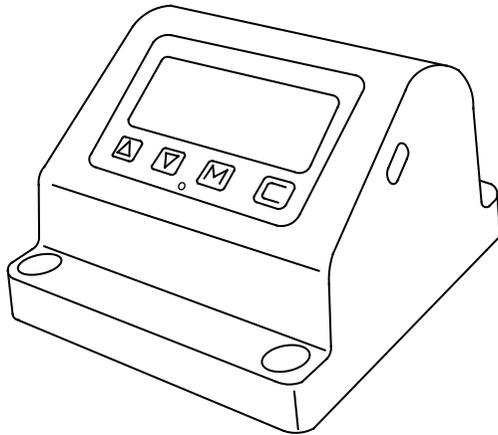


NovaTork[®]

Instructions

TES Torque Tester



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I Overview

TES torque tester is designed for calibrating torque wrench, here's description for model number:

TES275

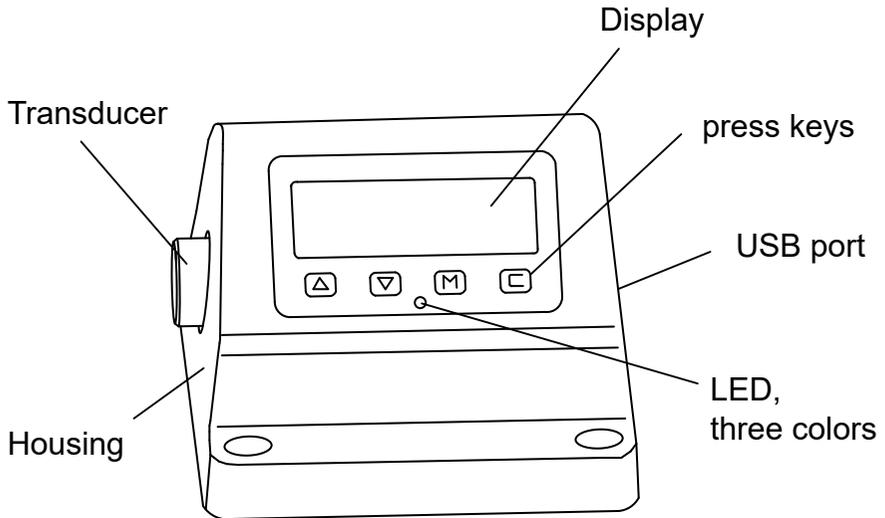
TES3400

Max. torque: _____
eg. 25Nm, 40Nm,
75Nm, 150Nm...

Size of square drive
on transducer:
1--1/4"; 2--3/8";
3--1/2"; 4--3/4"

Site torque tester

Layout:



Work under the situation below:

Temperature: 17-27°C;

Humidity: <85%RH.

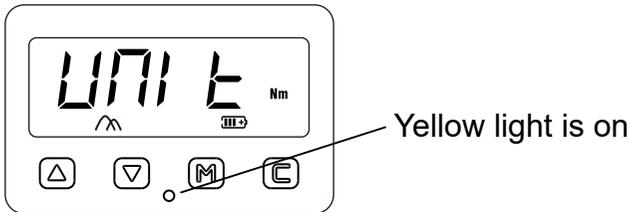
Please fix 4 x M8 screws on the table before using it.

II How to Set

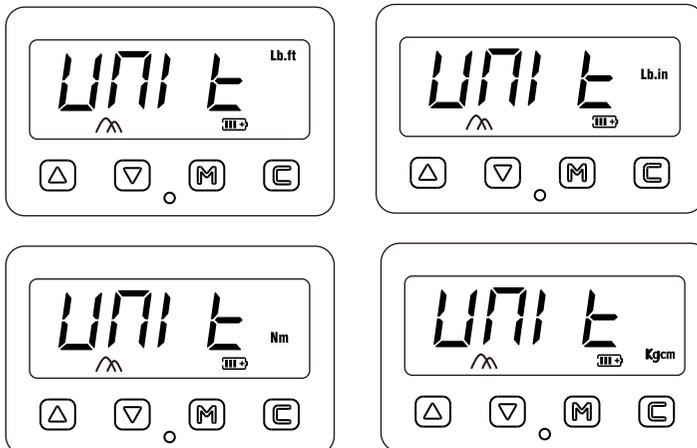
Press “C” to start, the Max. torque value of the torque tester flashes twice and then:

1. How to set torque unit

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

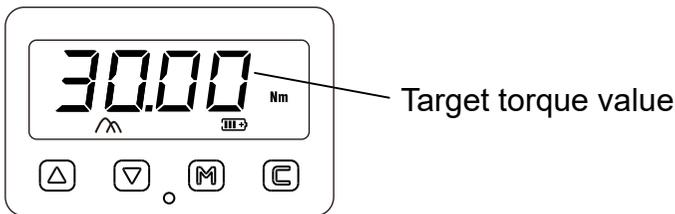


The unit above is “Nm”, press \triangle ∇ to swift between Lb.ft, Lb.in, Nm, Kgcm:



