OPERATION AND MAINTENANCE MANUAL

BATTERY-POWERED TORQUE WRENCHES

IMPORTANT SAFETY INFORMATION ENCLOSED. READ THIS MANUAL BEFORE OPERATING TOOL. IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PLACE THE INFORMATION IN THIS MANUAL INTO THE HANDS OF THE OPERATOR. FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN INJURY.

1.0 Receipt Notice

1.1 Receipt should check the appearance of the machine and all components for damage in transit. If you find the machine or component damage, notify the carrier immediately. Damage in transit is not covered under warranty. All repairs and replacement costs resulting therefrom shall be borne by the carrier.

1.2 Battery torque wrench standard configuration includes the following components: wrench body,reaction arm, manual,two 5.0AH battery and one charger, if in doubt, please contact the supplier.

2.0 Functional Description

Product Overview：BTW series battery torque wrench is a hand-held rotary power tool, with a reaction arm, can be precisely set the torque for the completion of a nut or bolt tightening / loosening job, with a torque compensation function which can help clients calibrated when they doubt the output accuracy: drive part with high-efficiency brushless DC motor, high-speed smart chip control, LED display, mechanical parts using planetary gear mechanism. Motor main technical parameters: ：

Power supply ----------18V/21V/36V

Power free speed ---------- 30000rpm

Battery capacity ----------5Ah（Standard）、8Ah（Optional）

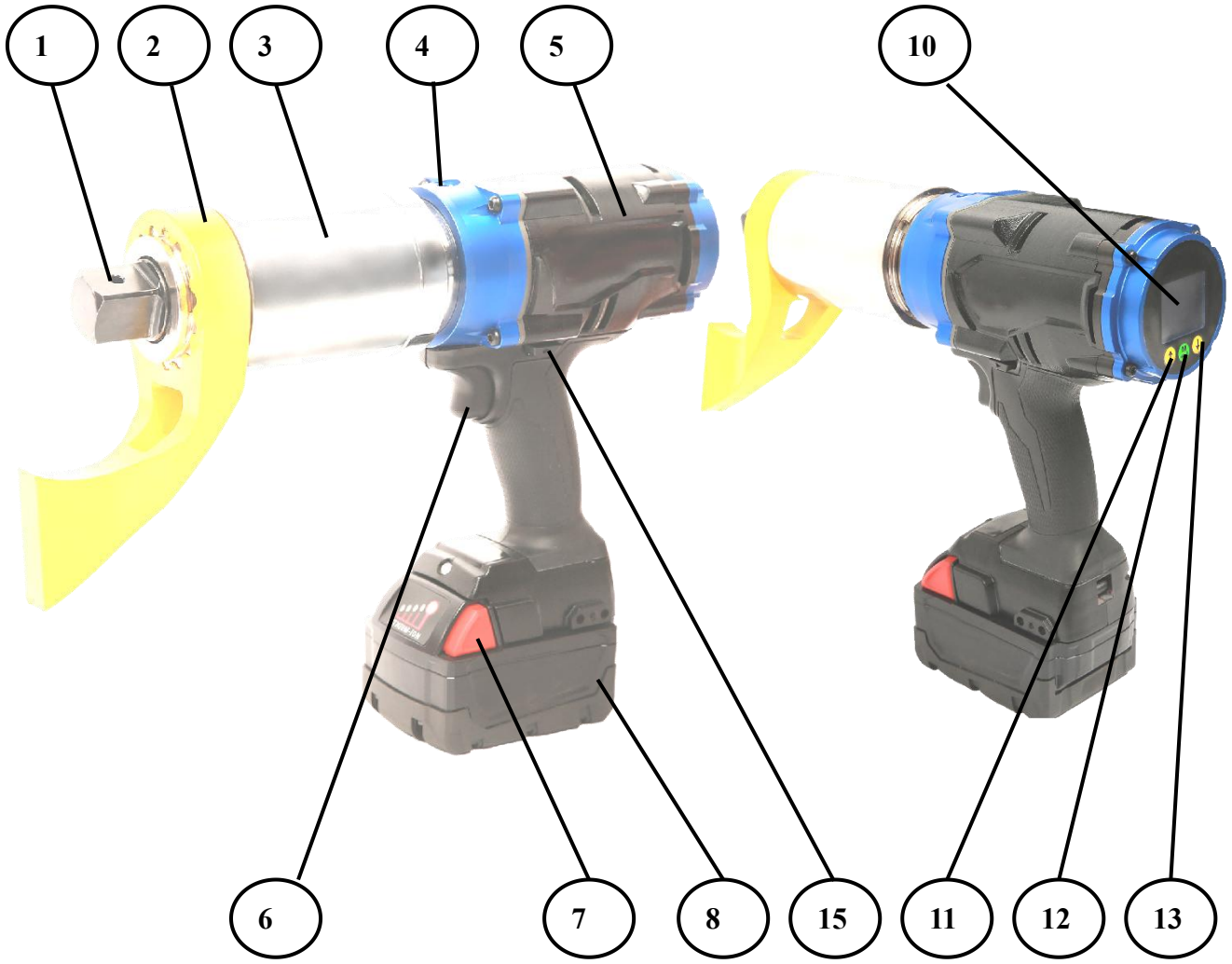
3.0Notice before operate the tool

Only the approved lithium battery provided by this wrench can be used

Do not remove the mechanical and electrical parts of the wrench without permission

Danger This machine is a power tool with a reaction arm, a huge machine-generated torque absorbed by the reaction arm, so have to find enough strength to anchor reaction arm during operation. For security reasons, when the machine is working, any part of the body have to be away from work ranges of reaction arm, otherwise, will inevitably cause great harm to persons.

