

Handheld Screwdriver electric



MINIMAT-EC Cordless Screwdriver

The solution to cable management

Angle head design - for assembly in confined spaces

Torque range from 1 to 50 Nm

Pistol form - for screwdriving in the horizontal axis

Torque range from 0.8 to 13 Nm

- flexible
- wireless communication
- facility for documentation
- operator friendly
- easy adjustment of parameters
- high performance
- energy efficient



Where cables or hoses interfere with the assembly process, industry looks forward to a battery powered, cordless nutrunner solution! Where flexibility and documentation are required, the MINIMAT-EC cordless screwdriver delivers. The proven DEPRAG precision screwdriving technology is now available in form of the battery operated electric screwdriver.

The angle or pistol design cordless screwdriver is an excellent solution for process control of threaded fastener assemblies under restricted working conditions while offering all advantages of the MINIMAT-EC family. The high quality Li-Ion batteries stand out with the lowest rate of self-discharge and highest storage capacity. This reduces the number of recharging cycles required. The batteries can be recharged in around 40 minutes and are then ready to use again.

ADVANTAGES

Flexible

Screw assembly procedures can be structured flexibly and adapted to the task in hand due to the efficiency in the handling of all normal screw processes. Depending on requirements complex multi-stage screw-driving processes can be created without complications just as easily as a single stage torque assembly. Torque accuracies of < 2% standard deviation and thus Cmk values of ≥ 1.67 with a tolerance of $\pm 10\%$ can be reached *) with MINIMAT-EC cordless screwdrivers. Statistically speaking, the error rate is less than 0.6 per one million screw assemblies.

*) under suitable process conditions

Wireless Communication

As well as the high shut-off accuracy this screwdriver also offers functions for control and connection with a processing computer: Bluetooth can be used to connect the screwdriver to the optional base station ComCenter 10. The convenient operator interface offers a comprehensive range of functions and using a standard integrated web server screw processes can be generated and adjusted quickly and simply. The process integration for exchange of screw specifications and results data for documentation and archiving is also possible. The base station can be used to control four tools. Thereby, the best solutions are available for quality management and documentation.

Facility for documentation

The base station ComCenter 10 provides temporary storage and easy access as required to all results data for each day within a whole week. The optional software "Datalogger" can be used to transfer the measurement data of several base stations (up to 10 devices) automatically via Ethernet onto a PC. Data evaluation can be carried out using the software "Statistic".

Operator friendly

The ergonomic design and low tool weight guarantee low fatigue. The integrated LED lights allow for optimal lighting conditions at the screw position.

Easy adjustment of parameters

Up to eight multi-stage screw processes, each with appropriate loosening program, can be adjusted and transferred to the screwdriver using the base station ComCenter 10 or alternatively the programming kit of the ComCenter PC.

The keypad on the screwdriver itself is used to select screwdriving programs. At just the press of a button additional loosening programs can be selected at any time for any screwdriving program.

High performance

Cordless angle screwdriver

Torque settings of 1 Nm to 50 Nm in five torque ranges.

Cordless pistol screwdriver

The cordless pistol screwdriver is available in three torque ranges for torque settings of 0.8 to 13 Nm.

Energy efficient

The EC drive powered by a 36V Li-Ion battery of the new DEPRAG cordless screwdrivers provides maximum energy and power density. The integrated recovery of braking energy on the electric drive enables stored energy to be applied economically.

This energy efficiency and a sensor controlled multi-stage standby mode allow a large number of screw assemblies per battery charge. The use of top quality EC motors with an outstanding degree of efficiency and high power density ensure the low tool weight and a long tool life.

SYSTEM OVERVIEW



SYSTEM COMPONENTS

MINIMAT-EC CORDLESS SCREWDRIVER - ANGLE HEAD DESIGN

Screwdriver	Type	318AWT-0050	318AWT-0120	318AWT-0210	318AWT-0320	318AWT-0500
Trigger/button start	Part no.	416000D	416000A	416000B	416000C	416000E
Torque min.	Nm / in.lbs	1 / 8.85	2 / 17.7	5 / 44.25	7 / 62	12 / 106.2
Torque max.	Nm / in.lbs	5 / 44.25	12 / 106.2	21 / 185.85	32 / 283.2	50 / 442.5
Speed min.	rpm	100	50	30	30	30
Speed max.	rpm	1000	780	430	280	185
Length without / with battery	mm	440/498	440/498	459/517	482/540	488/546
	in.	17.2 / 19.4	17.2 / 19.4	17.9 / 20.2	18.8 / 21.1	19 / 21.3
Weight	kg / lbs	1.35 / 2.97	1.35 / 2.97	1.45 / 3.19	1.60 / 3.52	1.65 / 3.63
Noise level	dB(A)	60	60	60	60	60
Operating voltage (DC)	V	36	36	36	36	36
Square drive DIN 3121		E6.3 (1/4")	E10 (3/8")	E10 (3/8")	E10 (3/8")	E10 (3/8")
Suitable for bits and sockets designed according to DIN 3121						

