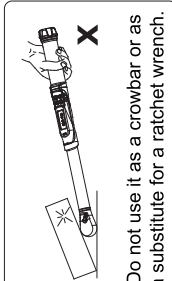
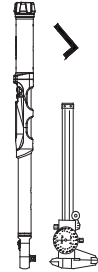


## Instructions

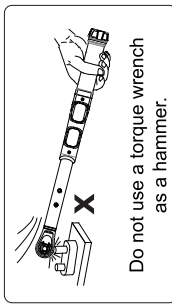
### EA Model Electronic Angle Torque Wrench (with angle and memory function)

#### Overview

1. Electronic torque wrench is a very precise instrument. It is only used to tighten screws, bolts and nuts to the required torque, and should be kept properly.



Do not use it as a crowbar or as a substitute for a ratchet wrench.



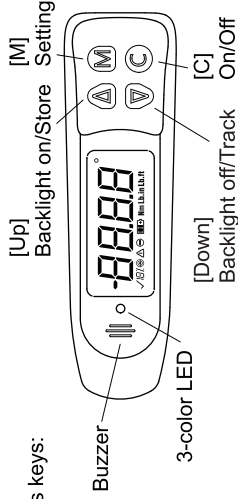
Do not use a torque wrench as a hammer.

2. In addition to changing the battery, do not disassemble and install the wrench casually, incorrect disassembly and installation may cause damage to the internal structure and make the torque wrench unable to use.

#### 3. Key features

- Accuracy:
  - Torque: +/-2% from 20% to 100% of capacity;
  - Angle: +/-1% of reading ±1° @ angular speed of 10°/s ~ 180°/s;
- Units: Nm, Lbin, Lbft, Kgm.
- 4 Modes: Peak Torque, Peak Angle, Torque+Angle, Track mode.
- Peak value hold function for Peak Torque, Peak Angle and Torque+Angle mode.
- Can set target torque value and target angle value.
- Led light and buzzer alarming.
- Can be operated continuously with automatic zero clearing.
- Memory function: Data storage to 1000 datas.
- Upload data to computer by USB port.
- Rechargeable by Micro-USB.
- Optional backlight, good for dark working condition.
- Torque error percentage display function.
- Battery level display.
- Automatically shuts off after 2 minutes of non use.

- Display, press keys:

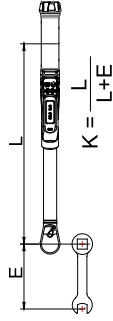


#### How to Set

1. Power On
  - Press C to power on while no load.
  - Display will show last use, you can start to use it or set.

2. Set

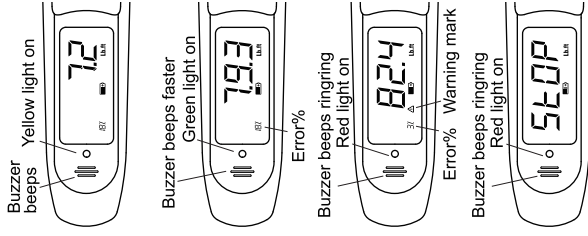
- Press M into set menu, display shows "unit", yellow light on, press up or down key to select unit, press M to confirm, enter torque setting.
- Display shows torque, press up or down key to set torque value (if torque is set 0, and you set angle, then it's Angle mode), press M to confirm, into coefficient set.
- Display shows 1, then press up or down key to set coefficient from 0.6 to 1.2. If set 1, this feature is not used. The setting of the coefficient K is calculated according to the following formula. The coefficient function is marked as  $\ominus$ . Coefficient function only works when testing torque. Press M to confirm, enter angle setting.



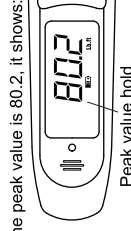
- Display shows 0, then press up or down key to set angle from 0° to 9999°, increment is 1°. If set 0°, angle feature is not used. If set angle, there are two kinds of status: 1) Torque set 0, test with angle only; 2) Torque set, then test with torque and angle. Press M to confirm, Press C to quit, yellow light off.
- Set turn is Unit→Torque→Coefficient→Angle.

#### How to Use

1. Peak Torque mode
  - After power on, use torque wrench under Peak Torque mode. (For example, torque set 80 Lb.ft)

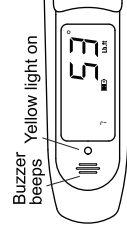
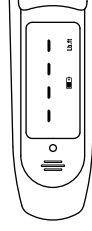


- While load force to 90% of set value, yellow light turns on, buzzer beeps at a certain frequency. While load force is 18% away from the set value, the percentage starts to show, and gradually decreases with the increase of torque.
- While it reaches ±2% of the set value, the green light turns on and the beep frequency of the buzzer increased, now stop loading force.
- If continue loading force to more than 2% of set value, red light turns on, buzzer keeps ringing, error percentage will show with triangle exclamation mark  $\Delta$ . At this point, stop applying force immediately.
- If force load is more than 10% of capacity, display will show STOP, means exceed maximum load, you have to stop.
- After unloading, the measured maximum torque value is retained on the screen, and the color state light is also retained, until the next load, the wrench will automatically reset to zero, the state light will be off, and test will start again.

