

Technical data

■ Electrical specifications

Supply voltage	11 - 26 VDC, pole-secure
Current consumption	<100 mA
Voltage output fpr rated torque	0 ± 5 VDC
Linearity, hysteresis	≤0,2 % of full scale
Dynamics	≤3 kHz
Operating temperatur range	+5 ...+50 °C
Temperature influence on zero	0,15% / 10 K
Temperature influence on sensitivity	0,15% / 10 K
Mechanical overload capacity (working torque)	150%
Range of oscillation (peak to peak)	70%
Max. speed	≤ 12000 rpm
Angle measurement (option A)	2x360 pulses, 90° displaced, TTL
Connection	12-pole Tuchel
Calibration input	100%-control for torque
Cabinet	aluminium, hard eloxadized, red

Protection class

■ Example of order specification:

Protection class



■ Measuring system

Torque analyzer
type MD 9000,
Data sheet 4110

■ Accessories

Mating plug,
article no. 703

■ Practical application



Online torque measurement
with screwdriver

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STAMOSENS®
0170/01 MS

Mini-Smart Torque Sensor

The specialist in bolting techniques



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Torque transducer with shaft ends and mounting base

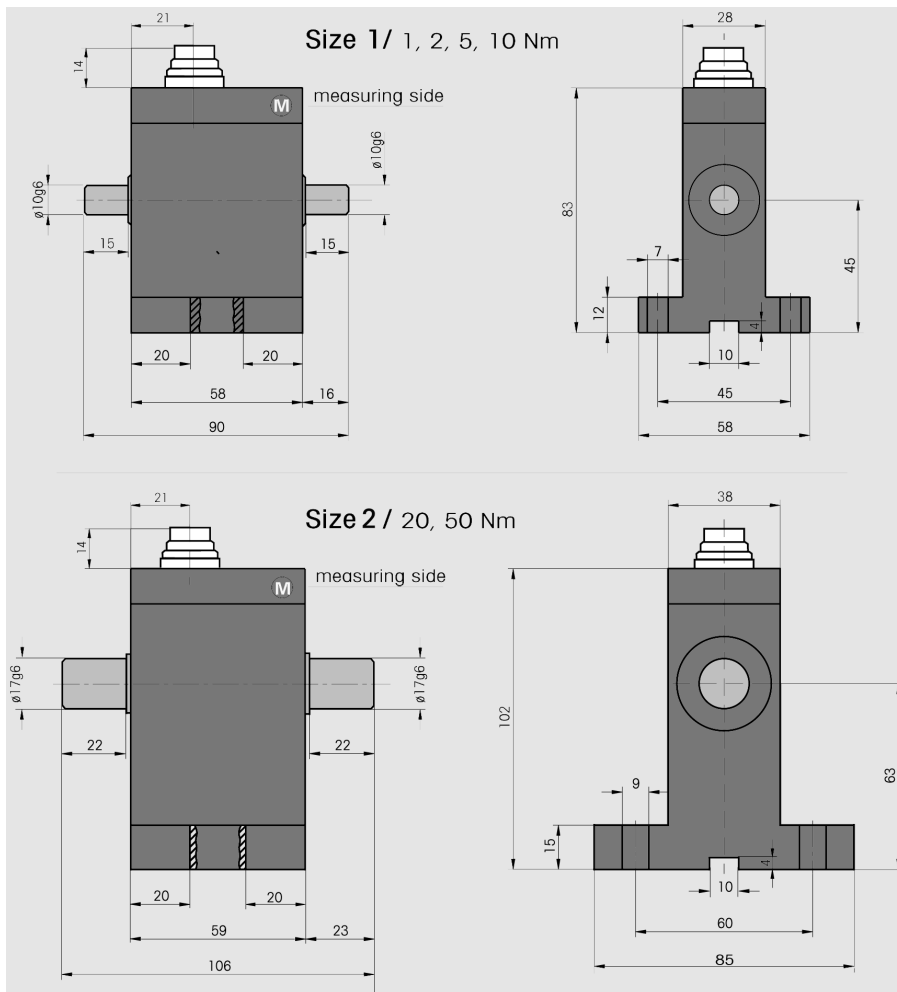
The Version with shaft ends and mounting support can be used for functional check on tilt procedure or rotating monitoring. The mounting position is chooseable, the application for left- and right torque readings as well as the static and the dynamic conditions are obligatory.

