

## Torque sensor TD70

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 or for measurement of frictional forces.

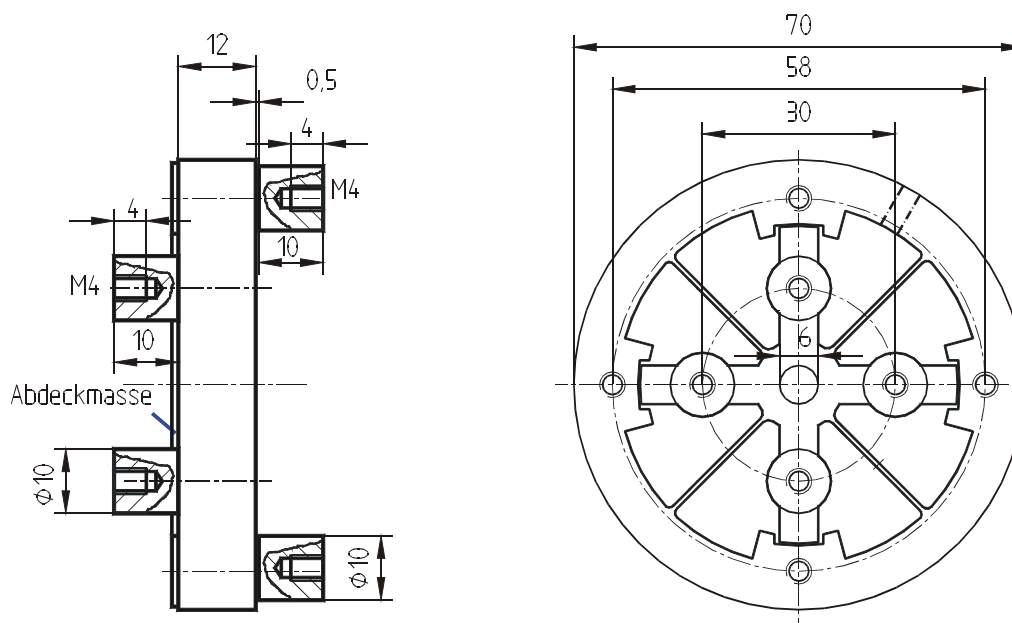
Through the integrated mechanical stopper overload is prevented.

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





## Pin configuration

PIN	Description	GSV-2	GSV-1L	GSV-1T	GSV-3AS
red	+U <sub>S</sub> positive bridge supply	2	3	6	4
green	+U <sub>D</sub> positive bridge output	4	2	8	5
white	-U <sub>D</sub> negative bridge output	5	1	15	6
black	-U <sub>S</sub> negative bridge supply	7	4	5	3

## Technical Data

Torque sensor		
Construction	4 x s-shaped shearing beam	
Diameter × height	70 × 12.5	mm × mm
Partial circle - inner flange	∅ 30	mm
Partial circle - outer flange	∅ 58	mm
Material	Aluminum alloy	
Accuracy classes	0,1	%
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Nominal torque M <sub>N</sub>	0.05, 0.12, 0.3	Nm
Operating torque	200	%M <sub>N</sub>
Fracture torque	300	%M <sub>N</sub>
Marginal axial force	20	N
Angel of twist at nominal torque	approx. 0.7	°/M <sub>N</sub>
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Nominal temperature range	-20...+60	°C
Operating temperature range	-20...+70	°C
Storage temperature range	-20...+70	°C
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Rated Output (S <sub>N</sub> )	0.75±0.2 <sup>1)</sup>	mV/V
Zero balance	±10	%M <sub>N</sub>
Max. supply voltage	10	V
Input resistance	700 ± 30	Ohm
Output resistance	700 ± 2.5	Ohm
Insulation resistance	> 5 · 10 <sup>9</sup>	Ohm
Connection 4 conductor	2	m
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Linearity error	≤ 0.1	% S <sub>N</sub>
Reversal error	≤ 0.1	% S <sub>N</sub>
Temperature coeff. of the zero signal	≤ ± 0.05	%M <sub>N</sub> /K
Temperature coeff. of the nominal output	≤ ± 0.05	% S <sub>N</sub> /K
Creep error (30 min)	≤ 0.1	% S <sub>N</sub>

1) The exact nominal output will be given for each sensor individually.