4.0 Battery torque wrench component



1-SQUARE DRIVE 2-REACTION ARM 3-GEAR BOX 4-LOCKING BUTTON 5-MOTOR 6-TRRIGER TO START 7-REMOVE BATTERY BUTTON 8-BATTERY

10-LCD SCREEN 11-+TORQUE INCREASE 12-CONFIRM BUTTON 13- -REDUCE TORQUE

15-LOOSEN OR TIGHTEN BUTTON

PRESS NO.7 SWITCH ON/OFF, NO.10 SHOWS SYSTEM START, PRESS NO.7 AGAIN SYSTEM STOP AND POWER OFF

IMPORTANT WHEN USING THE TOOL (TIGETHNING OR LOOSENING)

LOCKING BUTTON:

ADJUST THE MOTOR POSITION (UNLOCK HELPS USER EASIER TO ADJUST POSITION OF HANDLE)

UNLOCK（MOTOR FREE ROTATING SEPERATE WITH GEAR BOX）

LOCK（PULL THE BUTOON UP）

BEFORE PRESS THE NO.6 TRIGGER, FIND A STRONG ENOUGH REACTION POINT FOR THE NO.2 REACTION ARM AND PULL THE BUTTON UP TO LOCK THE MOTOR.

THE LOCKING BUTTON SHOULD ALWAYS LOCK WHEN THE REACTION ARM CLOSE TO THE REACTION POINT. THE LOCKING COMPONENT MAKE THE WRENCH NON-IMPACT FORCE

Lock and Unlock safe button description:

Unlock: Help finding a comfortable postion to hold the motor/handle. Make sure motor away from obstruction

Unlock: During tigthen/loosen impact force will hurt operator

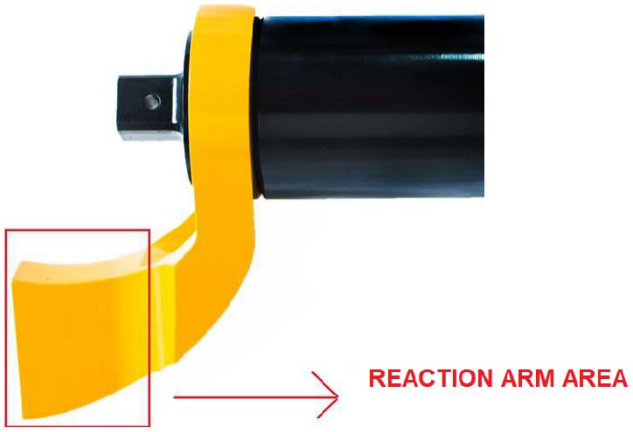
Lock: During tighten/loosen non-impact force, operator will not get hurt by impact force from motor

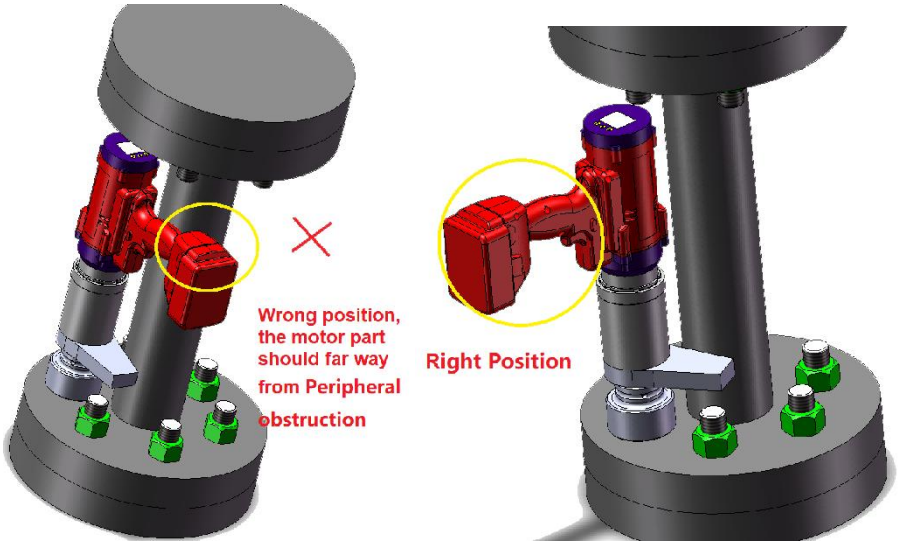
Lock: During Lock, reaction arm,gear box and motor will be a complete part. Rotating together (Warning: motor rotating will not hit any obstruction)

Therefore, first unlock safe button find the reaction point for reaction arm, adjust the motor postion and make it away from obstruction. When reaction arm close or reach the reaction point, lock the safe button. It will not have impact force to operator
Warning: Unlock safe button when the wrench is loosening or tightening,
its very hard to control the handle. It will rush out from hands and hurt operator or break the motor

Special attention items

1. Ensure that the motor part is far away from obstacles to prevent damage to the motor caused by hitting the motor during work.
2. Select the correct support point with sufficient strength for the reaction arm, and press the "safety lock button" to make it easier to rotate the reducer to adjust the position of the reaction arm.
3. After adjusting the position of the reaction force arm correctly, be sure to pop up the "safety locking button" to re-lock the gear box, and the tool is in the "no reaction force state", so that the tool can be used safely.

