

Instruction Manual

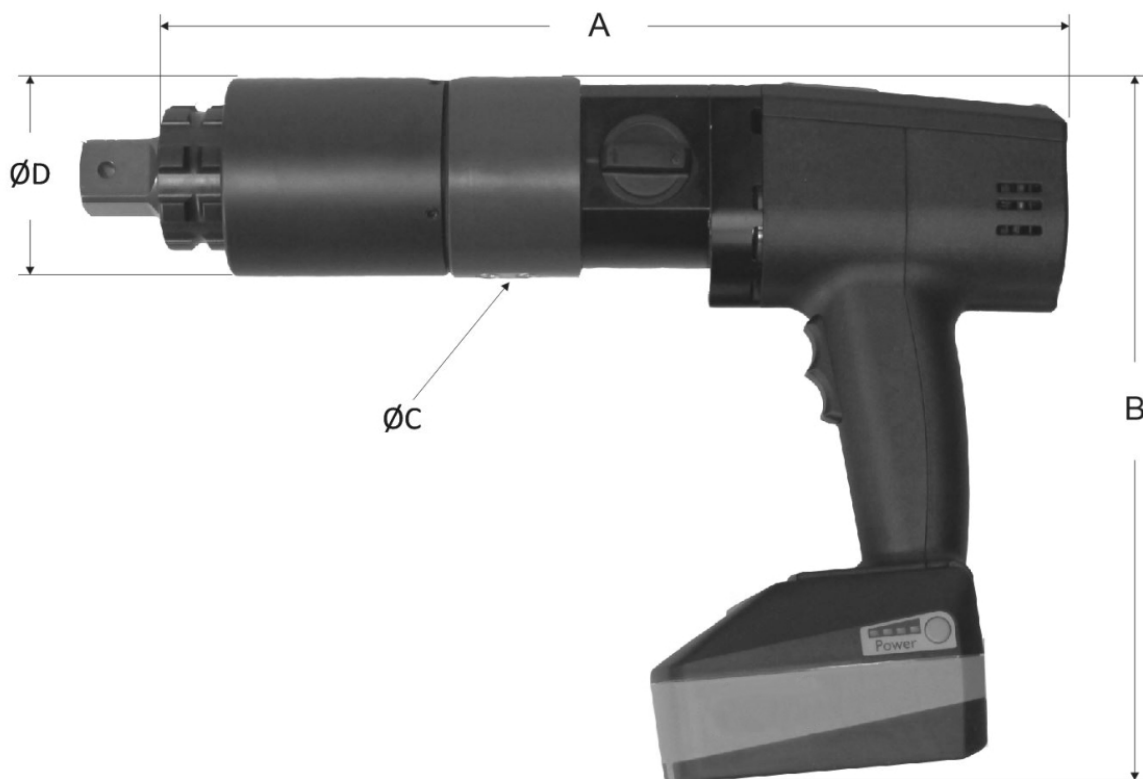
Battery-Powered Torque Wrench, EMAX series with TorcDoc



Technical Data: EMAX series

Torque ranges in accordance with characteristic curve for type. Please consult the calibration certificate for precise values. All dimensions stated are approximate; technical specifications subject to change without notice

Model	EMAX 40	EMAX 80	EMAX 150	EMAX 300	EMAX 450	EMAX 600
Square drive shaft DIN 3121	¾"	¾"	¾" (1")	1"	1½" (1")	1½"
Min. torque (Nm)	20	50	100	200	300	400
Max. torque (Nm)	450	800	1500	3000	4500	6000
Length A, without drive shaft (mm)	300	300	345	345	405	420
Overall height B, incl. gear holding ring and battery (mm)	270					
Diameter of gear holding ring C (mm)	78,0					
Gear diameter D (mm)	77,0				90,0	102,0
Weight without support arm (kg)	4,9	5,2	6,1	6,2	8,9	11,0
Idling speed for Gear 1 (rpm)	18,0	9,0	5,0	2,5	1,5	1,0
Idling speed for Gear 2 (rpm)	54,0	27,0	15,0	7,5	4,5	3,0
Charger and batteries	as per instructions from the company Fein					



Incoming goods inspection and packaging

Check the device and accessories for transport damage. If any damage is detected, please notify the carrier immediately and return the device in its original packaging to InnoTorc or the responsible sales partner. Please retain the original packaging.

