

USER MANUAL

TORQUE WRENCH TESTER

PCE-TWT 500

ENGLISH



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski) can be found via our product search on:
www.pce-instruments.com

MAIN USAGE AND SCOPE OF APPLICATION

PCE-TWT 500 torque wrench tester is a special instrument for checking the torque wrench and torque screwdriver. It is mainly used for checking and calibrating the torque wrench, preset torque wrench, analog torque wrench. Widely used in electrical manufacturing, machinery manufacturing, automotive light industry, professional scientific research and testing industry. The torque value shows on digital display, more accurate and intuitive.

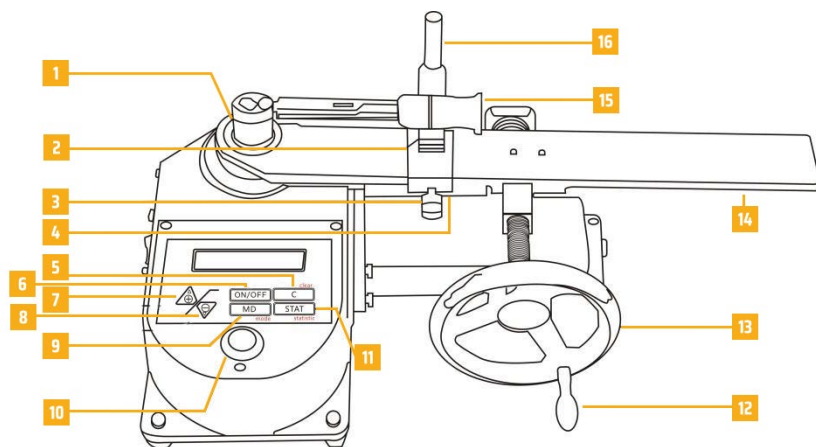
PRODUCT FEATURES

- » **Three units for optional:** N.m / kgf.cm / lbf.in
- » **Two measuring mode:** Real-time and peak-value mode can switch into each other
- » **Upper limit and lower limit value setting:** This instrument can set upper limited value and lower limited value, when reach the value, it will buzzer alarm.
- » **Data storage function:** The instrument can save 100 measurement data.

SPECIFICATIONS

Max.	500N.m
Min. resolution	0.01
Accuracy	±1%
Unit	N.m / Kgf.cm / Lbf.in
Power	Input: AC 220v Output: DC 12V
Dimension	1142x553x360mm
Working temperature	5°C ... 35°C
Transport temperature	-10°C ... 60°C
Relative humidity	15% ... 80%RH
Working environment	No seismic source and corrosive media around
Weight (Kg)	43kg

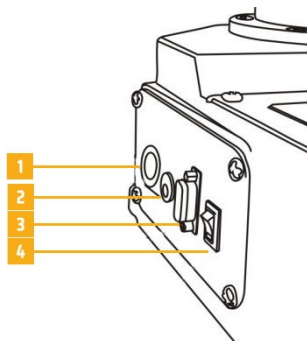
PRODUCT STRUCTURE



- 1 - Adapter
- 2 - Height adjustment spring sheet
- 3 - Locking screw
- 4 - Lateral active block assembly
- 5 - Clear key
- 6 - On / Off key
- 7 - Up key
- 8 - Down key

- 9 - Mode selection
- 10 - Save key
- 11 - View key
- 12 - Handle
- 13 - Handwheel
- 14 - Rotating block assembly
- 15 - Wrench
- 16 - Stop lever

- 1 - Power button
- 2 - Power supply socket
- 3 - RS232 interface
- 4 - Master switch



BUTTON INTRODUCTION

Up key: In the measurement interface,press this key, the measurement data can rotate 180 degree.

Down key: In the setting interface, it used for down selection and displacement.

ON/OFF: Turn on and turn off.

