

Analysis wrench

Type 5413-1500/..-W

Wireless handheld torque/angle of rotation wrench

The Analysis wrench operates according to the strain gauge principle and supplies a digital measurement signal for the INSPECTpro measuring and evaluation unit that corresponds to the applied torque.

- Connects to INSPECTpro with activated "wireless connection sensor" option
- WLAN connection of 2.4 GHz and 5.0 GHz
- Measuring range of 3 N·m to 1 000 N·m
- AUTOCODE identification
- Carry-on-tightening function with measuring and evaluation unit INSPECTpro
- Standardized holders for plug-in tools



Description

The Analysis wrenches consist of a handle, a control unit with LED status display and WiFi module, a steel pipe with an integrated bending rod with strain gauges for torque measurement, and a gyroscope for reference less angle of rotation measurement, as well as a tool holder for the plug-in tool.

The LED status display of the Analysis wrench provides feedback about the operating status and when the target value is obtained.

The integrated AUTOCODE system enables automatic detection and an offset adjustment of the sensor when connecting to appropriately equipped measuring systems.

The Analysis wrenches are delivered with a quality certificate. Upon request, the Analysis wrenches are calibrated with traceability in our DAKKS-accredited calibration lab.

Application

The main applications are torque/angle of rotation measurements, as well as the special functions associated with the measuring and evaluation unit INSPECTpro.

Application areas for the Analysis wrenches:

- Function as torque/angle of rotation sensor:
The Analysis wrench measures the torque (as a passive strain gauge sensor) and the angle of rotation
- Carry-on-tightening functions according to VDI/VDE 2645 Part 3:
Together with the "Carry-on-tightening" software module activated in the INSPECTpro measuring and evaluation unit, corresponding carry-on-tightening functions are available.
- Fastening point-related tests with CEUS and the measuring and evaluation unit INSPECTpro:
In conjunction with the CEUS software, fastening point-related tests can be used as peak value measurements and the corresponding carry-on-tightening functions.

Technical data

Basic mechanical/electrical data for the Analysis wrenches

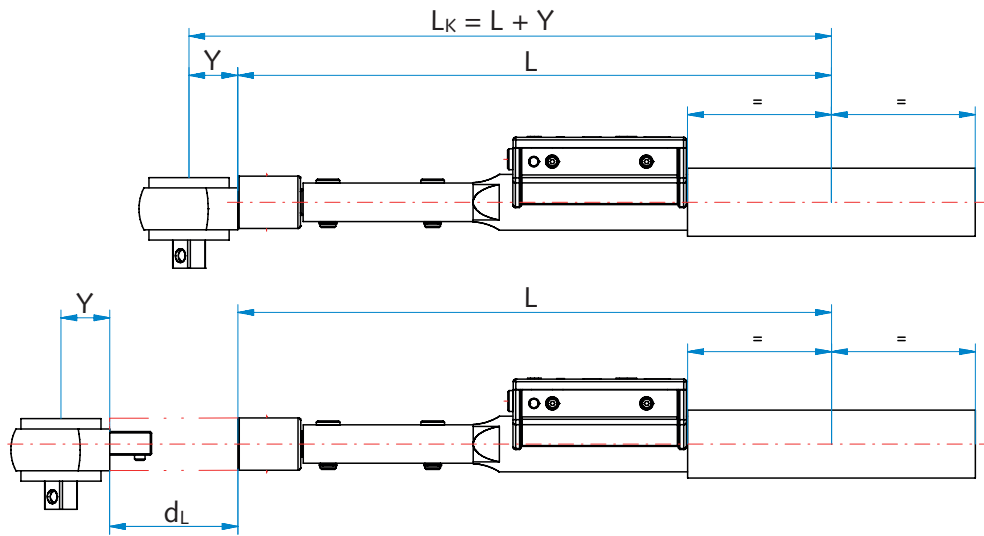
Maximum service torque	1.2 x nominal torque (20% overload)
Maximum permitted torque	1.5 x nominal torque (50% overload)
Angular division	10 pulses/°
Bridge resistance	350 Ω
Nominal characteristic value	2 mV/V
Operating temperature range (nominal temperature range)	10 ... 40 °C
Service temperature range	0 ... 50 °C
Storage temperature range	-20 ... 70 °C
Air humidity	max. 70%, non-condensing
Housing material	Steel/plastic
Degree of protection	IP 40
Power supply	Rechargeable lithium-polymer battery (Type 18650) 3.7 V, 3 400 ... 3 600 mAh

Network specifications

Supported standards	IEEE 802.11 a/b/g/n
Modes	Accesspoint (4 clients simultaneously) Alternative: Client mode (login to existing network)
Security	WPA/WPA2-PSK
Frequencies	2.4 GHz and 5.0 GHz
2.4 GHz channels	Region-dependent (defined by "Wireless" license in INSPECTpro) Europe: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
5.0 GHz channels	Region-dependent (defined by "Wireless" license in INSPECTpro) Europe: 36, 40, 44, 48
Transmitter power	2.4 GHz: 15 ± 2 dBm. 5.0 GHz: 12 ± 2 dBm.

The specifications listed here refer to implementation in INSPECTpro.

Technical data and dimensions



- L Load application length
- Y Calibration dimension (plug-in tool length)
- L_K Calibration length
- d_L Extension through adapter (customer-side application)
- $Y+d_L$ Application dimension

For the extension through adapters on the customer side, the application dimension and the corrected value must be determined.

Type 5413-1500/..	../15-W	../50-W	../200-W	../400-W	../600-W	../1000-W
Nominal value	15 N·m	50 N·m	200 N·m	400 N·m	600 N·m	1000 N·m
Achievable measurement uncertainty acc. to DIN EN ISO 51309 (torque)	$\leq 1\%$					
Display deviation (Angle of rotation)	$\leq 1^\circ$ per revolution					
Connection plug-in tool	9x12 mm	9x12 mm	14x18 mm	14x18 mm	\varnothing 22 mm	22x28 mm
Calibration dimension (Y)	17.5 mm	17.5 mm	25.0 mm	33.0 mm	56.0 mm	55.0 mm
Load application length (L)	228.0 mm	228.0 mm	386.0 mm	529.0 mm	845.0 mm	1400.0 mm
Weight	0.56 kg	0.58 kg	0.76 kg	2.12 kg	2.82 kg	9.94 kg

Optional accessories

	Type
Plug-in tool, 1/4", 9 x 12 mm	18033140
Plug-in tool, 3/8", 9 x 12 mm	18033142
Plug-in tool, 1/2", 14 x 18 mm	18033144
Plug-in tool, 3/4", 14 x 18 mm	18033146
Plug-in tool, 3/4", round 22 mm	18033148
Plug-in tool, 3/4", 22 x 28 mm	18036438
Charging station for battery	18037970
Rechargeable battery	18037971

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