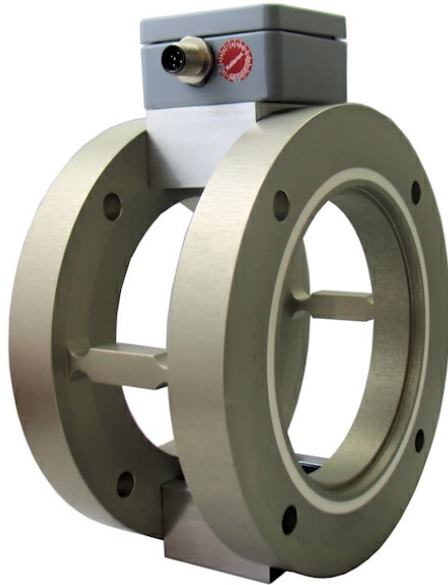


TD175 $\pm 10\text{Nm}$, $\pm 20\text{Nm}$, $\pm 50\text{Nm}$



Description

The torque sensor TD175 is used in test benches for measuring the reaction torque. (Wired, non-rotating).

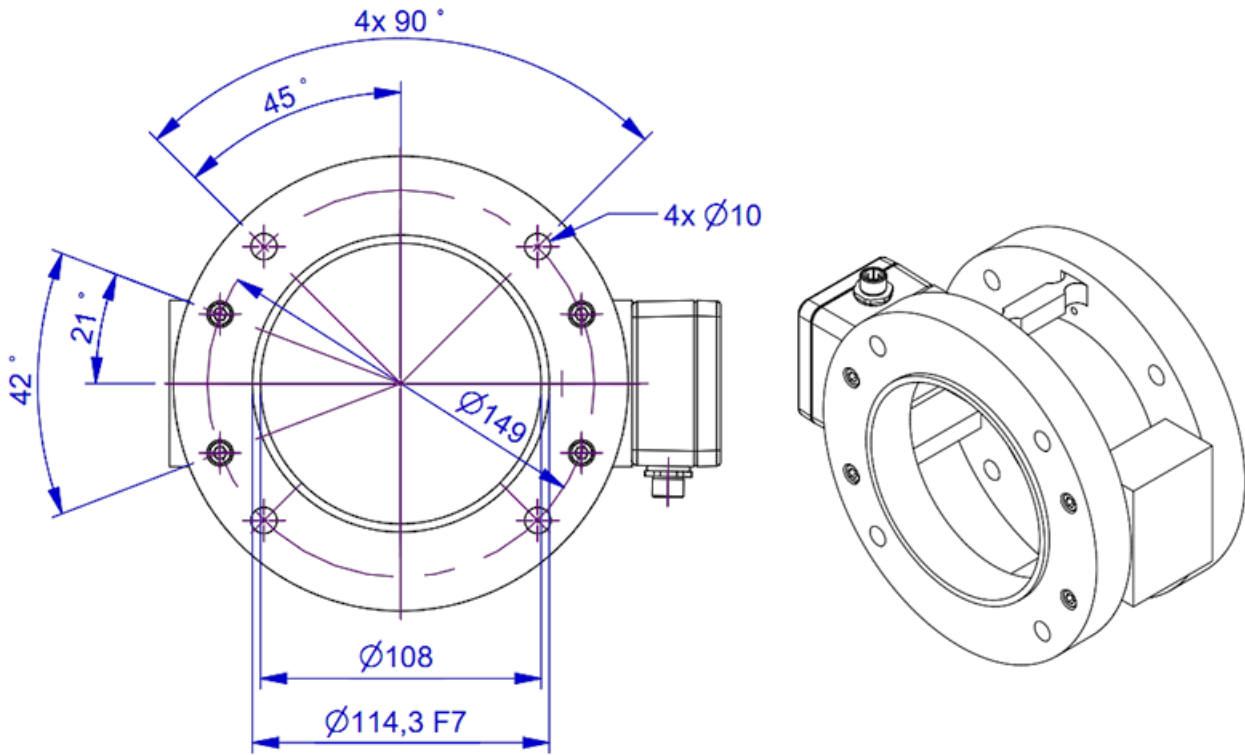
The torque sensor consists of two flanges, which are connected with each other via 4 measuring spokes. The two flanges have the same pitch circle $\varnothing 149\text{mm}$. The centerings are designed as an external and internal collar with $\varnothing 114,3$.

