Operating instructions

Battery-Powered Torque Wrench, EMA Series

Technical data: EMA Series

Torques 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

Typ | Type	**EMA40**	**EMA80**	**EMA150**	**EMA300**	**EMA450**	**EMA600**
Abtriebsvierkant | Square drive shaft DIN3121	¾"	¾"	1" (¾")	1"	1½" (1")	1½"
Min. Drehmoment | Min. Torque (Nm)	20	50	100	200	300	500
Max. Drehmoment | Max. Torque (Nm)	450	800	1500	3000	4000	6000
Länge A ohne Vierkant | Length A without square (mm)	305	315	350	360	405	425
Bauhöhe B inkl. Getriebeaufnahmering und Akku Overall heights B incl. gear holding ring and batteries (mm)	260					
Durchmesser C Getriebeaufnahmering Diameter C gear holding ring (mm)	74,0					
Durchmesser D Getriebe | Diameter D gearbox (mm)	77,0				90,0	102,0
Gewicht ohne DMA | Weight without DMA (kg)	5,1	5,4	6,3	6,4	9,0	11,2
Leerlaufdrehzahl Gang 1 (U/min) | Idling speed (rpm)	17,0	8,0	4,6	2,5	2,0	1,1
Leerlaufdrehzahl Gang 2 (U/min) | Idling speed (rpm)	34,0	16,0	9,3	4,9	4,0	2,2
Leerlaufdrehzahl Gang 3 (U/min) | Idling speed (rpm)	76,0	37,0	18,5	9,9	8,5	4,7
Leerlaufdrehzahl Gang 4 (U/min) | Idling speed (rpm)	152,0	74,0	37,0	19,7	17,0	9,3

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 voltage supply matches the data on the identification plate.

Only use the device for its intended purpose.

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

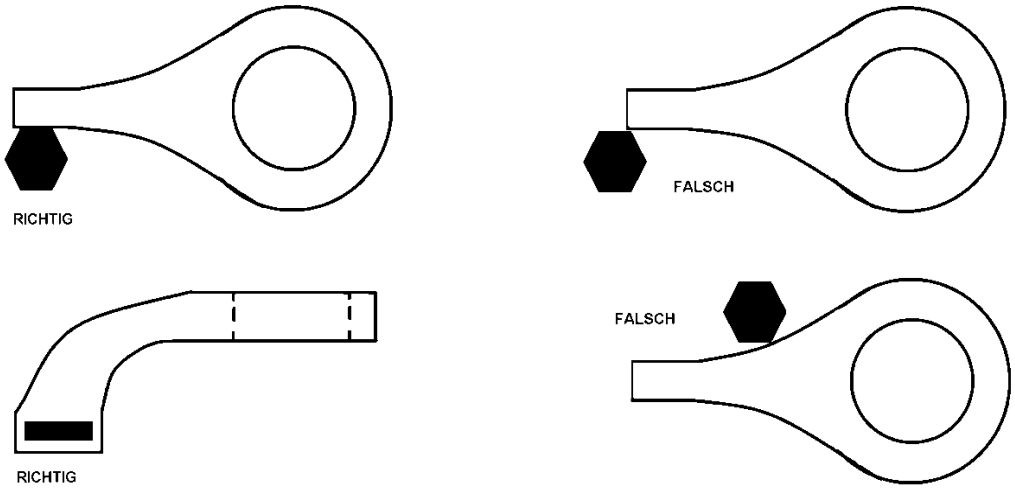
Observe any local, industry-specific regulations, such as the wearing of safety footwear, helmets, gloves, etc.

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 preset torque has been attained. Now set the direction of rotation to the left and run the device until the support arm is free.