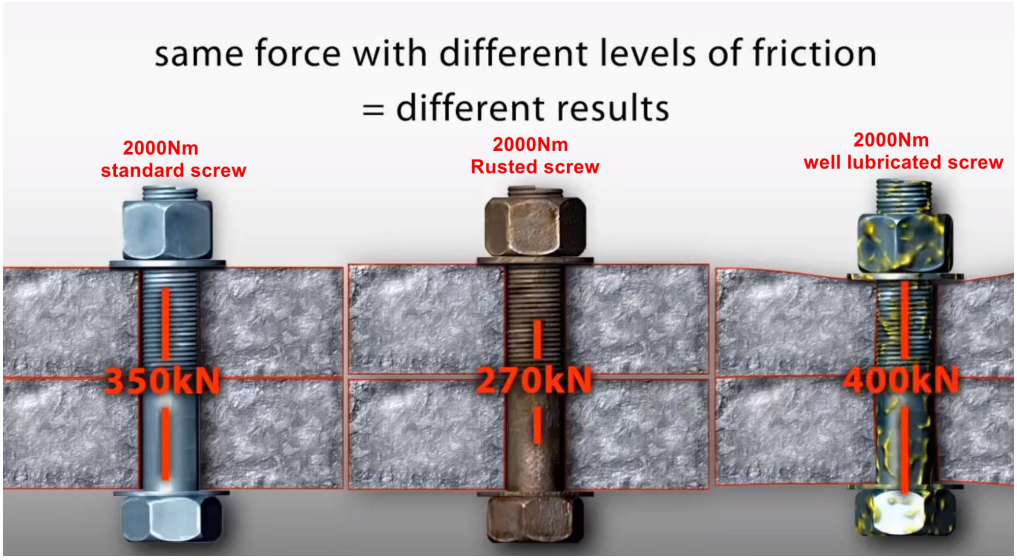




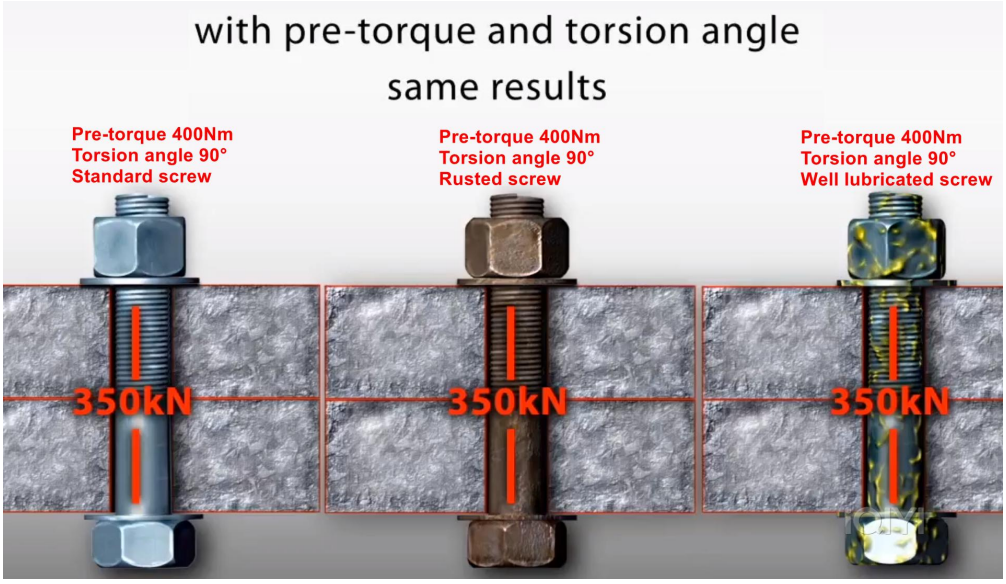
What is the torque-angle tightening method?