Read these instructions before putting the device into service and make yourself familiar with the procedure for handling it. Do not use the device if you are unsure of the purpose, the consequences and the precise execution of the specific operation.

In particular, make yourself familiar with the safety instructions. Failure to observe them may result in severe bodily harm.

Safety precautions prior to commissioning and assembling the device

Each time you use the device and accessories, inspect them for any damage. Devices that are damaged or defective must not be put into service. Repairs may only be performed by the manufacturer. Send any defective/damaged devices back to the manufacturer in the original packaging.

Check whether the available mains supply voltage matches to the data on the identification plate of the charger.

Only use the device for its intended purpose.

The noise level may exceed 85 dB(A) so you must always wear ear protection.

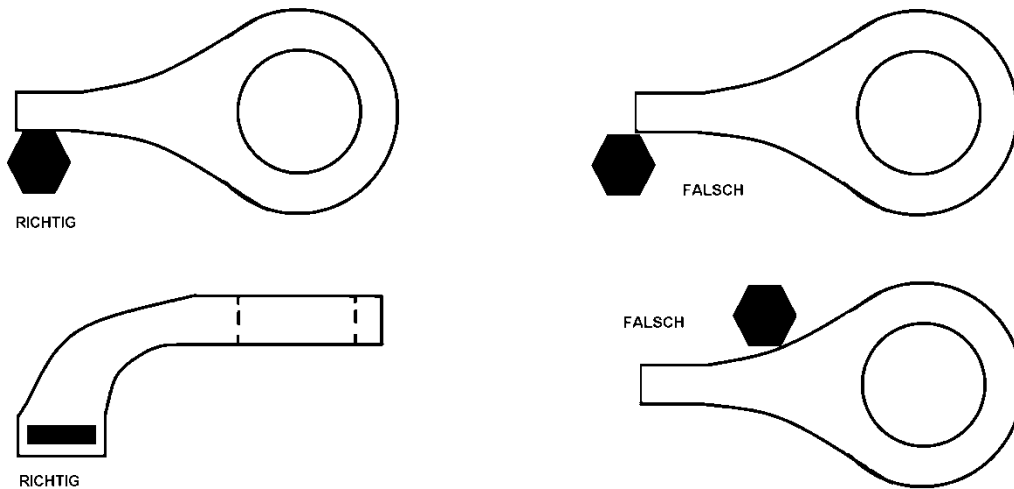
Observe any local, industry-specific regulations, such as the wearing of safety footwear, helmets, gloves, etc.

Do not use the device in an explosive atmosphere or in the presence of inflammable liquids, gases, paints, vapours or dust.

Do not use the device in rain or other damp conditions.

Before you insert the battery, assemble the socket and the support arm in accordance with the illustration above. The socket together with the pin and the support arm must be fixed with the screw. Make sure that these parts are correctly and completely in position. Do not use any defective or damaged accessories.

Safety precautions and performing the tensioning operation



[RICHTIG = CORRECT; FALSCH = WRONG]

Never hold the device at the front by the socket or support arm due to the risk of crushing and other injuries! Under no circumstances should you reach into the space between support arm and support point.

Set the desired torque. A power reserve of approx. 25% should be allowed for loosening bolts.

The socket must be placed completely onto the head of the bolt and must not be tilted. The transmission axis must be in line with and not deviate from the axis of the bolt.

The support arm must rest securely on the adjacent bolt or on another fixed point. The supporting point must be at the same height as the bolt. The support arm must be resting on the vertical side surfaces.

Never block the operating button with any kind of aid. Always be ready to switch it off.

Only press the trigger switch lightly while the support arm is not firmly positioned on the resting point so that the device is able to turn slowly. Do not press the trigger switch to its maximum extent until the wrench is firmly in position.

The wrench switches off when the pre-set torque has been attained.

Setting the switch off torque in torque mode:



Fig. 1: Main menu







Fig. 2: Select switch off torque for gear 1



Fig. 3: Tool is ready for working in gear 1




Switch on the tool:



The EMAX torque tool is switched on by pressing the button . The main menu is shown in figure 1. With the two buttons  and , the individual menu items can be selected. Select the "Start Torque" function. The selection is accepted by pressing the button .