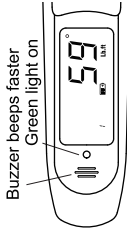


#### 2. Peak Angle mode

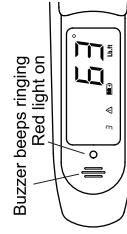
- After setting, press C to quit. The wrench should be placed in a horizontal position. Four horizontal lines will gradually appear on the screen. When the set value appears on the screen, it can be used. (For example, it's set to 60°)
- In Peak Angle mode, default is from 5% of full load to start to measure angle, increment is 1°, the displayed angle value will increase along with rotation angle of torque wrench. Angular velocity of wrench rotation should be 45 to 90 degree per second.
- While angle is 8° away to the set value, yellow light turns on, buzzer beeps at a certain frequency. While the angle is within ±18° of set value, the remaining degrees from the set value will be displayed at the lower left of the screen.



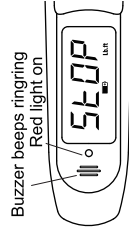
- While angle is 2° away from the set value, the green light turns on and the beep frequency of the buzzer increased. Now stop loading force.



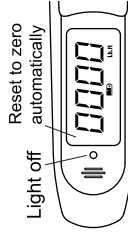
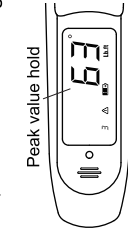
- While angle is 2° more than set value, red light turns on, buzzer keeps ringing. The number of degrees exceeded is shown below with the triangle exclamation mark Δ. At this point, stop applying force immediately.



- If force load is more than 10% of capacity, display will show STOP, means exceed maximum load, you have to stop.

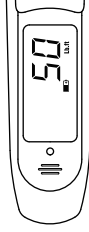


- After uploading, the measured maximum angle is retained on the screen, and the color state light is also retained, until the next load, the wrench will automatically reset to zero, the state light will be off, and test will start again.

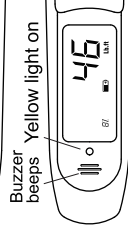


### 3. Torque + Angle mode

- When both torque and Angle are set, the torque wrench is to meet the requirement of turning a certain Angle after reaching the set torque. When there is no load, the set torque value will be displayed on the screen.



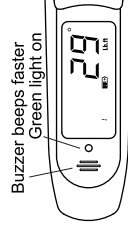
- While the torque reaches 90% of the set value, yellow light turns on, buzzer beeps at a certain frequency. While the torque is 18% away from the set value, the percentage starts to show.



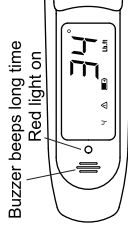
- While the torque reaches the set value, the screen switches to Angle display, and the "%" sign disappears. While the angle is within ±18° of set value, the remaining or excess degrees from the set value will be displayed in the lower left.



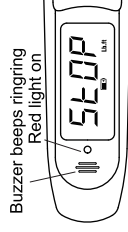
- When the angle reaches the set value, the green light turns on and the beep frequency of the buzzer increased. Now stop loading force.



- While angle is 2° more than set value, red light turns on, buzzer keeps ringing. The number of degrees exceeded is shown below with the triangle exclamation mark Δ. At this point, stop applying force immediately.



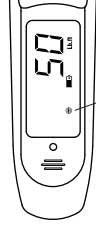
- If force load is more than 10% of capacity, display will show STOP, means exceed maximum load, you have to stop.



- After uploading, the maximum Angle value and target torque value will show on the screen in turn, and the color state light will be retained, until the next load, the wrench will automatically reset to zero, the state light will be off, and test will start again.

### 4. Track mode

- Only in Peak Torque mode can you switch to Track mode.



- While in Torque mode, press down key, multiple concentric circles pop up at the bottom of the screen, indicating you've entered Track mode.

- In Track mode, the value displayed varies with the torque, and the screen will return to 0 when unloading.

### 5. When using the coefficient function, the operation is the same as the Peak Torque mode.

### 6. How to turn on backlight

- Press up key for 3 seconds, turn on backlight.
- Press down key for 3 second, turn off backlight.

### 7. How to store data

- In Peak Torque mode, Peak Angle mode and Torque + Angle mode, press up key if you want to save data after the test. The display shows "save" indicating that the data is saved.



- This torque wrench can store 1000 datas.

### 8. How to connect to computer

- Install relative software on the computer.
- Open software, you will see the window of date uploading.



Number of data

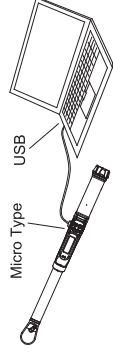
Indicator light:



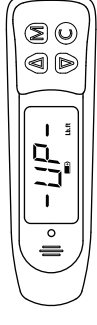
Green - connected

Red - disconnected

- Insert Micro Type end to the port of torque wrench, another end to USB port of computer.



- The screen shows "-UP-" indicating it's connected.



- Click the "Save" button on the computer interface, and the data will be automatically saved to the Excel file that pops up. The user can save this file to the folder you specified.

- At this time, click the "Clear" button to clear all the data in the torque tester memory.

- Data can be saved: Time, Torque, Angle.

### 9. Power off

- Press C for 3 seconds, shutdown manually.

- If not use this torque wrench for 2 minutes, it will shutdown automatically.

### Maintenance

- When torque wrench not in use, please put the wrench in the specified box to prevent damage and dampness.

- Please remove the battery if long time not uses it.

- If you want to clean the appearance, use ethanol (alcohol), do not use any other solvents.

- Except the Ratchet mechanism can be cleaned regularly with adding a little lubricating oil, other parts shall not be removed by the end user.

### Warnings

- Do not overload Electronic Torque Wrench.

- If use with defective fasteners, sleeves, the torque wrenches may break suddenly when using with large torque, causing you to lose balance, fall, or suffer other injuries.

Make sure you've got your feet on the ground and your balance on a job. If necessary, add some protection to ensure safety.

Shanghai UB Machinery Co., Ltd.

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