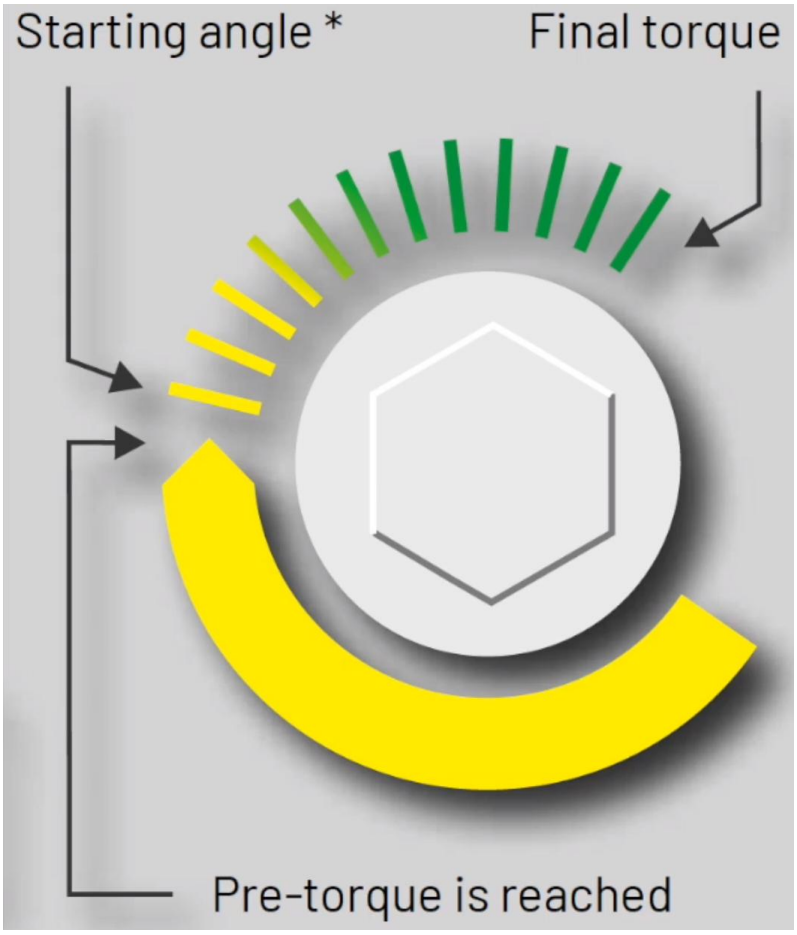
The torque-angle bolting method ensures higher quality bolting connections, often per OEM's specifications.
With the torque-angle tightening method, initial tightening torque pulls the joint's plates into the metal-to-metal contact.
A defined angle of turn rotates the bolt/nut through to finish the procedure.

1. Torque method
Same force with different levels of friction=different results



2. torque-angle bolting method
With pre-torque and torsion angle=same results





Torque-angle bolting method applicable to scenarios requiring higher precision

How to choose correct torque and angle?

1. Refer handbook.

Normally equipment assembly manual indicate the bolt size and pre-torque and torsion angle.

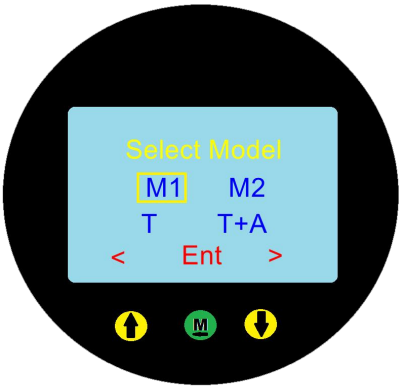
For example, M36, 500Nm+100degree.

2. Consult.

Contact Professional fastener manufacturer to get the torque and angle

Setting request torque and calibration

1.Assemble the battery and click the "TRIGGER" you will see start as below

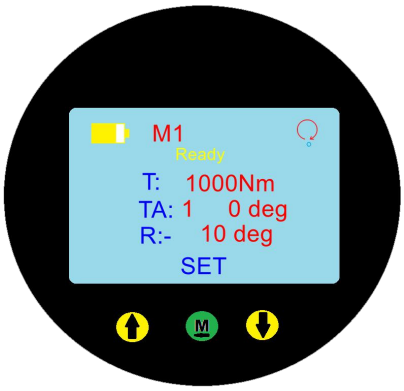


2. Press M to start and adjust request torque, press reversing button to tighten display.

M1 mode: Torque + rotation mode (torque method)
Torque: It is torque, set the required torque through +-
Number of rotation: You can set the number of working turns of the electric gun. It will automatically stop when the set number of turns is reached. If not set, it means there is no limit.

M2 mode: torque + angle mode (angle method)
Press the up and down keys to select the corresponding mode, press the M key to enter
Torque: It is torque, set the required torque through +-
Angle: Forward pushing angle, pretightening torque + forward rotation angle can achieve precise tightening of bolts

3. M1 mode: Torque + rotation mode (torque method)



Tighten:

Loosen:

T	Torque set
TA	Rotation/degree set
R	Reverse angle

3.1

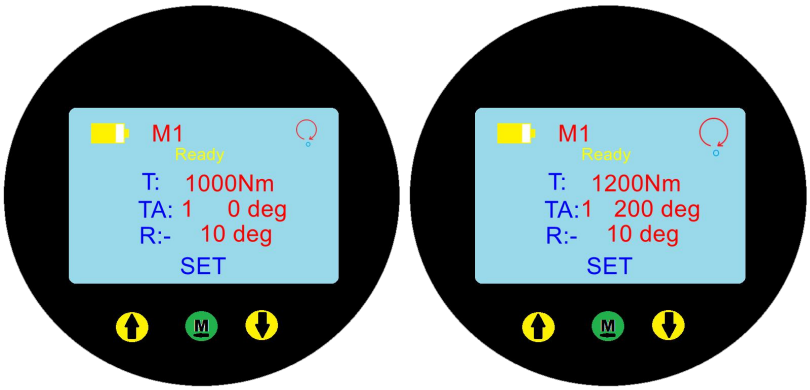
If you need to adjust the working torque, switch to the tightening interface, press the M key again, and the torque value T starts to flash.