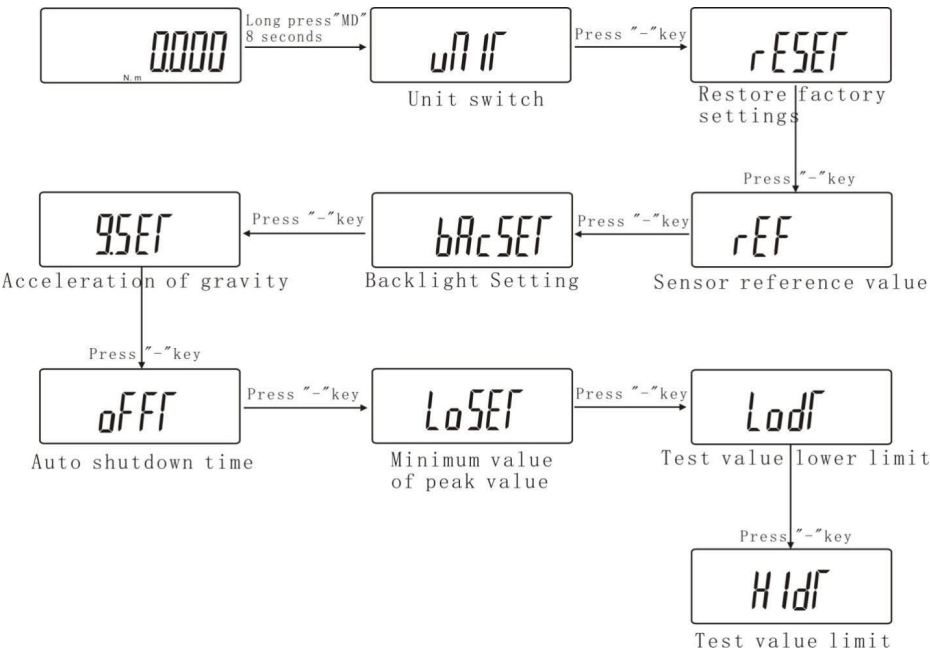
Zero: In the measurement interface, the key can clear the data; in the setting interface, it can return back.

View: In the measurement interface, this key can used for checking the saved data.

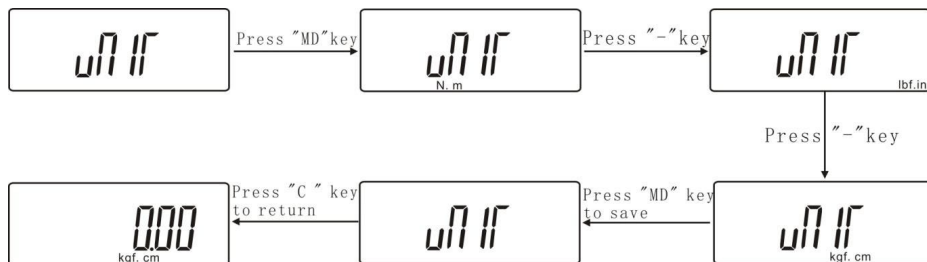
Mode: In the measurement interface, the key can switch into peak mode and real-time mode, press this key for 6 seconds enter into setting interface, when in the measurement interface, the key is for save.

FUNCTION

Setting: In the measurement interface, press “MD” for 8 seconds, enter into setting interface, as the picture shows:



Unit setting (UNIT): This instrument has 3 units, enter into unit setting interface, press “+” or “-” for unit selection, as the picture shows:



Restore factory settings (RESET): When in this menu, press “MD” to restore factory settings, the instrument shut down.

Factory setting value (REF): It has nothing to do with the user.

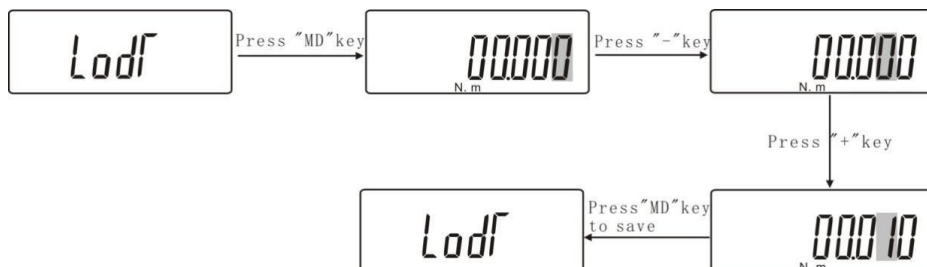
Backlight setting (BACSET): When in this menu, press “+” or “-” key selection, choose YES, the backlight turn on, choose NO the backlight turn off, press “MD” for storage, return back to setting interface.

Gravity acceleration setting (G.SET): The user can set the gravity acceleration value according to the local area, the default value is 09.800.

