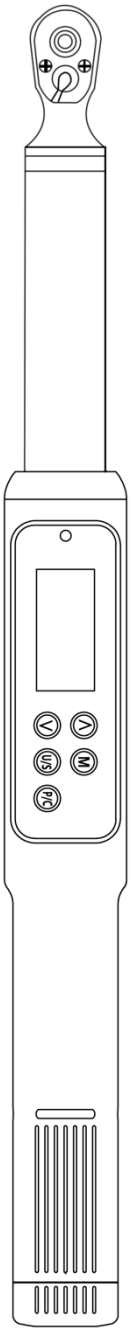
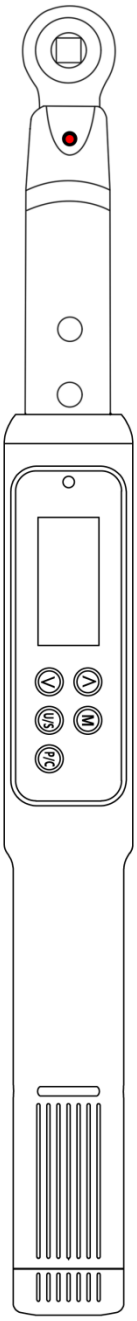
Digital Display Torque Wrench

Operating Manual





1. Introduction

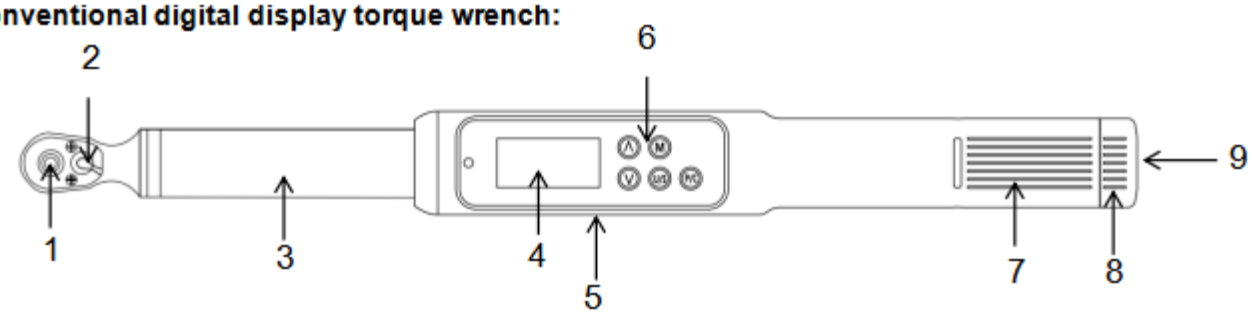
The ratchet wheel digital display torque wrench and the replaceable head digital display torque wrench are different from the general torque wrench, in which the ratchet wheel of the replaceable head wrench can be freely replaced with plug-ins such as opening mouth, plum blossom head and movable opening head. Both have powerful operation functions, including torque setting, unit setting, numerical storage, numerical clearance, as well as numerical output and user correction function. It is characterized by high precision, accurate measurement, stable performance, low power consumption and simple operation. The requirements for operators are reduced by installing digital display screens. It is applicable to bolt fastening and control in automobile industry, machinery industry, etc.

2. Functional Characteristics

2.1. Backlight function, large screen can clearly read measurement data;
2.2. Clockwise ± 2%, counterclockwise ± 2.5% accuracy (the accuracy guarantee range is 20% ~ 100% of the full scale);
2.3. Both clockwise and counterclockwise can be operated;
2.4. When the buzzer and LED indicate that the predetermined torque value is reached, it will be triggered (peak limit mode and preset mode);
2.5. Four engineering units (N.m, kgf.cm, lbf.ft, lbf.in);
2.6. Measurement mode: Real-time mode, peak mode and preset mode;
2.7. Function of storing and recording numerical values;
2.8. Function of automatic shutdown without operation for 5 minutes.
2.9. Overload protection: When the product is forced to 120% of the full scale, the screen will display "oLoRd", indicating that it is overloaded and cannot continue to be forced.

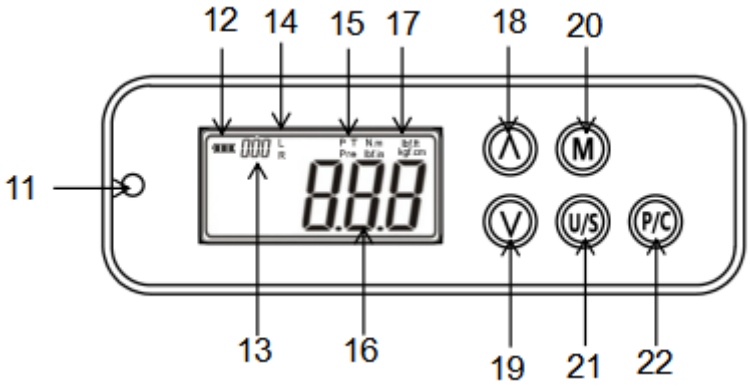
3. Product Components

Conventional digital display torque wrench:



Digital display torque wrench with changeable head:

Key / display screen



No.	Name	No.	Name
1	Bidirectional ratchet head	12	Electric quantity display
2	Steering vane	13	Storage quantity display
3	Fine drawing tube	14	Forward and reverse direction display
4	LCD liquid crystal display screen	15	Work pattern
5	Buzzer (side)	16	Display torque value

6	Button	17	Unit（lbf.ft、lbf.in、N.m、kgf.cm）
7	Hand lever	18	Increase preset value
8	Battery compartment (internal)	19	Reduce the preset value
9	Battery cover	20	Working mode/Save
10	Replaceable ratchet head	21	Switch unit/menu key
11	Caution light	22	Switch/Clear

4.Product Specifications and Parameters

Model	General	010	030A	030B	060	85	135A	135B	200	340	500	850
	Replaceable head	010	030A	030B	060	85	135A	135B	200	340		
Minimum indexing value		0.01					0.1					
Maximum operating range	N.m	10	30	30	60	85	135	135	200	340	500	850
	ft.lb	7.37	14.75	14.75	22.12	62.69	99.57	99.57	147.5	250	368.7	626.8
	in.lb	88.50	177	177	265.5	752.31	1195	1195	1770	3009	4424	7521
	kgf.cm	101.97	203.94	203.94	305.91	866.75	1376.613	1376.613	2039.433	3467.03	5098.58	8667.58
Connector		1/4		3/8				1/2			3/4	
Connection size of replaceable head		9×12						14×18				
Length (mm)		390		420				535	655		950	1220
Accuracy		Clockwise: ±2% counterclockwise: ±2.5%					Clockwise: ± 2.5% counterclockwise: ± 3.5%					
Number of teeth of ratchet wheel		36									48	
Ratchet wheel form		Two-way ratchet wheel										
Unit		N.m、in.lb、ft.lb、kgf.cm										

Operating mode	Peak Hold (P)/Real Time Mode (T)/Preset Mode (Pre)
Battery	2 1.5 V # AA batteries
Operating temperature	-10℃～60℃
Storage temperature	-20℃～70℃
Humidity	No condensation can reach 90%
Fall test height	1m
Vibration test condition	10G
Life test	10000 times

5. Precautions before Using Wrench

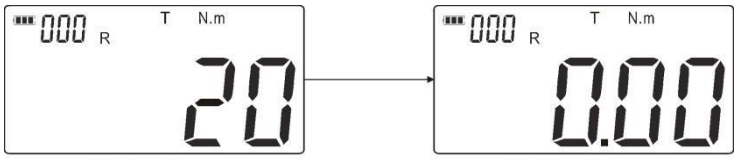
5.1. Placement of battery
5.1.1 Remove the battery cover.
5.1.2 Put two AA batteries into the battery box, please pay attention to the direction of positive and negative electrodes.
5.13 Cover the battery cover and rotate it tightly.

5.2 Turn on the power supply and reset
5.2.1 Press **"P/C"** key shortly to turn on the power supply of the wrench
5.2.2 After the power supply is turned on, press the **"P/C"** key to reset the wrench before use.

6. Usage

6.1 Power on

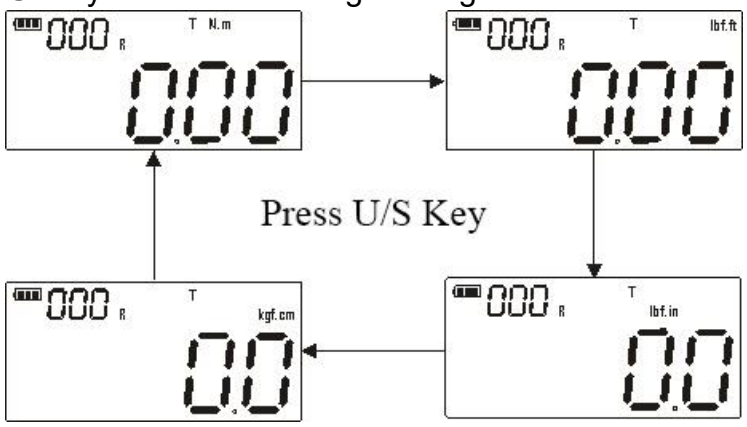
Press the **"P/C"** key shortly to start the machine. If the power is insufficient after starting, the machine will be turned off automatically and the battery can be replaced before normal use.



Display Range　　Working Interface

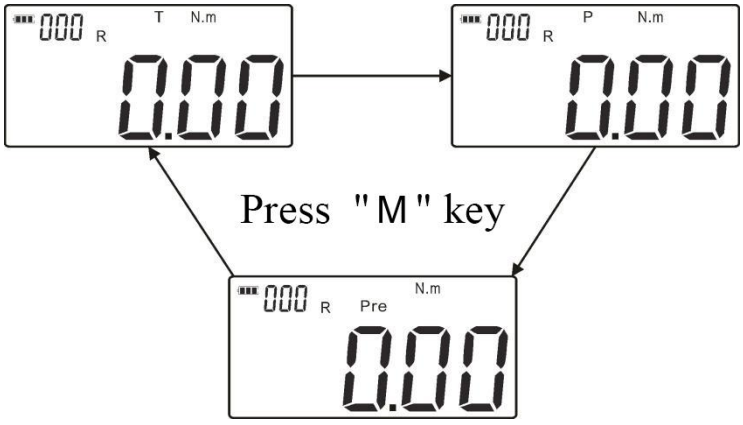
6.2 Unit switch

In the Power on state, under the non-setting interface of the use interface, press the **"U/S"** key to switch four engineering units.