At this time, you can press UP or DOWN to adjust the required working torque up or down, press the M key again to save, and the torque setting is completed.

If you need to set the number of turns, for example, to stop after turning 2 turns, set TA: 0-720. When the electric gun turns 720°, it will automatically stop.

If there is no need to limit the number of turns, TA can be kept at 0 0.

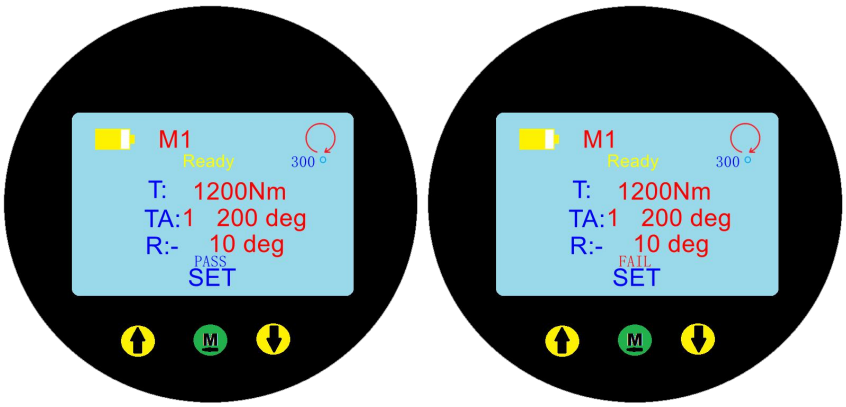
R represents the retraction angle. After tightening the tool, the reaction arm will automatically retract to a certain angle to facilitate tool removal. The default is 10°, which can be adjusted as needed.



3.2

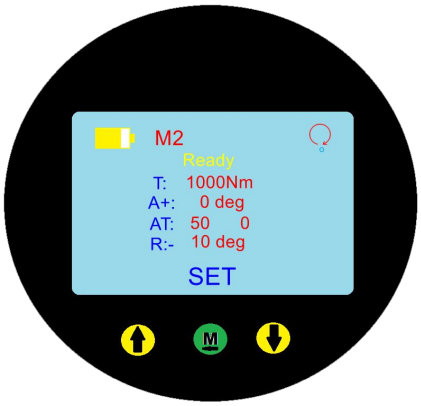
After the setting is completed, press the start-stop switch and the wrench can start working. The torque and forward rotation angle are displayed in real time during the working process.

When the set torque is reached and tightening is completed, "PASS" will be displayed. If the set torque is not reached or tightening is interrupted, "FAIL" will be displayed.



4.M2 mode: torque + angle mode (angle method)

Select M2 mode and press the M key to enter. The screen displays as follows:



T	Torque set
A+	Torsion angle
AT	Forward torque
R	Reverse angle

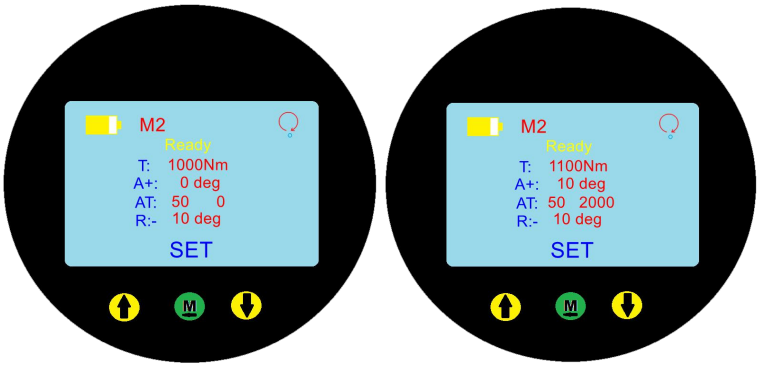
4.1

If you need to adjust the working torque, switch to the tightening interface, press the M key again, and the torque value T starts to flash.

At this time, you can press UP or DOWN to adjust the required working torque up or down, press the M key again to save, and the torque setting is completed.

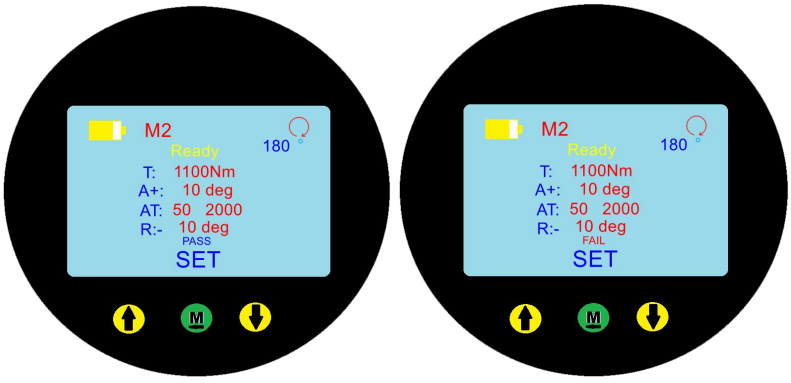
If you need to set the forward push angle, press UP or DOWN to adjust the desired angle A+ up or down.AT represents the range value of the final torque in torque + angle mode. If the range value is exceeded, an alarm will occur and the machine will shut down.