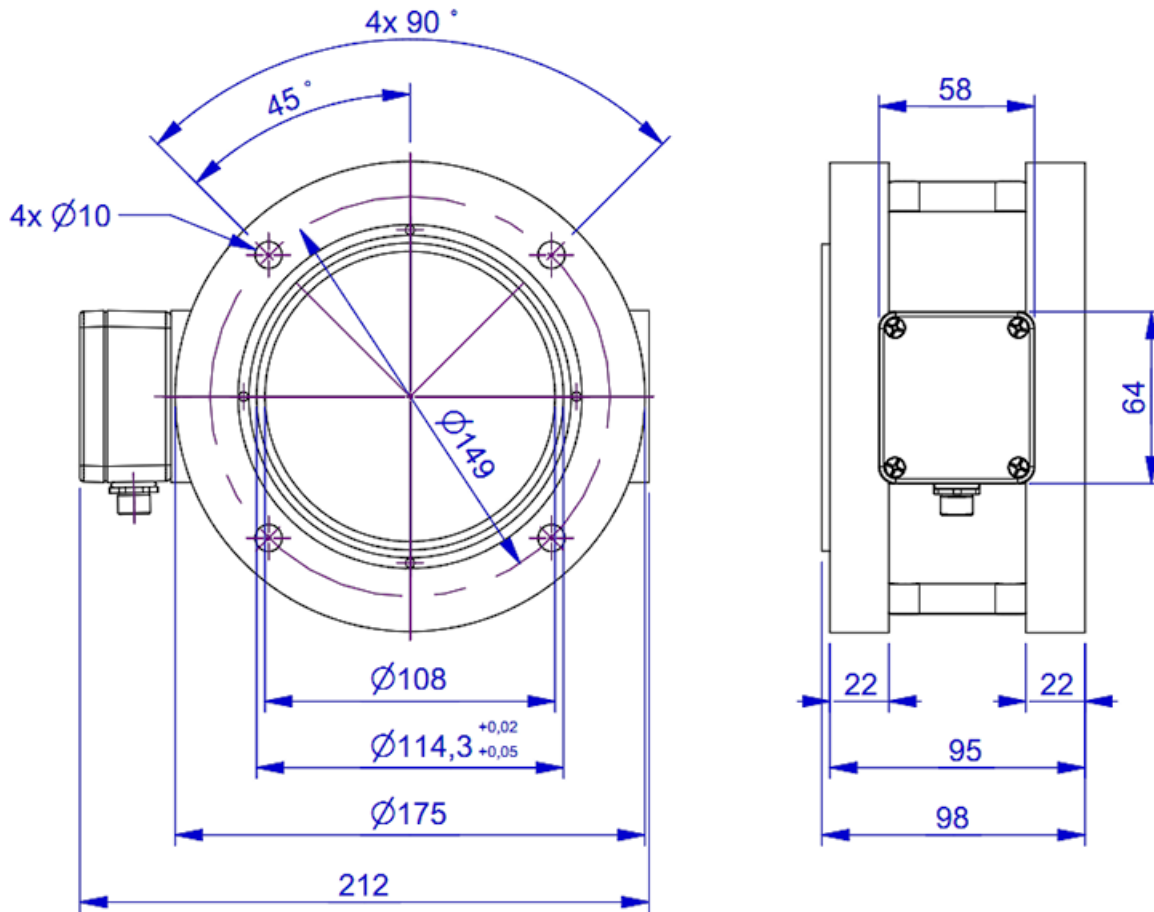
Due to the large diameter of the torque sensor TD175 and the arrangement of the measuring spokes in the axial direction, this torque sensor can also absorb bending moments up to 200 Nm, which are caused by the dead weight of the drive motor.

The connection is made via a terminal box with M12 connectors.

Optionally, a GSV-1A measuring amplifier can be provided on the factory side instead of the terminal box so that the sensor has a voltage or current output of $\pm 10\text{V}$ or $12\text{mA} \pm 8\text{mA}$.

Dimensions





Technical Data

Electrical Data

Input resistance	700 Ohm
Tolerance input resistance	10 Ohm
Output resistance	700 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	1 mV/V / FS
characteristic value range min	0 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	Connector
Name of the connection	M12 round plug connector

Temperature

Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

Basis Data

Type	bending spring
Bending moment limit	200 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	500 N
Lateral force limit	500 N
Torque introduction	pitch circle
Dimension 1	Ø149
drehmomentausleitung	pitch circle
Dimension 2	Ø149
Diameter	175 mm
length	98 mm



Material

Aluminium alloy

Abbreviation : RD: „Reading“; FS: „Full Scale“;



1) The exact nominal sensitivity is indicated in the test report;

Pin Configuration

Symbol	Description	Wire colour	PIN
+Us	positive bridge supply	brown	1
-Us	negative bridge supply	white	2
+Ud	positive bridge output	blue	3
-Ud	negative bridge output	black	4

Compressive load: positive output signal.

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