Select Gear:

The choice of gear stage (power = gear 1, fast = gear 2) is selected by using the rotary switch on the side of the tool. Care should be taken to ensure that the rotary switch is in the respective end position! The selected gear stage is shown in the display. The torque ranges available for gears 1 and 2 are each adjusted (gear 1 = full torque range, gear 2 = reduced torque range).



Select Torque:

The desired switch off torque can be specified in stages (figure 2). With the buttons  and  the switch-off torque can be selected in fixed steps. The selection is done with the button . The display changes to "Ready".

You can return to the higher-level menu by briefly pressing the button . Similarly, one of the three buttons  can be pressed to return to the higher-level menu.

Ready to start:

After torque selection, the tool is ready for operation (figure 3). The tool can now be started with the rocker button in the handle. Pressing the lower half of the rocker starts the tool in clockwise rotation, the upper half starts the tool in counter clockwise rotation. Releasing the rocker, or when the set torque has been reached, the tool stops.

You can return to the higher-level menu by briefly pressing the button . Similarly, one of the three buttons  can be pressed to return to the higher-level menu.

Setting the pre-torque and angle in torque + angle mode:



Fig. 4: Select torque and angle mode



Fig. 5: Select pre-torque







Fig. 6: Select angle



Fig. 7: Tool is ready for working





Switch on the tool:

The EMAX torque tool is switched on by pressing the button . The main menu is shown in figure 4. With the two outer buttons  and , the individual menu items can be selected. Select the "Start Torque+Angle" function. The selection is accepted by pressing the button .





Select Gear:

In torque + angle mode, we recommend using only gear 1!

Select Pre-Torque:



The desired pre-torque can be specified in stages (figure 5). With the buttons  and  the pre-torque can be selected in fixed steps. The selection is done with the button . The menu changes to "Angle". You can return to the higher-level menu by briefly pressing the button .

Select Angle:

The desired angle can be specified (figure 6). With the buttons  and  the angle can be selected in fixed steps. The selection is done with the button . The menu changes to "Ready" (figure 7). You can return to the higher-level menu by briefly pressing the button .

Ready to start:

After above selections, the tool is ready for operation in torque and angle mode. The tool can now be started with the rocker button in the handle. Pressing the lower half of the rocker starts the tool in clockwise rotation, the upper half starts the tool in counter clockwise rotation. Releasing the rocker, or when the pre-torque and the angle have been reached, the tool stops.

You can return to the higher-level menu by briefly pressing the button . Similarly, one of the three buttons  can be pressed to return to the higher-level menu.

Controls




Fig. 8: Tool is working:
torque mode
(Running clockwise)



Fig. 9: Tool is working:
torque + angle mode
(Running clockwise)

Switch off the tool:

The tool is switched off by a long press on the button .

Options: Release Angle



Fig. 10: Options



Fig. 11: Release angle



Fig. 12: Change release angle

Change Release Angle:

The automatic release angle of the tool can be specified in menu "Options" (figure 10 and 11).

With the buttons – and + the angle can be changed (figure 12). The selection is done with the


button ↵. **We recommend a release angle of no more than 20 degrees!**

You can return to the higher-level menu by briefly pressing the button ⏻. Similarly, one of the three buttons ← can be pressed to return to the higher-level menu.

Start a project without parameter import

General

Switch on the tool:

The EMAX torque tool is switched on by pressing the button . The main menu is shown in figure 13. With the buttons \uparrow and \downarrow , the individual menu items can be selected. Select the "Start Project" function. The selection is accepted by pressing the button \downarrow .

Select Gear:

The choice of the gear stage (power = gear 1, fast = gear 2) is selected by using the rotary switch on the side of the tool. Care should be taken to ensure that the rotary switch is in the respective end position! The selected gear stage is shown in the display. The torque ranges available for gears 1 and 2 are each adjusted (gear 1 = full torque range, gear 2 = reduced torque range).

In torque and angle mode, we recommend using only gear 1!