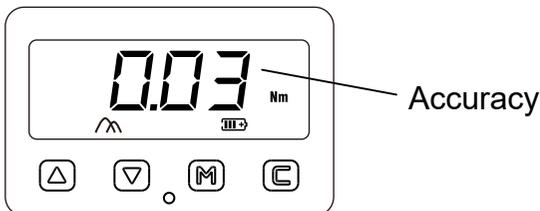
2. Set target value

Press “M” to confirm the unit, then set torque, press \triangle to increase the torque, press ∇ to decrease the torque. Press and hold the key, the figure will change quicker. For example, if the torque is set to 30Nm, see below:



3. Accuracy

Press “M” to confirm the target torque value, then set the accuracy, press \triangle ∇ to select, the accuracy setting range is 0.01-0.18. For example, if 0.03 is selected, which means the torque wrench is qualified if the error is within $\pm 3\%$. See below:

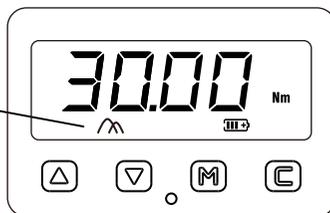


Press “M” to confirm the accuracy, now the display shows “Unit” again, indicating the setting is completed. Press “C” to quit, LED yellow light off.

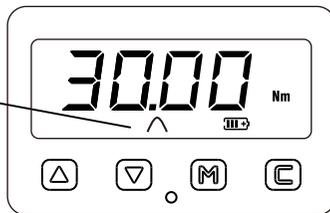
4. Set the test mode

Under the operation mode, press ∇ to select: First Peak, Peak, Track.

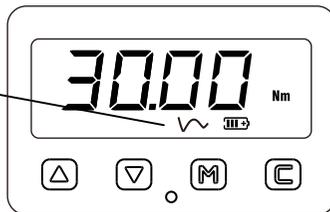
\wedge is First Peak mode, for “Click” Torque Wrench.



\wedge is Peak mode, for Electronic Torque Wrench or Dial Torque Wrench.



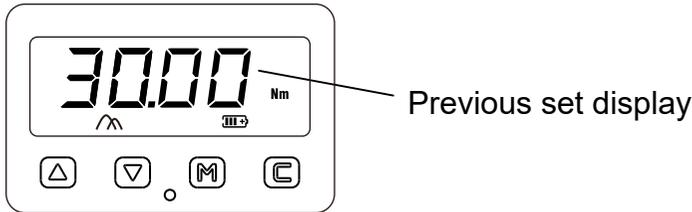
\sim is Track mode. During the test, the meter display varies with the loading force.



III How to Operate

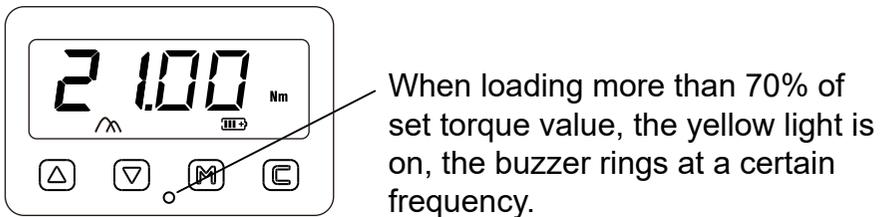
Below we take the set torque value of 30Nm and the set accuracy of 0.03 as an example:

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

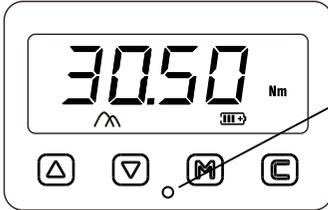


2. Start to load, the screen displays the target value by default. When the force is applied, the torque tester will automatically reset to zero and display the measured torque value.

3. As the load increases, the reading value on the screen increases synchronously. When it reaches 70% of set torque value, the yellow light is on and the buzzer rings at a certain frequency. See below:

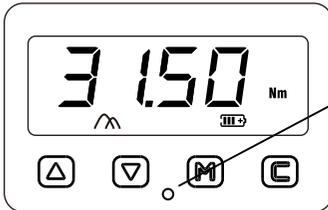


4. When the torque reaches $\pm 3\%$ of the set torque value, the green light is on, the frequency of the buzzer sounds increasing, stop load now. See below:



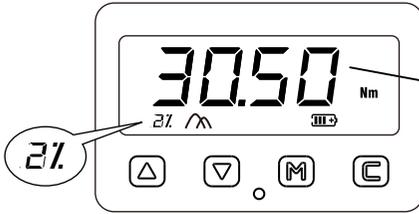
While load reach $\pm 3\%$ of set torque value, green light is on, ring frequency of buzzer increases

5. If the upper limit of the set accuracy value is exceeded (103% in the current example), the red light will be on and the buzzer will ring continuously. At this point, the load should be stopped immediately. See below:



If the load exceeds the upper limit of the set accuracy, the red light will be on and the buzzer will ring continuously.