R represents the retraction angle. After tightening the tool, the reaction arm will automatically retract to a certain angle to facilitate tool removal. The default is 10°, which can be adjusted as needed.



For example, set T: 1100Nm, A+: 10°, AT: 50-2000, R-: 10°
It means preload 1100Nm + forward push 10°. If the final torque value exceeds 2000Nm, an alarm will occur and the machine will shut down.

4.2
After the setting is completed, press the start-stop switch and the wrench can start working. The torque and forward rotation angle are displayed in real time during the working process.
When the set torque is reached and tightening is completed, "PASS" will be displayed. If the set torque is not reached or tightening is interrupted, "FAIL" will be displayed.

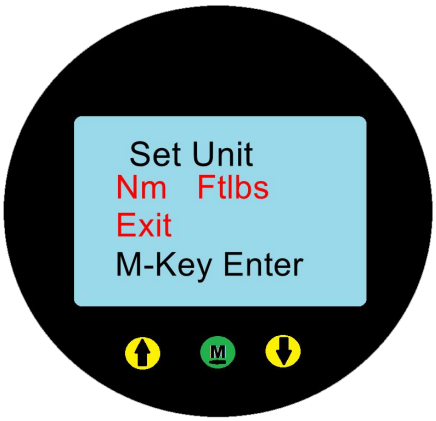


5.Program set
It can be set in M1 or M2 mode.
Press UP and DOWN hold simultaneously for about 3-5 seconds, the tool will enter the torque calibration setting menu interface as follows:

1	**Set Unit**	Select "Nm"or "Ftlbs"
2	**Set X**	Gearbox ratio
3	**Record**	Data Record&Upload
4	**Calibration**	Tool calibration
5	**Factory Set**	Motor set
6	**Set Data time**	Program time set
7	**About**	Program version
8	**Exit**	Program exit

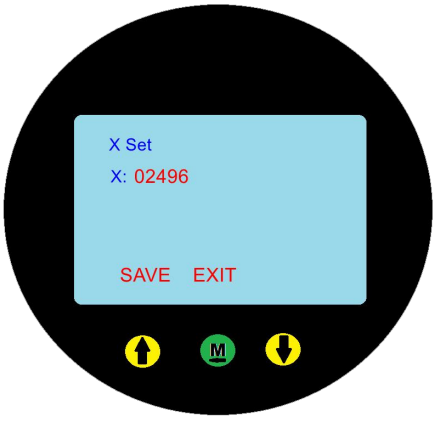
5.1

Unit selection, you can choose Nm or Ftlbs



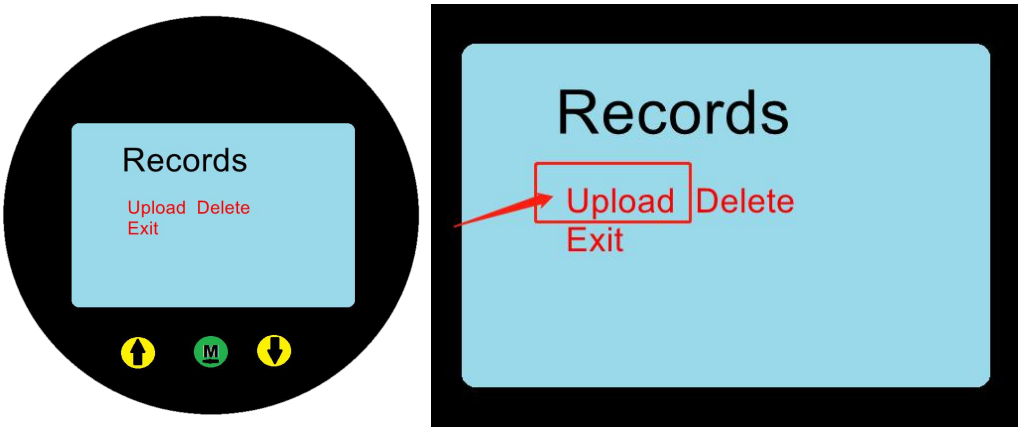
5.2

Set the reduction ratio. It has been set at the factory and no need to set



5.3

Data record transfer and download



5.3.1 connect torque wrench to windows system through”WIFI”

5.3.2 Open the program

5.3.3 Select “Upload”, press “M”, data will upload to windows program

WIFI.TOOLS V2.3.7.12

Create | Open | Stop | Save | WIFI OK

MODEL： C-25-286dce3c8f89 PT： 5 ±% STA

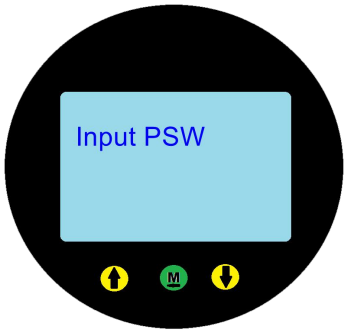
FILE：..... TARGET：.....

