

Specifications:

Model	Range	Square Drive	Weight
TAU-252	2.5-25.00 ft-lb	3/8 inch	0.6 pound
TAU-502	5-50.00 ft-lb	3/8 inch	0.6 pound
TAU-1002	10-100.0 ft-lb	3/8 inch	0.6 pound
TAU-1503	10-150.0 ft-lb	1/2 inch	0.8 pound
TAU-2503	25-250.0 ft-lb	1/2 inch	0.8 pound

Display: 5-digit, alpha-numeric LCD with function and battery indicator icons.

Accuracy: **Torque:** Within $\pm 1\%$ of Indicated Value of both CW and CCW directions. (10%-100% of F.S)

Angle: Within $\pm 1^\circ$ when rotating to 90° at the speed rate @ $2^\circ/s$ to $400^\circ/s$
Required minimum 5% of F.S pre-torque

Resolution:

Model	Drive	ft-lb	in-lb	Nm
TAU-252	3/8 inch	0.02 ft-lb	0.2 in-lb	0.05 Nm
TAU-502	3/8 inch	0.05 ft-lb	0.5 in-lb	0.1 Nm
TAU-1002	3/8 inch	0.1 ft-lb	0.2 in-lb	0.2 Nm
TAU-1503	1/2 inch	0.2 ft-lb	0.3 in-lb	0.3 Nm
TAU-2503	1/2 inch	0.3 ft-lb	0.6 in-lb	0.6 Nm

Units of measure: ft-lb, in-lb, Nm

Modes of measure: Torque, Angle

Measurement Modes:

ANGLE- Displays applied torque and angle for 15 seconds.

TORQUE - Displays torque value in real time when torque is loading and shows peak torque when torque is released.

Visual, Audible Alerts:

Yellow LED and buzzer pulse at 80% - 96% of target torque. Pulse rate increases as target torque is being approached.

Green LED and buzzer alerts continuously when applied torque is within 96% - 104% of target torque.

Red LED and buzzer on continuously when applied torque exceeds >104% target torque or wrench full-scale.

Tactile Vibration when applied torque is within $\pm 4\%$ tolerance of the target.

Temperature Drift: $\pm 0.0015\%/F$
Storage Temperature $0^\circ F$ to $125^\circ F$
Operating Temperature $40^\circ F$ to $110^\circ F$
Humidity - up to 90% non-condensing

Battery Power:

Uses 3 AAA batteries up to 200 hours of operation

Certification:

This device is calibrated at the factory and is certified to meet International Standards. ISO-6789-2003 and ASME B107-28-2005 standards compliant. Certificate of N.I.S.T. (National Institute of Standards Technology). Traceability from 10% to 100% of full scale.

Maintenance:

To clean the meter, wipe with a lightly dampened cloth. **DO NOT use:** solvents, thinners or engine cleaners. **DO NOT** immerse in any liquids. It is highly recommended that your Torque & Angle Meter be calibrated once a year or every 15,000 cycles; whichever comes first. Contact Digitool Solutions representatives for repair and calibration services.

Warranty Service and Recalibration

Digitool Solutions provides a 1 year warranty that covers any Digital Torque & Angle Meter which fails to give satisfactory service due to defective workmanship or materials (excluding calibration) for 12 months from the date of original purchase. Calibration is only covered by this warranty for each new unused Torque & Angle Meter out of box. Products must be returned with proof of purchase—freight prepaid—to the warranty service center listed below.

This warranty excludes Torque & Angle Meters which have been subjected to abnormal use, accidental damage, neglect, or lack of maintenance. Any modification or disassembly of this Torque & Angle Meter, or repair by an unauthorized service center will void the warranty. This warranty gives you specific rights. You may also have other rights which vary from state to state. The foregoing obligation is Digitool Solutions sole liability under this or any implied warranty; and under no circumstances shall Digitool Solutions be liable for any incidental or consequential damages.

Note: Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you.

Unit included:

- 1— TAU-XXXX
- 2— 3 AAA battery
- 3— Micro USB Cable
- 4— Driver software communication from TAU-XXX to PC (DTS_USB.EXE)
- 5— Blow mold case
- 6— User's manual

For Warranty Service and Recalibration/Certification Services, contact:

Digitool Solutions LLC,.

13905 Ramona Ave. Unit #A
 Chino, CA 91710
 Phone: (909)591-9581
 Fax (909) 233-6491



USER'S GUIDE

USB TORQUE & ANGLE METER

For Models
**TAU-252, TAU-502, TAU-1002,
 TAU-1503, TAU-2503**

Accuracy:

Torque. $\pm 1\%$ CW & CCW of 10%-100% of Full scale
 Angle. $\pm 1^\circ$ of 90° rotation @ speed rate $2^\circ/s$ - $400^\circ/s$

Data record:

Up to 360 Data recorded Torque and Angle values

Battery:

Up to 200 hours operation

Display:

5-digit, alpha-numeric LCD with function and battery indicator icons.