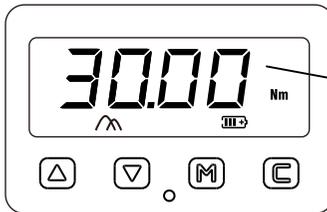
6. This torque tester has function of holding the highest value. If it's loaded to 30.5 Nm and then be released, 30.5 Nm will stay on the screen, error shows in % form (Rounding off). The display shows until next load begins, the value will be automatically reset to zero and the will disappear.



After load, hold highest value and error% (2%) on display

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

You can also press “C” back to 0, the display will show the target torque value, see below:



Target torque value

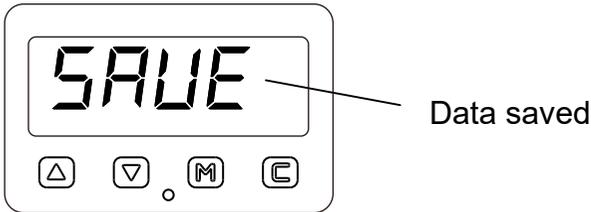
7. Press and hold ∇ for 5 seconds to shut off the backlight; press and hold \triangle for 5 seconds to turn on the backlight.

8. Press and hold “C” for 5 seconds to shut off the torque tester, or it will automatically shut off after 5 minutes of standby.

IV Store Data

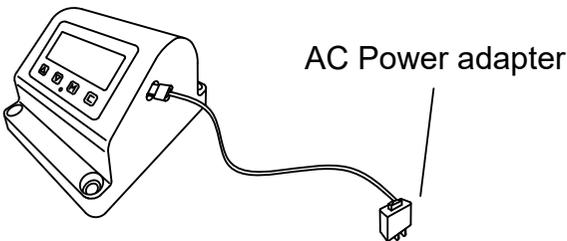
The torque tester has store data function, store capacity 1500 data.

Under “First Peak” and “Peak” mode, press \triangle can save test data, display will show “SAVE”, see below:



V Charging and Data uploading

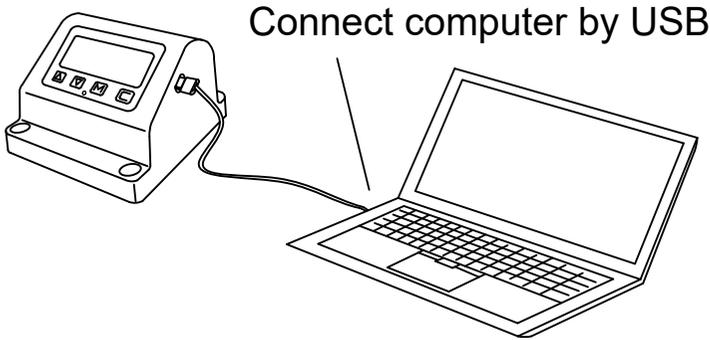
1. There is a battery capacity indicator in the meter screen. When the capacity is displayed in the last panel, charging should be considered.
2. Use the charging adapter attached to the factory (Input AC 220V; Output DV 5V), insert Micro Type end to USB port to charge the battery.



The battery icon on the meter screen shows the following dynamic, indicating that charging has begun:

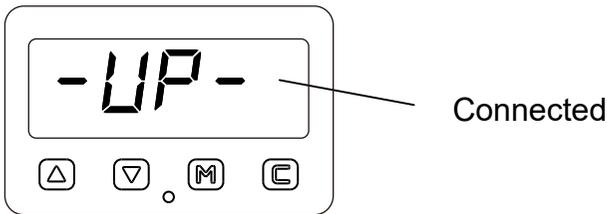


3. Insert Micro Type end to USB port of torque tester, another end to USB port of computer to charge the battery, meanwhile you can upload data.

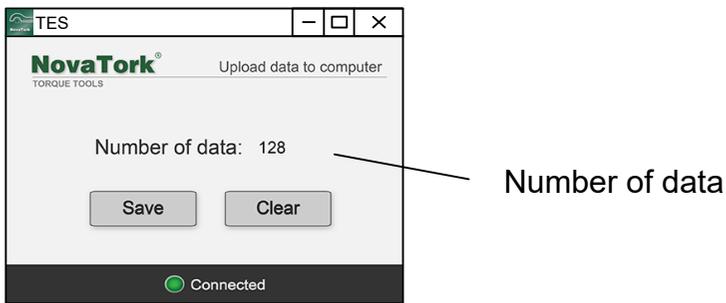


Open the software  `update.exe` , the tester connected to the computer, the indicator light on the software interface changed from red to green, display shows “UP”:

Meter display:



Software on computer—Data uploading interface:



Indicator light:  **Connected** Green - connected
 **Disconnected** Red - disconnected

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.

VI Warnings

1. The working environment of the instrument should be away from the vibration source.
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 is the middle point of the handlebar. If there is a mark for applying force on the handlebar, it should apply force at the force mark; 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.