NO	ST	PT	OK/NG	RT	App Time
1	950	0	NG	0	2023-10-27 18:45:24
2	950	0	NG	0	2023-10-27 18:45:24
3	950	0	NG	0	2023-10-27 18:45:25
4	950	0	NG	0	2023-10-27 18:45:25
5	950	0	NG	0	2023-10-27 18:45:26
6	950	0	NG	0	2023-10-27 18:45:26
7	950	0	NG	0	2023-10-27 18:45:27
8	950	0	NG	0	2023-10-27 18:45:27
9	950	0	NG	0	2023-10-27 18:45:28
10	950	0	NG	0	2023-10-27 18:45:28
11	200	0	NG	0	2023-10-27 18:45:29
12	200	0	NG	0	2023-10-27 18:45:29
13	300	0	NG	0	2023-10-27 18:45:30
14	300	0	NG	0	2023-10-27 18:45:30
15	370	0	NG	0	2023-10-27 18:45:31
16	370	0	NG	0	2023-10-27 18:45:31
17	450	0	NG	0	2023-10-27 18:45:32
18	700	0	NG	0	2023-10-27 18:45:32
19	760	0	NG	0	2023-10-27 18:45:33
20	300	0	NG	0	2023-10-27 18:45:33
21	300	0	NG	0	2023-10-27 18:45:34
22	180	0	NG	0	2023-10-27 18:45:34
23	160	0	NG	0	2023-10-27 18:45:35

5.4 Tool calibration

Sometimes the torque result not same as customer local calibration equipment, need to do reset. Our tool has this function

Password” ⇧⇩”,Press”M” into system



According to the program requirements, the torque detection values corresponding to serial numbers 2, 3, 4, 5....19,20 need to be entered in sequence. (The value next to the serial number is the system value and does not need to be ignored, such as 20A, etc.)

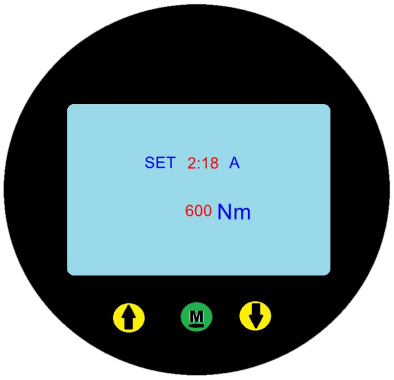
For example:

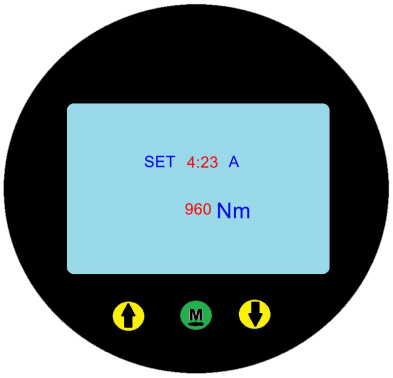
In the No. 2 interface, pull the start/stop switch, and the wrench starts working. After the bolts are tightened, the detection platform displays the result as 600Nm, then press and to adjust the new torque value to 600Nm.

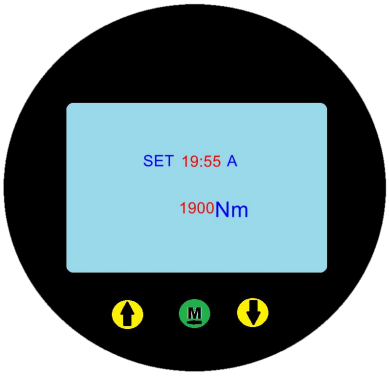
(Note: It is recommended to test three times and take the average, such as 600Nm, 610Nm, 598Nm, enter the average value of 603Nm)

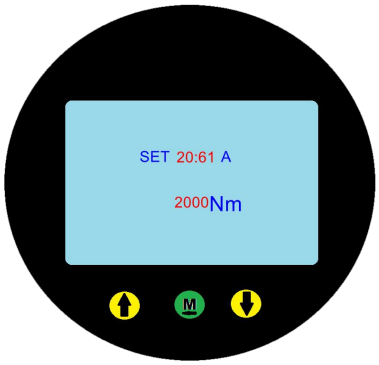
After the setting of No. 2 interface is completed, press the M key to save. The program will automatically enter the No. 3 interface. Follow the same steps to readjust the torque detection value of No. 3.

3, 4,. . . . Until 20, and so on





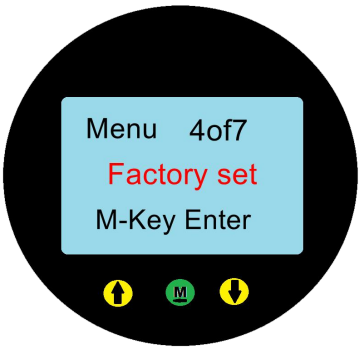




After all the detected torque values have been input, press the M key to enter the save interface, press "SAVE" to save, and complete the tool calibration.

