

## Torque sensor

Type 4507A...

### Reaction torque sensor, from 10 Nm to 10 kNm

Type 4507A... torque sensors are suitable for non-rotating and quasi-static torque measurements. This enables maintenance-free torque measurement.

The areas of application range from checking machine elements, motors, agitator drives to hydraulic pumps. For all applications that require flanges on the sensor for installation.

- Measurement from 10 bis 10 000 Nm
- Measurement accuracy 0,2% FSO
- Cost-optimized
- Strain gage full bridge system
- Flexible adaptation via flanges on both sides with threaded holes
- Centric bore for shaft passage
- Robust and reliable design
- Long service life
- Can be used as torque calibration sensor
- Calibration via shunt
- Measurement of torques in any direction of rotation
- Extremely compact sensor design
- Easy to use

#### Description

The design has been optimized in terms of length, weight and volume so that axial forces and bending moments only stress the measuring element to a very low degree. The Sensors have a robust design.

#### Application

The sensor is suitable for measuring a dynamic or quasi-static moment acting around the sensor axis.

#### Application examples

- Torque adjustment of nutrunners
- Testing of screw connections
- Kalibrierung von Handdrehmomentschlüsseln
- Torsion testing of springs
- Measurements on slip clutches Measurement of starting torques on electric motors
- Measurement of wow and flutter and torsional vibrations, especially on small servo and stepping motors Testing of rotary switches (product testing)

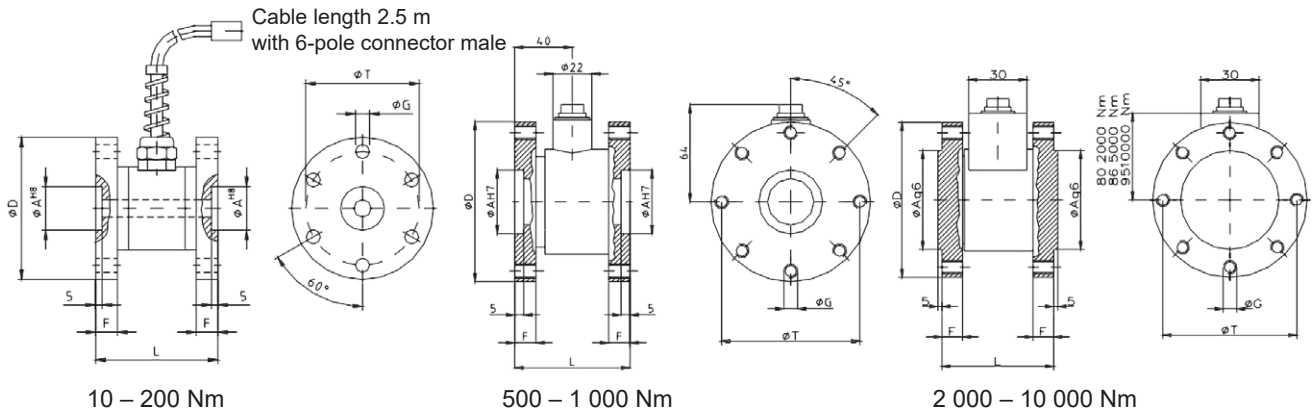


#### Technical specifications

Rated output	mV/V	1
Strain gage bridge resistance	$\Omega$	350, Full bridge
Supply voltage	VDC	
$\leq 50$ Nm		5 ... 6
$> 50$ Nm		5 ... 12
Non-linearity including hysteresis	% FSO	$\pm 0.2$
Temperature influence on the zero point	%/10K	$\pm 0.1$
Temperature influence on the nominal value	%/10K	$\pm 0.1$
Nominal temperature range	$^{\circ}\text{C}$	-5 ... +45
Operating temperature range	$^{\circ}\text{C}$	-15 ... +55
Relative standard deviation of repeatability	% FSO	$\pm 0.01$
Mechanical overload capacity	%	
• Overload capacity at limiting torque		$1.5 \times M_{\text{nom}}$
• Alternating torque		$0.7 \times M_{\text{nom}}$
• Rupture torque		$3 \times M_{\text{nom}}$
Protection class		IP 45

4507A\_003-653e-11.23

## Dimensions



Type	Measuring range Nm	Dimension [mm]						Number drilling on T	Tightening torque for assembly Nm
		L	ØD	F	ØA	ØT	G		
4507A10	10	65	70	12	20 <sup>H7</sup>	58	M8	6 x 60°	1.5
4507A25	25	65	70	12	20 <sup>H7</sup>	58	M8	6 x 60°	3
4507A50	50	65	70	12	20 <sup>H7</sup>	58	M8	6 x 60°	6
4507A100	100	65	70	12	20 <sup>H7</sup>	58	M8	6 x 60°	12
4507A200	200	65	70	12	20 <sup>H7</sup>	58	M8	6 x 60°	20
4507A500	500	80	100	15	40 <sup>H7</sup>	82	M10	8 x 45°	35
4507A1000	1000	80	100	15	40 <sup>H7</sup>	82	M10	8 x 45°	70
4507A2000	2000	110	150	20	70 <sup>H7</sup>	120	M12	6 x 60°	110
4507A5000	5000	140	250	25	100 <sup>H7</sup>	220	M12	8 x 45°	150
4507A10000	10000	180	280	35	180 <sup>H7</sup>	240	M18	8 x 45°	250

## Pin assignment of the 6-pin built-in connector for execution

	Function	PIN		Description
	Torque strain gage measuring bridge	1	- U <sub>e</sub>	Supply -
		2	+ U <sub>e</sub>	Supply +
		4	+ U <sub>A</sub>	Measuring signal output +
		5	- U <sub>A</sub>	Measuring signal output -
	100% control input	6	Control	Off: not connected On: connected with PIN 1
	Shield	3		In sensor connected to housing

## Included accessories

- None

## Accessories (optional)

- Cable socket with soldering lug 6-pin. 18008377
- Connection cable, 5 m, 6-pin. 18008930
- Connection cable, 5 m, 6-pin. - free ends 18008939
- Measuring amplifier for strain gage sensors 4701A...
- ControlMonitor CoMo Torque evaluation device for torque sensors 4700B...
- Connection cable, 2.5 m, 6-pol. – CoMo Torque 18008959