Integrated rotation angle-measurement.



Order specification	Article-No.
0170/01 MS 1 RA	17557
0170/01 MS 2 RA	17711
0170/01 MS 5 RA	17712
0170/01 MS 10 RA	17713
0170/01 MS 20 RA	17571
0170/01 MS 50 RA	17572

Mechanical Dimensions



Introduction

The Mini-Smart-Torque Sensor with rotating measuring shaft is suitable both for dynamical detection of **starting torques and break-away torques** for bolting and assembly techniques and for quality assurance in production and laboratory.

The socket wrench torque sensor can also be used to check the calibration of mechanical torque wrenches.

Due to its standardized connections the device can be quickly adapted to **air- electronic- and pulse tools**.

General

The Mini-Smart Torque sensor operates according to the strain gage principle. The torque signal is transmitted from the rotating shaft via frequency modulation without contact and is processed as analog signal. The rotation angle signal with each 360 pulses per rev and track is available as TTL-signal.

An external electrical calibration input is standard.

A measuring range detection can be effected optionally.

Special features

- Smart, i.e. integrated measuring electronics
- High failsafety due to active torque output (+/- 5V), galvanically separated from supply and measuring signal
- Non-contact signal transfer
- Unipolar supply
- Rotation angle measurement
- High dynamics
- Maintenance-free
- Standardized mech. connections:
 - hexagon (1/4") DIN 3126
 - square (size depending on measuring range)
- Extremely compact due to minimum dimensions
- Suitable for pulse tools
- CE-sign

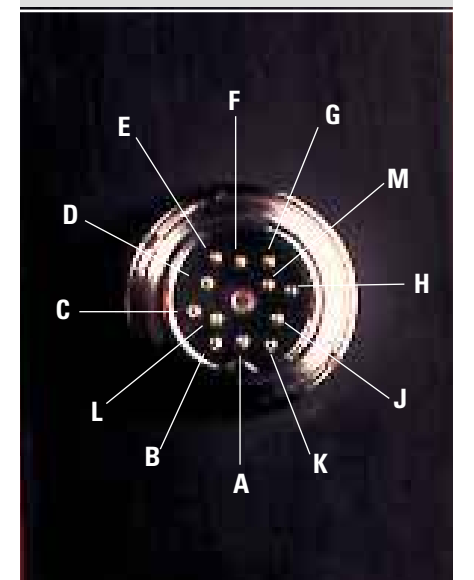


STAMOSENS® 0170/01 MS
Transducers are delivered with traceable test certification