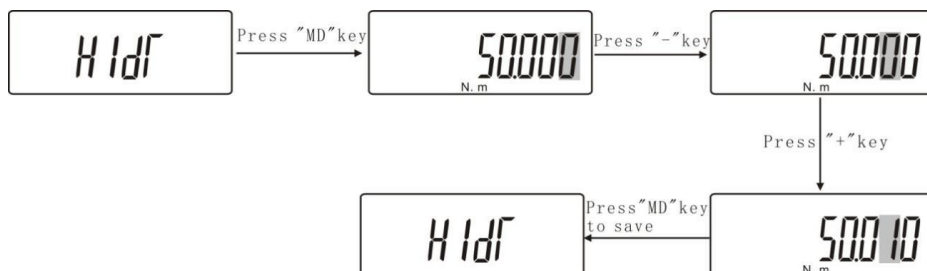
Auto power off time setting (OFFT): When in this menu, press “+” and “-” for selection, the time can setting 0 minutes to 9999 minutes, when set “0000” means no automatically shut down, if you choose not to automatically shut down, press “MD” key to complete the set, return to the setting interface. The instrument default value is 10 minutes.

Min. Peak preserve value (LOSET): In the peak mode, when the force value is less than the peak value, the peak value can not be saved.

Test value lower limit setting (LODT): To set the test value lower limit, the default value of lower limit is 0. If lower than lower limit, it shows MIN. The default value of lower limit is 0. If need to reset the lower limit value, press “+” and “-” key for setting, press “MD” key for saving and then back to setting interface, see the following picture shows:

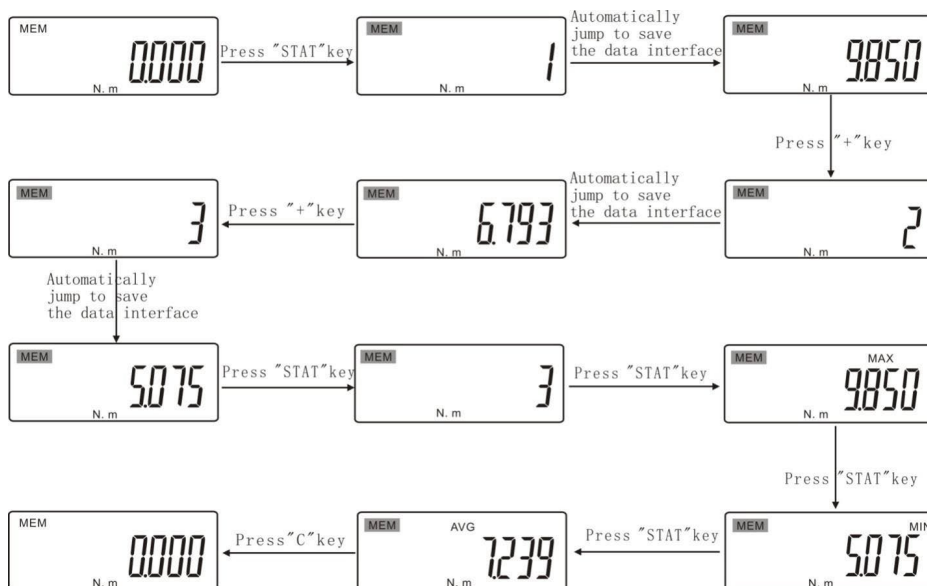


Test value upper limit setting (HIDT): To set the test value upper limit, the default value of upper limit is full range. If higher than upper limit means out of range, it shows MAX. The default upper limit value of this instrument is full range, if need to reset the upper limit value, press "+" and "-" to setting in this setting menu, and then press "MD" key for saving, turn back to setting interface.



Viewed saved data

After saving data, press **STAT** key, the screen display **1**, it means the first data saved, and then the screen display the saved data automatically, and then press **+**, the screen display **2**, the screen display saved data automatically, and then press **+**, it display **3**, the screen display the third data automatically, and then press **STAT**, the screen display **3**, the means the total number of stored data, and then press **STAT** again, it will display the max. Value of the sum of the saved data, press **STAT** again, it will display the min. Value of the sum of saved data, press **STAT** again, it will display the average value of total saved data, you can press **C** to return to measuring interface, as shown below:



