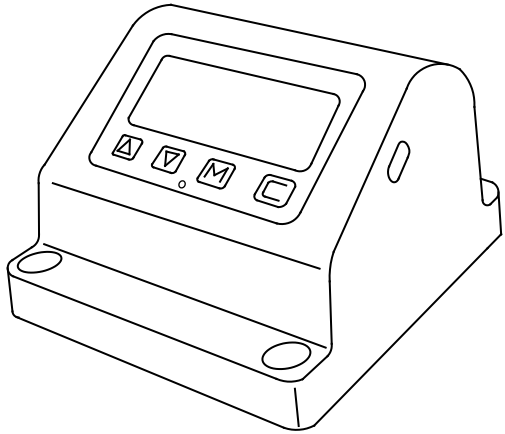
GEARWRENCH

# Instructions

## Torque Tester

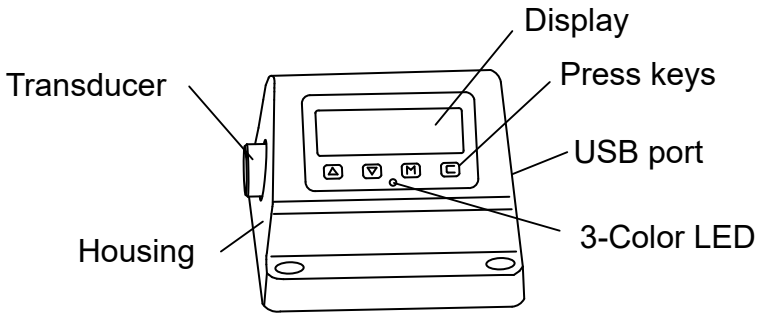


# Index


| | |
|---|---|
| I Overview | P 1 |
| II How to Set | P 2 |
| III How to Operate | P 4 |
| IV Data Storage | P 7 |
| V Charging and Data Uploading | P 7 |
| VI Warnings | P10 |


# I Overview

TES torque tester is designed for calibrating torque wrench.




Testing shall be performed at a temperature not fluctuating by more than 2°F (1°C). This temperature shall be in the range of 64°F (17°C) to 82°F (27°C) (maximum relative humidity 90%).

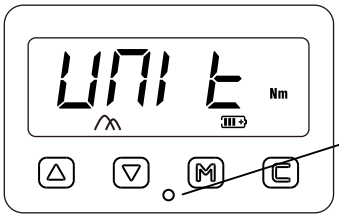
Please fix 4 x M8 screws on the table before using it.

# II How to Set

Press “C” key to start, the Max. torque value of the torque tester flashes twice and then：

## 1. Set Torque Unit

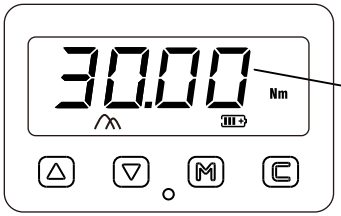
Press “M” key into the setting mode, the display shows “Unit”, meanwhile the yellow LED light is on (The yellow light will remain on under setting mode), see below:




The unit above is “Nm”, press △ ▽ key to swift between Lb.ft, Lb.in, Nm, Kgcm.

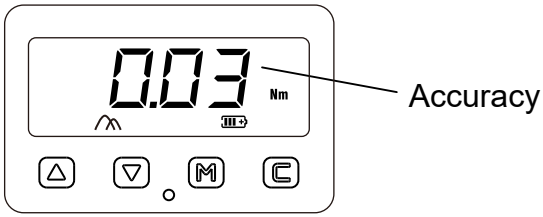
## 2. Set Target Value

Press “M” to confirm the unit, then set the target torque value, press △ key to increase the value, press ▽ key to decrease the value, press and hold to get faster. For example, if the torque is set to 30Nm, see below:



## 3. Set the Accuracy

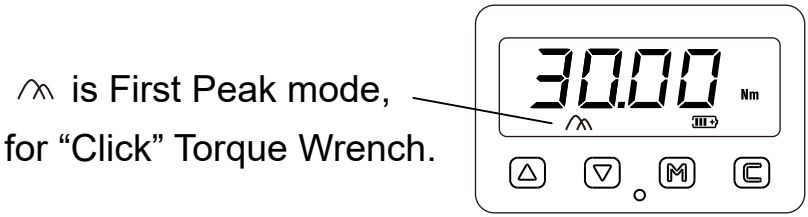
Press “M” to confirm the target torque value, then set the accuracy, press △ ▽ key to select, the accuracy setting range is 0.01-0.18. For example, if 0.03 is set, which means the torque wrench is qualified if the error is within ±3%. See below:




Press “M” to confirm the accuracy, now the display shows “Unit” again, indicating the settings are completed. Press “C” to quit, yellow light off.

