

Torque/Angle Transducer SCHATZ®-INSPECT

SCHATZ®
ADVANCED QUALITY



- measurement range from 0.2 to 10000 N·m
- accuracy class 0.5
- maintenance free slip ring technology
- 360 angle impulses per rotation
- SCHATZ-AUTOCODE identification

Application

From the proportion of torque/angle conclusions can be drawn regarding the frictional reaction of the bolt head and the thread within the bolted joint. So not only the torque of the nutrunner can be measured and documented, but also if the bolt connection followed the conditions which the constructor presupposed.

Air powered, electric or impulse nutrunners can be tested or monitored during the working sequence in production. The angle provides information on the hardness of the bolting operation and the differential quotient.

Thanks to the rapid connection with square drive the torque/angle transducer is suitable for regular random-sample testing of bolting operations in mass production assembly.

Description

The measurement shaft of the torque/angle transducer is fitted with strain gauges. Power is supplied and the measurement signals transferred via extremely low wear slippings.

There is also an incremental disc with 360 windows on the measurement shaft. This passes through a photoelectric transducer. The angle pulse conditioning stage delivers two phase-displaced signals which correspond to the direction of rotation.

The drive and output square according to ISO 1174 permits rapid connection between nutrunner and socket tool. A rugged steel housing protects the internal parts of the transducer, so that the measurements are possible under rough production conditions.

The transducers are equipped with a permanently 5-metre connecting cable provided with a connecting plug for SCHATZ measuring instruments or alternatively with a LEMO plug.

The integrated SCHATZ-AUTOCODE-System automatically identifies and calibrates the transducer at connection.

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Technical Data	5413-1200					
Model-No.	/100	/200	/500	/1k	/2k	/5k
Capacity N·m / lb·ft	100/ 0.738	200/ 1.475	500/ 3.688	1000/ 7.38	2000/ 14.75	5000/ 36.88
Square	1/2"	1/2"	3/4"	1"	1 1/2"	1 1/2"
Weight/kg (without cable)	0.7	0.8	1.0	1.3	9.2	9.2
Maximum permissible axial force/N	1000	2000	2500	2500	2500	2500
Maximum permissible bending/N·m	2.00	2.50	8.00	16.00	16.00	16.00
Accuracy class to DIN 51309 Part 3	0,5			1		
Accuracy	± 0.25 %			± 0.5 %		
Maximum service load	1.2 x measurement range (20% overload)					
Breaking load	1.5 x measurement range (50% overload)					
Bridge resistance	350 Ω					
Calibration resistance	40 kΩ					
Nominal sensitivity	2 mV/V					
Nominal sensor supply voltage range	10 V					
Maximum sensor supply voltage	15V					
Rated temperature range	0...70°C					
Service temperature range	-20...80°C					
Storage temperature range	-40...85°C					
Maximum rotational speed	1500 rpm					

These transducers are also available with plug (LEMO/2G/14 pts) instead of the standard 5 m cable.

Dimensions/connection dimensions						
Connecting cable	permanently connected, 5 m long					
Plug	ODU-Mini-Snap Serie B 16-pole pin					
Dimensions/mm	A	87	101	112	231.5	
	B	55.5	56.5	60.0	160.0	
	C	59	68	83	157.0	
	D	45	54	68	133.0	
	E	15	21	24	30	
	F	16.5	23.5	28	41.5	
	∅ G	24	34	44.5	74.8	