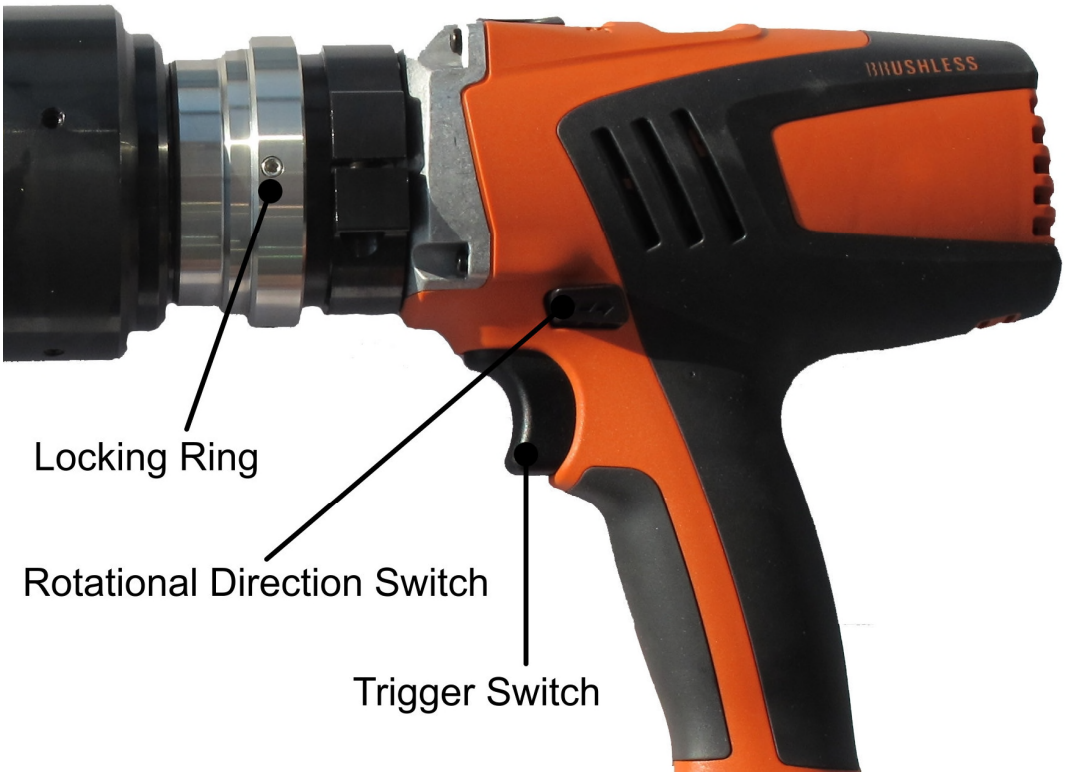
Controls, setting torque

Set the desired torque using the calibration certificate: first determine the gear and setting with the aid of the tables on the last page of the calibration certificate. Then select the gear by means of the black sliding switch. Gear 1 is the slowest speed and Gear 4 the fastest. The sliding switch must not be positioned in the centre but has to fully click into place; otherwise the device will jam. Only change the gear when the device is not moving.

The required setting (1 to 15) is adjusted by means of the rotary knob with the numbers. Setting 1 has the lowest torque for the selected gear and setting 15 the highest torque. Intermediate settings, e.g. between 3 and 4, are not possible.

Gear 4 is only intended for the fast rotation of loose screws and bolts, not for screw connections relevant to quality. Consequently, Gear 4 is not usually calibrated.

Controls, setting direction of rotation



The diamond-shaped reversing switch is indicated on either side with an arrow for the specific direction of rotation. Pressing the reversing switch changes the direction of rotation, see Figure. Make sure that the reversing switch has clicked firmly into place to the extreme left or right. Only change the direction of rotation when the device is not moving.

Trigger switch on the front of the handle. Pressing the trigger switch starts up the device and releasing it stops the device. The device also stops when the preset torque has been attained. If you only press the trigger switch lightly, the motor only rotates slowly. Only when the trigger switch is depressed completely will the maximum speed be attained.

The silver locking ring between the wrench and gearbox allows the gearbox to be rotated and locked in a specific position. Pulling the ring towards the motor allows the gearbox to be adjusted to the site conditions in 12 steps of 30° (degrees). After adjusting the device, make sure it has clicked securely back into place. Failure to observe this precaution may lead to high recoil torques delivered to the handle of the tensioning device.

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 EMA Series
Project number	PRJ-2016-05-16-0001
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
Managing Director

Servicing and manufacturer’s details

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

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