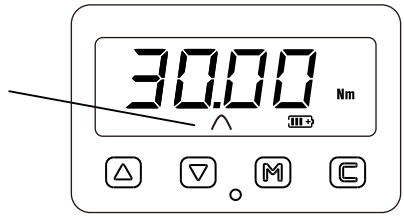
## 4. Set the Test Mode

Under the operation mode, press ▽ key to swtich the modes in turn, one press one mode. There’re three modes: First Peak, Peak and Track. See below:



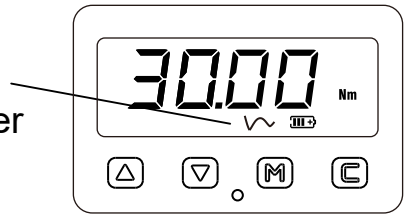
∧ is Peak mode,

for Electronic Torque Wrench or Dial Torque Wrench.




∿ is Track mode.

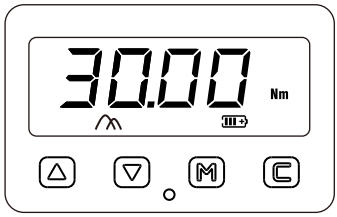
During the test, the meter display varies with the loading force.




# III How to Operate

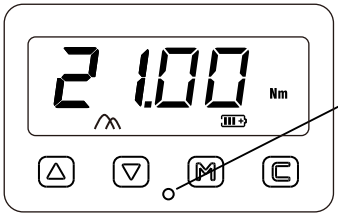
Here we take the set torque value of 30Nm and the set accuracy of 0.03 as an example:

1. Press “C” to power on, the Max. torque value of the torque tester flashes twice, then the display shows the latest target torque value and unit. The backlight is turned on by default for the first time, later it will retain the last used state.



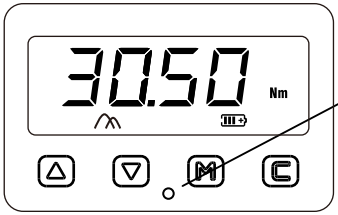

2. When the force is applied, the torque tester will be automatically cleared and will display the measured torque value.

3. As the load increases, the reading value on the screen increases synchronously. When it reaches 70% of set torque value, the yellow light turns on and buzzer beeps. See below:



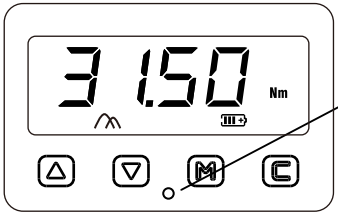

When loading reaches more than 70% of set torque value, yellow light turns on and buzzer beeps.

4. When the torque reaches ±3% of the set torque value, the green light turns on, and buzzer beeps faster. Stop loading now. See below:



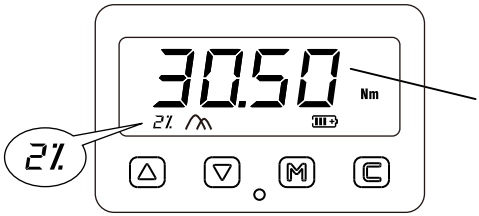

While loading reaches ±3% of set torque value, green light turns on, and buzzer beeps faster

5. If the upper limit of the set accuracy is exceeded (like 103% in the current example), the red light turns on and buzzer beeps long. Stop the loading immediately! See below:




If the load exceeds the upper limit of the set accuracy, red light turns on and buzzer beeps long.

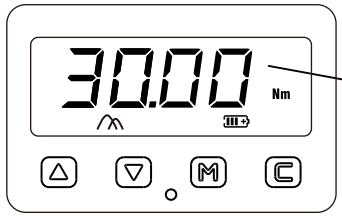
6. This torque tester has the function of holding the highest value. If it's loaded to 30.5 Nm and then be released, 30.5 Nm will stay on the screen, error% will be displayed (rounded to integer). The display shows until next load begins, the data on the screen will be cleared automatically and the error% will disappear.




After the load released, peak value is hold, and error% (2%) remains on the screen

$$\text{Error\%} = \frac{\text{Actual value - Set value}}{\text{Set value}} \times 100\%$$

You can also press "C" key to clear the data displayed and display shows the target torque value, see below:




Target torque value

7. When you change the direction of testing (CW changes to CCW, or CCW changes to CW), the wrench will be full loaded and then unloaded, then you need to press the "C" key and the ▽ key together for 4 seconds to zero the meter. The screen displays "-00-", indicating that zeroing is done.