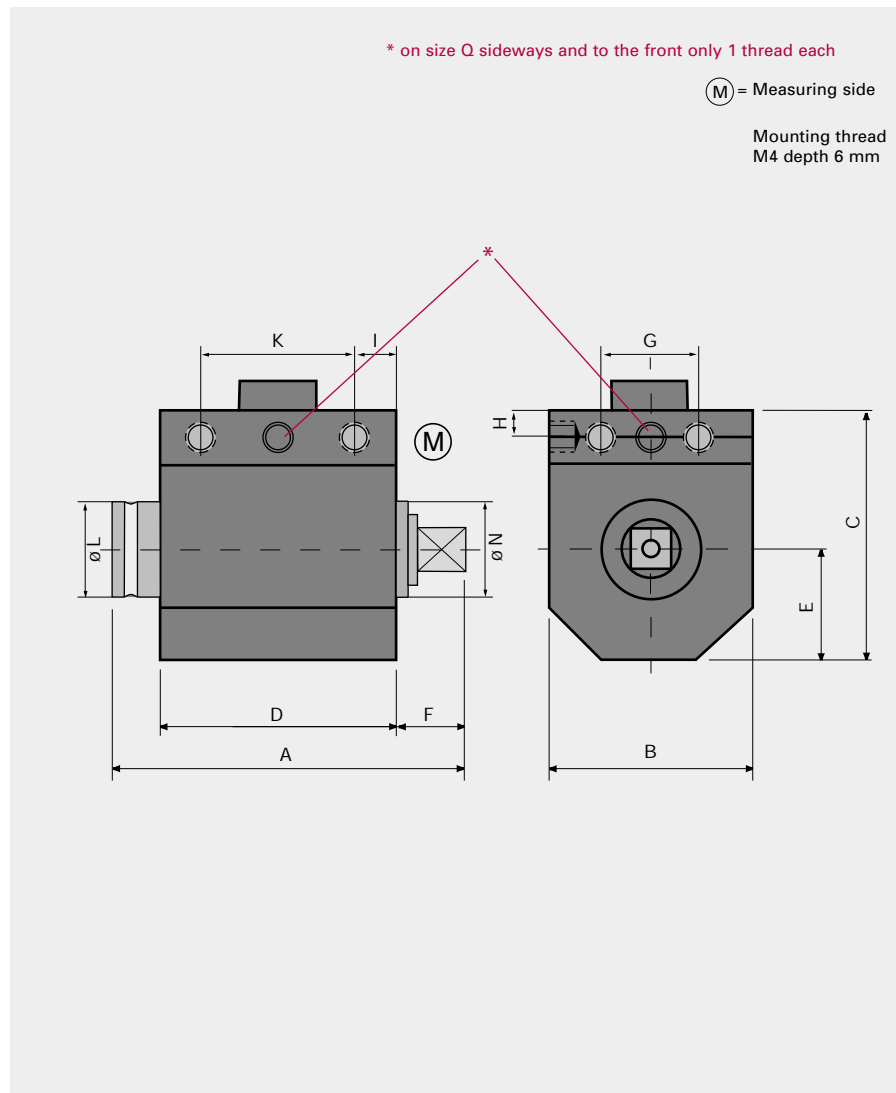
Pin connection

Function	Pin	Color
Ground, Calibration input	A	green
Angle 1	B	white/ brown
Signal output, $U_s \pm 5$ VDC	C	pink
Ground, Signal output 5 U_s	D	grey
Ground, Supply (U_s), Angle	E	blue
Supply, U_s , +11 V to + 26 V, 1 Watt	F	red
Angle 2 (90° running after angle 1)	G	white/ green
Supply angle, +5 V	H	violet
Measuring range detection	J	white
Calibration input, Kal, + 5 V bis 30 VDC	K	yellow
Option Measuring range detection, Ground	L	brown
Shield	M	black