MINIMAT-EC CORDLESS SCREWDRIVER - PISTOL FORM

Screwdriver	Type	318APT-0040	318APT-0080	318APT-0130	
Trigger/button start	Part no.	955500A	955500B	955500C	
Torque min.	Nm / in.lbs	0.8 / 7.08	1.6 / 14.16	2.6 / 23.01	
Torque max.	Nm / in.lbs	4.0 / 35.4	8.0 / 70.8	13.0 / 115.05	
Speed min.	rpm	90	50	30	
Speed max.	rpm	1500	800	500	
Length without / with battery	mm / in.	173 / 6.75	173 / 6.75	173 / 6.75	
Weight	kg / lbs	1.0 / 2.2	1.0 / 2.2	1.0 / 2.2	
Noise level	dB(A)	60	60	60	
Operating voltage (DC)	V	36	36	36	
Internal hex. drive DIN ISO 1173		F6.3 (1/4")	F6.3 (1/4")	F6.3 (1/4")	
Suitable for bits and sockets designed according to DIN ISO 1173					

Optional Accessories

Machine Capability Study *)			
Torque	Part no.	000717	- Evaluation of 50 measured values, - Idle speed, Average
Torque angle	Part no.	000718	- Standard deviation, Cm-Value, Cmk-Value

*) Additional services, e.g. calibration of screwdrivers, can be found in our catalog D3330E.

BATTERY	Type	Li-Ion 36V 75.6Wh	
	Part no.	833880	
Energy storage	Wh	75.6	
Weight	kg / lbs	0.81 / 1.78	
<ul style="list-style-type: none"> - Integrated electronics for communication with the nutrunner controller and optimized charge management - High current cells with high power density / - Protection functions such as deep discharge, short circuit and overload - Optimized charging of individual battery cells 			



CHARGER	Type	Li-Ion 36V EU	Li-Ion 36V US	
	Part no.	833881	8338814	
Operating voltage (AC)	V	90 - 240	90 - 240	
Dimensions (WxDxH)	mm	124 x 200 x 108	124 x 200 x 108	
	in.	4.8 x 7.8 x 4.2	4.8 x 7.8 x 4.2	
Weight	kg / lbs	0.7 / 1.54	0.7 / 1.54	
- Intelligent fast charger for 36V-Li-Ion batteries / - Charge time approx. 40 minutes / - Charge status indication via LEDs				



BASE STATION ComCenter 10	Type	ComCenter 10	
incl. Blue Tooth-Antenna up to 20 m range	Part no.	385582A	
Voltage	V	24	
Power consumption	W	40	
Display		TFT-Color-Display 4.3"	
Dimensions (W x H x D)	mm / in.	162 x 143 x 65 / 6.3 x 5.6 x 2.5	
Weight	kg / lbs	1.5 / 3.3	

and can be operated via the web interface. This is available in 12 languages. The touch screen display can be used to show screw assembly results and status messages. The screw assemblies can be evaluated using statistics and graphs. Up to four screwdriving tools at a time can be managed by one base station.

The base station ComCenter 10 is used to generate and adjust screwdriving programs and enables documentation of results data via the integrated web server. It has an Ethernet and Bluetooth port and can be optionally equipped with a Fieldbus port. The base station ComCenter 10 has a touch screen display



Base station with table stand

SYSTEM COMPONENTS

Optional Accessories

Fieldbus module Profibus port	Part no.	385817A
Fieldbus module Profinet port	Part no.	385817B
Fieldbus module EtherCat port	Part no.	385817C
Fieldbus module Ethernet IP port	Part no.	385817D
If a Fieldbus module is required this must be ordered at the same time as the base station. It is not available to be added later in situ due to the necessary software adjustments required.		
Table stand for base station	Part no.	416004A
BT-Antenna 40 m range	Part no.	385586A
Patch cable 2 m	Part no.	831902
Touch-Pen	Part no.	832190
Software Datalogger (activation key)	Part no.	202699
Software Statistics (activation key)	Part no.	206081
Software Graph Viewer for sequence controller AST (activation key)	Part no.	128901
Software Deprag Data eXchange for sequence controller AST (activation key)	Part no.	132680
Software TIA Link (activation key)	Part no.	135839
Software TwinCAT Link (activation key)	Part no.	140996

For details see brochure D3900E or website www.deprag.com.


PROGRAMMING KIT ComCenter PC	Type	ComCenter PC
consisting of a Bluetooth adaptor and ComCenter PC software	Part no.	385597A

ComCenter PC is the name of the software used to adjust parameters on the EC cordless screwdrivers independently to the base station ComCenter 10. The licence key for the software is saved on the Bluetooth adaptor and a release code is also provided. The settings on as many EC cordless screwdrivers as required can be managed using the ComCenter PC software, just select the screwdriver required when starting the software.

Range of functions

Screwdriving programs can be generated and adjusted using the ComCenter PC software. Graphs can be displayed and transferred using the software module Graph10(E). This is included and automatically installed with the ComCenter PC software. All settings for the EC cordless screwdrivers can also be managed via the menus on the web interface of the base station ComCenter 10. There are 12 languages available for the ComCenter PC software and for the user interface of the base station ComCenter 10.



 Our software solutions undergo continuous improvements. We recommend that you regularly update your software. In this way you will always receive the most up-to-date security updates, upgraded features and drivers. With the most current version of the software you can be sure that your device is optimally prepared for Industry 4.0.