ohm
Tolerance output resistance	10 Ohm
Insulation resistance	5 GOhm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	0.4 mV/V / FS
characteristic value range min	0.2 mV/V / FS
characteristic value range max	0.6 mV/V / FS

Precision

Accuracy class	0,1%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.1 %FS
Temperature effect on zero signal	0.01 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.05 %FS

Connection Data

Connection type	4 conductor open
Name of the connection	STC-31V-4
Cable length	2 m

Temperature

Rated temperature range f	-10 ... 60 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

Basis Data

Type	bending spring
Rated torque	1 Nm
Bending moment limit	5 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	100 N
Lateral force limit	100 N
Torque introduction	pitch circle
Dimension 1	Ø30
drehmomentausleitung	pitch circle

Dimension 2	$\varnothing 58$
Diameter	70 mm
length	10 mm



Abbreviation : RD: „Reading“; FS: „Full Scale“;
The characteristic value is indicated in the test report;

Pin Configuration

Symbol	Description	Wire colour
+Us	positive bridge supply	red
-Us	negative bridge supply	black
+Ud	positive bridge output	green
-Ud	negative bridge output	white

*Pressure load: positive output signal.
Shield- transparent.*

accessories

Description	Description
	Factory calibration certificate Nm/50/5 Detection of the characteristic value and traceability on DAkkS torque device; 0.025Nm... 50Nm
	Factory calibration certificate Nm/50/5/System Detection of the characteristic value and traceability on DAkkS torque device; 0.025Nm... 50Nm; incl. calibration, torque sensor + amplifier