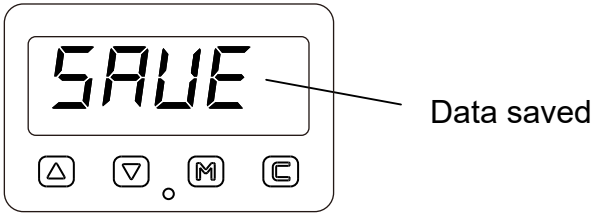
8. Press and hold ▽ for 5 seconds to shut off the backlight; press and hold △ for 5 seconds to turn on the backlight.

9. Press and hold “C” for 3 seconds to shut off the torque tester, or it will automatically shut off after 10 minutes of standby.

# IV Data Stoage

The torque tester has memory function, can store 1500 data sets.

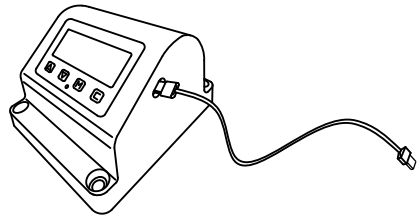
Under “First Peak” and “Peak” mode, press △ to save test data. Display shows “SAVE”, indicating the data has been saved. See below:




# V Charing and Data Uploading

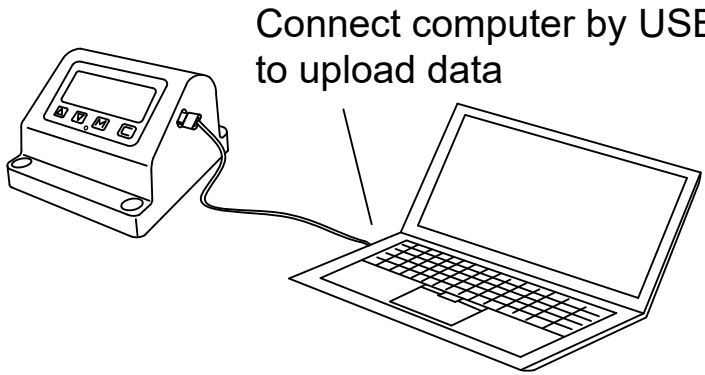
1. There is a battery capacity indicator on the screen. When there is only the last bar in the battery icon, you can start charging.

2. Changing with the USB cable provided. Plug the Micro type end into the USB port of torque tester and the other end in to a 5V DC adapter (such as a moblie phone charger or the USB port of computer).



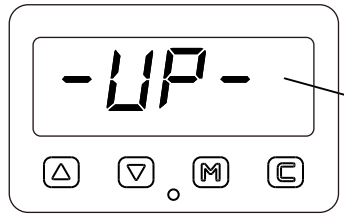
The battery icon on the meter screen shows the following dynamic when charging:

3. When using the USB cable to connect the tester to a computer, not only can you charge, you can also upload data.

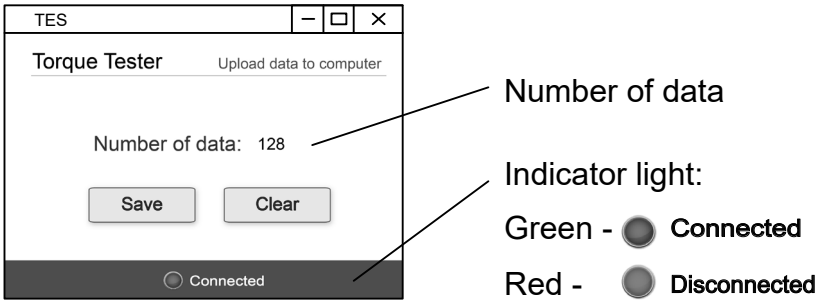


When connected, open the software update.exe in the USB stick provided, the indicator light on the software interface changed from red to green, display shows “UP”:

Meter display:




Software on computer —— the data uploading interface:




Click the "Save" button on the computer interface, and the data will be automatically saved to the Excel file that pops up. 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.

# VI Warnings

1. The working environment of the instrument should be away from the vibration sources.

2. There should be no magnetic field interference in the working interval of the instrument; otherwise the accuracy will be affected.

3. If the fixing bolts of the instrument are found loose during operation, they should be repaired in time to avoid personal injury.

4. Torque wrench's force point should be at the mid-point of the handgrip or at the marked load position. otherwise the test accuracy will be affected.

5. When testing the torque wrench, the person should stand in a position conducive to maintaining balance, or take necessary protection.