Top view built-in plug

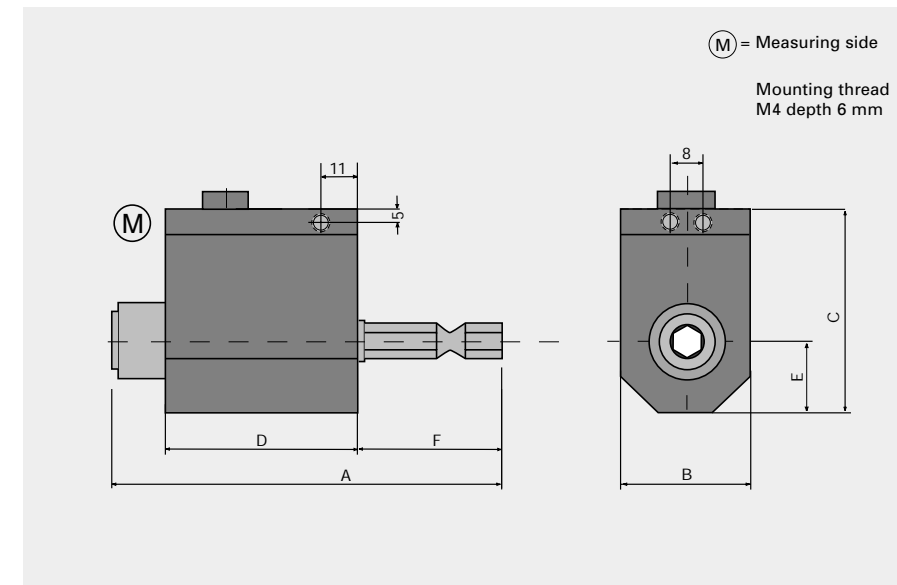


Mechanical Design



Torque sensor with standard square connection

- with rotating shaft
- with rotation angle measurement (option A)
- pulse-tool suited



Torque sensor with standard hexagon 1/4" connection according DIN 3126 Form E/F

- with rotating shaft
- rotation angle measurement from 10 Nm (option A)
- quick-change chuck

Type / Order specification	Rated torque (Nm)	A		B		C		D		E		F		max. axial force (N)	Article-No.	
		H	HA	H	HA	H	HA	H	HA	H	HA	H	HA		H	HA
0170/01 MS 0,5 H/HA	0,5	101	101	28	28	52	52	58	58	14	14	28	28	20	16607	16608
0170/01 MS 1 H/HA	1	101	101	28	28	52	52	58	58	14	14	28	28	50	16609	16610
0170/01 MS 2 H/HA	2	101	101	28	28	52	52	58	58	14	14	28	28	50	16274	16605
0170/01 MS 6 H/HA	6	101	101	28	28	52	52	58	58	14	14	28	28	150	16275	4315
0170/01 MS 12 H/HA	12	101	101	28	28	52	52	58	58	14	14	28	28	150	16276	4316
0170/01 MS 18 H/HA	18	101	101	28	28	52	52	58	58	14	14	28	28	200	16277	16606

Type / Order specification	Rated torque (Nm)	Square	A		B		C		D		E		F		G		H		I		K		L		N		max axial force (N)	Article-No.	
			Q	QA	Q	QA	Q	QA	Q	QA	Q	QA	Q	QA	Q	QA	Q	QA	Q	QA	Q	QA	Q	QA	Q	QA		Q	QA
0170/01 MS 12 Q/QA	12	1/4"	75	75	28		52		58		14		8,5	-	8	5	5	11			-		13			-	150	13417	4320
0170/01 MS 18 Q/QA	18	1/4"	75	75	28		52		58		14		8,5	-	8	5	5	11			-		13			-	150	16603	16604
0170/01 MS 50 Q/QA	50	3/8"	74,5	101	38		58		44	59	19		13,5	-	14	6	5	22	12		-	35	25		17	1000	16307	16299	
0170/01 MS 63 Q/QA	63	3/8"	74,5	101	38		58		44	59	19		13,5	-	14	6	5	22	12		-	35	25		17	1000	13459	16464	
0170/01 MS 100 Q/QA	100	1/2"	79	106	38		58		44	59	19		18	-	14	6	5	22	12		-	35	25		17	1200	16308	16302	
0170/01 MS 150 Q/QA	150	1/2"	79	106	38		58		44	59	19		18	-	14	6	5	22	12		-	35	25		17	1800	16309	16304	
0170/01 MS 160 Q/QA	160	1/2"	79	106	38		58		44	59	19		18	-	14	6	5	22	12		-	35	25		17	1800	16460	13465	
0170/01MS 250 Q/QA	250	3/4"	97	135	58		76		50	64	29		26	-	30	5	5	25	14		-	36	40		30	3000	16310	16305	
0170/01MS 300 Q/QA	300	3/4"	97	135	58		76		50	64	29		26	-	30	5	5	25	14		-	36	40		30	4000	16311	16306	
0170/01 MS 500 Q/QA	500	3/4"	97	135	58		76		50	64	29		26	-	30	5	5	25	14		-	36	40		30	4000	13461	13466	
0170/01 MS 1000 Q/QA	1000	1"	112	177	73		90		57	73	36,5		31,5	-	45	5	5	28,5	14		-	45	50		40	6000	13462	13467	