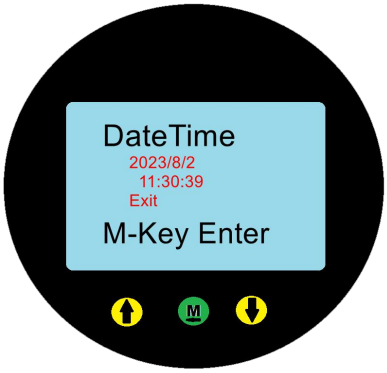
5.5 Factory set

Equipment(Motor) factory parameter settings, no need to pay attention to them



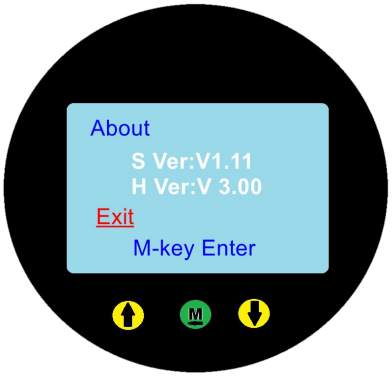
5.6Tool time set

Choose tool time, help to check data record



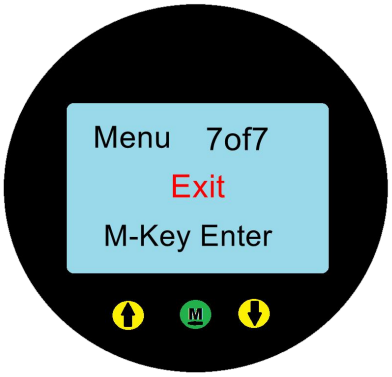
5.7 About

Check porgram version, this is usually for warranty, no need to do any changes.



5.8 Exit

Exit setting



6.0 Operation process

1. Press the No.7 button switch on the wrench
2. Enter the target torque
3. Let the reaction arm close or reach the reaction point, pull the No.4 button up and lock the wrench.
4. Keep press the No.7 trigger， wrench start work and do not leave the trigger until wrench stop and indicate lamp off (During auto on model, do not stop until wrench reaction arm reverse)

7.0 Product Maintenance and precautions

7.1 machinery and motor cooling vent must be kept clean all the time, so that it can improve the quality and safety at work .

7.2Maintenance the gearbox and transmission part regularly, replace new grease recommended penetration level is 265-295 with a viscosity grade 2 grease

7.3 Regularly check the machine is working properly , and make sure if there is broken or damaged parts. Be sure to replace or repair faulty parts before using machine.

7.4 Can only be entrusted to professional power tool maintenance, repair, only original spare parts for maintenance

7.5 When replacing parts or not using the machine, be sure to remove the battery, it will avoid accidentally starting the power tool .

8.0 General warning of operating

8.1Wear personal protective equipment.For example,earmuffs, because working noise may damage your hearing. Better to wear protective glasses, work gloves , non-slip work shoes , helmets, work aprons , etc. , can reduce the chance of injury work .

8.2 Avoid erroneous holding machine posture. When operating the machine to make sure footing and to keep in balance. Correct operating posture can help you in emergency situations in a timely manner to control power tools.

8.3 wear suitable clothes. Not too loose clothes to wear at work , it can not wear jewelry. Keep your hair , clothing and gloves touching the rotating parts of the machine . Loose clothing , long hair or jewelry easily be caught in moving machine.

8.4 Avoid physical contact with metal objects , such as pipes, radiators , etc. If your body is grounded , and very vulnerable to shock .

8.5 Do not use the switch malfunctioning machine . If you can not properly control the start and stop switch , prone to accidents when operating the machine. Machine repair the fault as soon as possible .

8.6 Engrossed affairs work necessary , not only to keep a clear head but also to rational operation of the machine. Tired , drinking or taking drugs , stimulants, the drugs , do not use a power tool . When using the machine as long as a little distraction might occur serious unintended consequences .

8.7 Keep children and bystanders away while operating the machine. Work distracted because of the interference of a third party may cause accidents.

8.8 When not using the tool , the machine must be stored in the toolbox. Do not let someone who is unfamiliar with machine operation and did not read the manual use the machine. Let inexperienced person to operate is accident-prone.

8.9 The machine must stay away from rain or moisture. If you let water seep power tools will increase the risk of electric shock .

8.10The machine can not operate in a dangerous explosive environment. Potentially explosive environment is full of flammable liquids, gases or dust in the workplace. When operating the machine will produce sparks, sparks easily ignite dust or flammable vapors.

8.11The workplace must be clean and the sufficient light. Messy or dark workplace easily lead to accidents.

8.12 Do not allow the machine to withstand heavy loads. Choose the suitable model,it's more safe to operate.

9.0 Warranty

9.1 The delivery date from the machine , the user warranty service on this equipment.

9.2 Warranty service will need product serial number.

9.3 The following conditions are not covered under warranty services:

- Out of warranty period ;

-The equipment does not work properly due to force majeure

-The damage caused by human factors