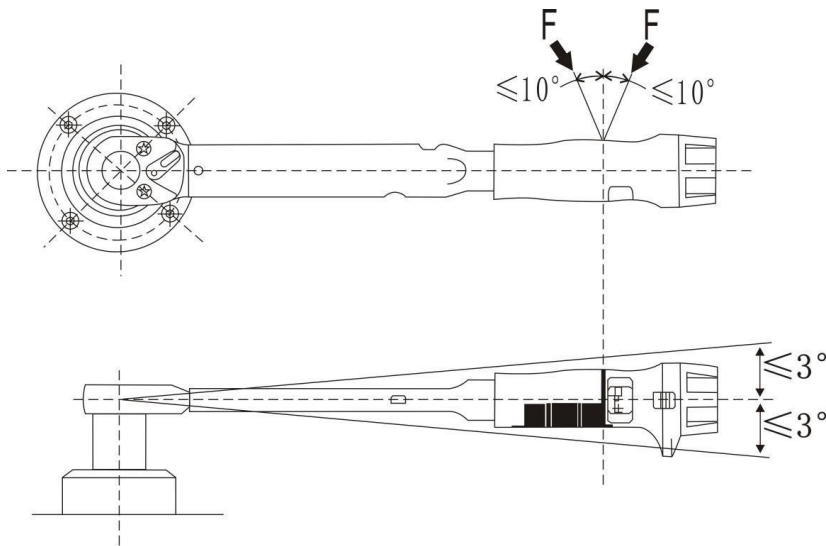
CALIBRATION METHOD

Calibration temperature

The calibration method should working between 18 and 28 degree, temperature changes should within $\pm 1^{\circ}\text{C}$.

Before calibrating the torque wrench, please check the following items:

- » Put the torque wrench tester on a stable working bench.
- » For the dial (direct-reading) torque wrench, when reading measurement data, the line of sight must be perpendicular to the dial.
- » For escape type torque wrench, applied the max. force of each type 5 times in both direction, in order to perform a preheating operation.
- » For dial torque wrench, applied the max. torque value of each type once in both direction, in order to perform a preheating operation, to make sure the dial or digital shows "0" after loading.
- » Applied the load in the range at the center of handle or at the marked load point, as shown below:



Precautions of adjusting the torque wrench

- » For the escape type torque wrench, the initial torque is applied to 80% of the target torque, and then apply the remaining force slowly (the last 20% torque need 1 ... 3 seconds). Preset torque wrench must start from the low level, and then adjust to the target torque. (Please do not drop from high torque to target torque)
- » For dial torque wrench, apply the force to target torque gradually, please notice that do not out of target torque. If exceed target torque inadvertently, please loosen the torque to zero, and reset.

OPERATION PROCEDURE

- » When first use this instrument, need to adjust the sliding block and hand wheel.
- » Slide the horizontal moving block into the rotating block, and fix it with locking screws.
- » Rotate the handle into the handwheel.
- » Plug in the power cord.
- » Open the switch and turn on .
- » Place the torque wrench into the adapter.
- » Adjust the height adjustment spring and length adjustment nuts to the appropriate position, and clear the screen display.
- » Choose the unit and measuring mode you need.
- » Rotate the hand wheel, start testing until the instrument issued click-sound, complete the test.

NOTICE, MAINTENANCE AND REPAIR

- » Please do not overload the testing torque, must used within the scope of testing range, or will damage the instrument, more probable is causing dangerous.
- » Please do not use torque tester in water, oil or other liquid splashed place, Put the torque tester in cool, dry and no vibration place.
- » Don't knock LCD screen,do not put objects on the LCD screen.
- » Please use the matching battery to charge, or will cause circuit fault, even fire. The AC charger should be inserted into socket fully, then to use, loose plug may cause short-circuit and cause shock or fire.
- » Do not use nails, with his nails, edge tool or sharp objects to press the function keys
- » Do not open the lid of the back, more cannot adjust inside trimming resistor.
- » Don't loosen the setscrew in the head of torque tester.
- » Do not use the other power except the charger's rated voltage, or will cause electric shock or fire.
- » Please don't use wet hand pull out or insert plug, or will cause electric shock.
- » Please use the soft cloth to clean the machine, immerse the dry cloth into water with cleaner, wring out after the removal of dust and dirt. Do not use vaporific chemical substance, such as essential oil, thinner, alcohol etc.
- » Handle with care during using and carrying process.
- » Do not disassemble, repair or reconstruction this machine. These actions may cause permanent fault.
- » If broken down, please contact with the original place of purchase or our company.

DISPOSAL

For the disposal of batteries in the EU, the (EU) 2023/1542 directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose. In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law. For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations. If you have any questions, please contact PCE Instruments.

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