6.3 Mode conversion

In the Power on state, press **"M"** to switch mode conversion. Digital display torque wrench has **"T" real-time mode/"P" peak mode/"Pre" preset mode**, etc.



A Real-time mode

The real-time measurement mode follows the applied torque value in real time, and when the torque is unloaded, the torque value automatically returns to zero.

When the LCD screen is displayed as **"T"**, it is in real-time mode. Please press **"M"** key to switch the working mode.

B Peak Mode

In peak measurement mode, press **"□"** or **"□"** to increase or decrease the preset value, and press **"U/S"** to return to the measurement interface after setting. When torque value is applied, the wrench will lock the maximum applied torque value and display it on the LCD screen. When the torque value is unloaded, the peak torque will be locked. If it is necessary to measure again, please press the **"P/C"** key to clear the locked torque value. Or test it directly, when the torque value of the second test exceeds the locked torque value of the wrench, the instrument will overwrite the value automatically .

The LCD screen shows that "**P**" is in peak mode. Please press the **"M"** key to switch the working mode.

(When the torque value tested by the wrench reaches 80% of the preset value, the buzzer will give an alarm intermittently. When the tested torque value reaches 100%, the buzzer will sound for long-time.)

C Preset mode

In the Power on state, in preset mode, press **"□"** or **"□"** to increase or decrease the preset value, and press **"U/S"** to return to the measurement interface after setting. After the buzzer is turned on, when the preset target torque value is reached, the buzzer will sound long-time and the red light will be **ON** long-time.

The LCD screen shows that "**Pre**" is in Preset mode. Please press the **"M"** key to switch the working mode.

6.4 Data Clear

In the measurement mode, press the **"P/C"** key to directly clear the force value. In peak mode, press the **"P/C"** key to clear the peak hold value.

6.5 Data Saving

Press the **"M"** key shortly in the measurement interface, and when "Succ" is displayed, it means that the saving is successful. When "FAIL" is displayed, the save failed. When the force value is zero, it cannot be saved and will prompt "FAIL".

6.6 Data View

Press the **"P/C"** key to start up or press and hold the **"M"** key in the Power on interface to view the saved data. In the data view interface, you can view the saved records through the **"∧"** or **"∨"** keys. When the view is completed, press the **"M"** key shortly to exit.

6.7 Data Deletion

Press the **"P/C"** key to start the machine or press the **"M"** key for a long time in the Power on measurement interface to display the saved data, press the **"U/S"** key to select the deletion method, "ALL" means to delete all at one time, and "ONE" means to delete one by one. After selection, press the **"P/C"** key to delete the saved data.

6.8 Restore factory setting

The user can restore the factory setting of the instrument. Press and hold the **"U/S"** key to enter the system menu selection, press the **"U/S"** key shortly to select the "RSET" menu, and then press the **"∧"** key to select the number 1 or 0. If the factory setting are restored, select "1" and press the **"U/S"** key shortly to exit the system menu, i.e. the product is restored to the factory setting. If it is not restored, select "0" and press **"U/S"** shortly to exit the system menu.

6.9 Buzzer

Press and hold the **"U/S"** key to enter the system menu, then press the **"U/S"** key shortly to select the "BUZZ", and press the **"∧"** key shortly to select whether to turn on the buzzer. If the buzzer is turned on, select "1" and press the **"U/S"** key two times shortly to exit the system menu, that is, the buzzer has been turned on. If it is not turned on, select "0" and press the **"U/S"** key two times shortly to exit the system menu.

7. Maintenance and Storage

7.1. Calibration cycle shall be recalibrated once a year.

7.2. Excessive torque may cause damage or precision loss. Please do not exceed 105% of the maximum torque range.

7.3. Do not shake the wrench violently, fall to the ground or knock at will when using a hammer.

7.4. When the battery is insufficient, please replace the battery in time.

7.5. Do not place the wrench in high temperature, high humidity or direct sunlight.

7.6. Do not use wrenches near water.

7.7. If you accidentally wet the wrench, please dry it with a dry towel immediately.

7.8. Do not use organic solvents to clean wrenches, such as alcohol or paint thinner.

7.9. Do not place the wrench near the magnetic object.

7.10. Do not place the wrench in a place with a lot of dust or sand, which will cause serious damage to the wrench.

7.11. Do not press the LCD screen heavily.

8 List of Random Attachments

No.	Name	Quantity
1	Digital display wrench	1
2	Operating Manual	1
3	Cover key	1

*International air express does not contain batteries by default.

Batteries are not included in air transport packages.

Battery model:LR6 AA *2