Documentation:



Fig. 13: Start project



Fig. 14: Select pre-torque



Fig. 15: Select angle

In the "Start Project" submenu, the required pre-torque can be selected with the - and + buttons (figure 14). After accepting it with the button \downarrow , the desired rotation angle is selected (figure 15). Next, the limits of the desired tightening torque are selected by entering the minimum and maximum torque values. (figure 16 and 17).



Fig. 16: Minimum torque



Fig.17: Maximum torque

After entering the number of screws (figure 18), an overview of the parameters entered appears (figure 19). The parameter set is given a name which is composed of the current date and time. After pressing the button ↵, the project is started (figure 20)



Fig. 18: Number of screws

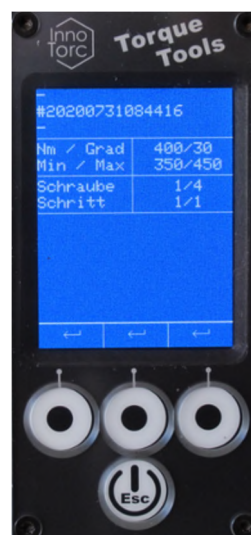


Fig. 19: Overview



Fig. 20: Start tightening

Ready to start:

Now, the tool is ready for operation. The tool can be started with the rocker button in the handle. Pressing the lower half of the rocker starts the tool in clockwise rotation, the upper half starts the tool in counter clockwise rotation. Releasing the rocker, or when the set torque has been reached, the tool stops. You can return to the higher-level menu by briefly pressing the button ⏻. Similarly, one of the three buttons ← can be pressed to return to the higher-level menu.

Start a project with parameter import

App installation:

The Android App TorcDoc from InnoTorc GmbH is required for the import parameter. Download it and install it on a smartphone or tablet with Android. In the "Settings" menu item (figure 21), enter an e-mail address for the data export and select the desired format. Finally, press the "Save configuration" button.

Connect to torque tool:

Switch on the torque wrench. In the app select the item "Connect", a search will be started. As soon as a device is found, it appears on the display. The coupling is carried out by clicking on the desired device name. When connecting for the first time, you need the coupling code, ask the manufacturer for this. When the app is connected to the torque wrench, the data is synchronized and the logs appear in the app (figure 22).

Create and import projects:

You need a csv file to create the projects, an example file is included. You can create or edit the file on the PC / laptop. You can create multiple users, projects, objects and parameter sets in this file. The created file can e.g. be sent to the smartphone by email or you can use a cloud that you can access with the smartphone. Save the file on the smartphone.

First make sure that there is a connection to the torque tool. In the app, select the item "Import Configuration Data". This button is only active when there is a connection to the tool. A file manager appears in which you can select the previously downloaded csv file. As soon as the file is clicked, the transfer to the torque tool begins. When the transfer is finished, the tool is automatically switched off.

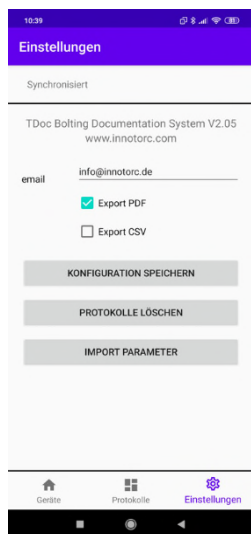


Fig. 21: Settings

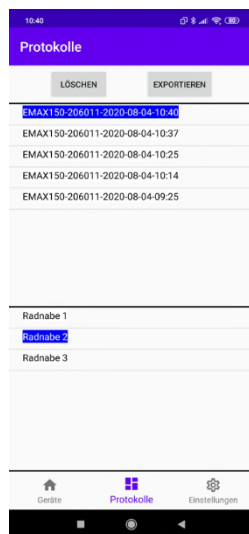


Fig. 22: Protocols



Fig. 23: Protocoll preview

Start Project:

Switch on the torque wrench. The previously created data file will now appear in the “Start project” submenu. The individual menu items can be selected with the buttons ↑ and ↓. The selection is accepted by pressing the button ↵. Select the user, then the project, an object and a parameter set (figure 24-27).



Fig. 24: User



Fig. 25: Project



Fig. 26: Object



Fig. 27: Parameter set

After selecting the parameter set, an overview of the parameters entered appears (figure 28). After pressing the button ↵, the project is started (figure 29).



Fig. 28: Overview



Fig. 29: Tightening

Tightening:

The torque wrench can now be started with the rocker button in the handle. The torque achieved appears on the display after each screw connection (figure 29). If the torque is within the specified minimum and maximum values, an "ok" appears. If the value is outside the limits, a "nok" appears. After a parameter set has been processed, a protocol is saved in the tool. This can now be exported using the app.

Export protocol:

First, make sure that there is a connection to the tool. As soon as there is a connection to the torque tool, the data is automatically synchronized and the logs appear in the app. The desired protocol can now be selected and viewed in the app (figure 23). To export, press the "Export" button. You can choose whether the log should be sent by email or saved in a cloud. You can output the file either as a pdf or as a csv file.

Delete protocol:

The logs are synchronized each time a tool is connected and displayed in the list with a new time stamp. You can delete individual protocols in the "Protocols" menu item. Only the log is deleted from the app. To delete the protocols in the torque tool, go to Settings and click on "Delete protocols In Tool". This deletes all (!) logs in the torque wrench.

Option: Testmode

The testmode is used to check the torque of a screw connection. If the screw connections is tighten enough, the screw is not turned any further; with loose screw connections, the retightening angle is shown on the screwdriver's display until the required tightening torque is reached.

Select Torque:

With the buttons – and + the test torque can be selected. The selection is done with the button ↵. The display changes to "Ready".

You can return to the higher-level menu by briefly pressing the button ⏏. Similarly, one of the three buttons ← can be pressed to return to the higher-level menu.

Ready to start:

After torque selection, the tool is ready for operation. The tool can now be started with the rocker button in the handle.

Test torque:

Pressing the lower half of the rocker starts the tool in clockwise rotation, the upper half starts the tool in counter clockwise rotation. When the test torque has been reached, the tool stops automatically. As long as the rocker is still pressed, the screwdriver's display shows the retracted angle. Releasing the rocker deletes the post-rotation angle and the screwdriver can be started to test the next screw connection.

EC declaration of conformity

according to the EU Machinery Directive
2006/42/EC, Annex II 1. A

Manufacturer

InnoTorc GmbH
Augsburger Str. 91
DE - 85290 Geisenfeld

Description and identification of the machinery

Product / Article	Electric shut-off wrench EMAX Series
Project number	PRJ-2020-03-01-0001
Function	Battery-Powered Torque Wrench, for tightening and loosening screw connections.

It is expressly declared that the machinery fulfils all relevant provisions of the following EU Directives or Regulations:

2006/42/EC	Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) (1) Published in L 157/24 of 09.06.2006
2014/30/EU	Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast) Published in 2014/L 96/79 of 29.03.2014
2014/35/EU	Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits Published in 2014/L 96/357 of 29.03.2014
2011/65/EU	Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment Published in 2011/L 174/88 of 01.07.2011

Reference to the harmonised standards used, as referred to in Article 7 (2):

EN ISO 12100:2010-11	Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
EN 60204-1:2018	Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016, modified)
EN 62841-1:2015	Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery — Safety — Part 1: General requirements
EN 62841-2-2:2014	Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery — Safety — Part 2-2: Particular requirements for hand-held screwdrivers and impact wrenches (IEC 62841-2-2:2014, modified)

Geisenfeld, 01.03.2020

Place, Date



Signature
Jürgen Vogl
Geschäftsführer

Servicing and manufacturer's details

The device contains no components to be serviced or repaired by the end customer.

In the event of a malfunction, the display flashes and shows "E" followed by a two-digit error number. Please make a note of this number and send the device to InnoTorc GmbH or the responsible sales partner. Do not try to repair the device yourself.

After 10,000 screwdriving operations, "Service is due" appears in the display. You should send the device to InnoTorc for maintenance as soon as possible.

We recommend a service and torque calibration every 12 months or after a maximum of 1,000 operating hours. Please send the device in its original packaging to the manufacturer or the respective sales partner.

Manufacturer's details

**InnoTorc GmbH
Augsburger Str. 91
D-85290 Geisenfeld**