Power off:

Auto shut off after 2 minutes idle



Ver. Aug 15

Important Safety Instructions



- **WARNING** - Risk of flying particles.
- Read this entire User's Guide before using the Torque and Angle meter. Always follow good professional tool practices.



- **Wear Safety goggles.**
- Ensure that all equipment is in good working order and that ratings of the Torque Meter, tools and drives exceed the torque being applied.
- Never use the Torque and Angle Meter with the power off.
- Never initiate ZeroTare with torque applied.
- Save these instructions.

Introduction

TAU series is

The DTS Torque and Angle Meter USB provides Torque accuracy within $\pm 1\%$ of reading between 10% and 100% of full scale. Angle accuracy $\pm 1^\circ$ of 90° rotation @ speeds between $2^\circ/s$ to $400^\circ/s$. It is rugged enough to accept the output torque of non-impacting: power tools, nut-runners or robotic spindles.

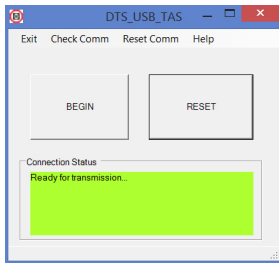
It may be used as an adaptor between any square drive hand tool, such as a ratchet wrench or breaker bar, and common fastener drive sockets

Because the Torque and Angle Meter is entirely self-contained, there is no wrap up of interconnecting cables during use.

The display is user selectable for ft-lb, in-lb or Nm units of measurement.

How to transfer data to PC (via Microsoft Excel, Word, ...)

- 1- After collecting data (Maximum data stored is 360)
- 2- Connect the Micro USB cable to TAU unit
- 3- Connect the USB to PC
- 4- Run the program DTS_USB.EXE, which is found on the included CD
- 5- Make sure the Connection Status Box is Green
If not, Click Check Comm in the Tool bar
- 5- Open Microsoft Excel program
- 6- Move the cursor to any cell to receive the data..



NOTE: Moving the cursor to a different document will cause the data to begin appearing on the new document.

- 7- Press **U** on TAU unit to transfer all data to the PC.

Front Panel Display and Keypad

Keypad Functions:

Power ON - M key

U - Unit Select - ft-lb, in-lb or Nm

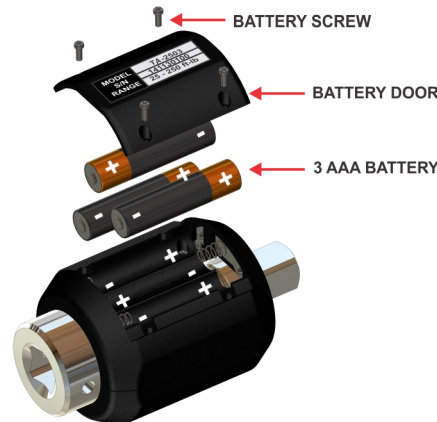
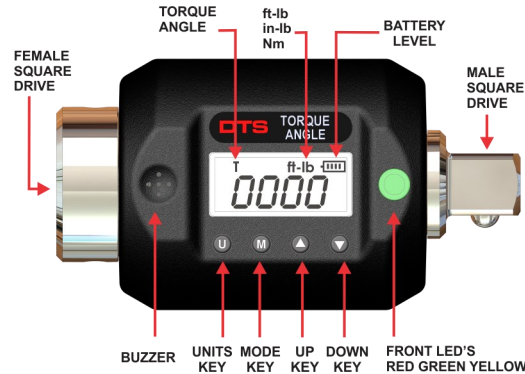
- Zero Angle (hold the key 3 Sec.)
- Zero Tare Torque (hold the key 3 Sec.)
- Print angle and torque to PC

M - Mode Select - TORQUE, ANGLE & PRINT (via USB)

- Manual power off, (hold the key 3 Sec.)
- ▲ - Increase TARGET TORQUE / ANGLE value
(Push and Hold the key for rapid scrolling)

- ▼ - Decrease TARGET TORQUE value
(Push and Hold the key for rapid scrolling)

Power OFF is automatic after 2 minutes of being idle



Rear Panel Input/Output

Operator Instructions

1. Setup:

- a. **Power ON** the Torque & Angle Meter by pushing the **M** key.
Power OFF Push and Hold the **M** key for more than 3 seconds to power down.
- b. **Push the U key** (Select Engineering Units)
Repeatedly push the **U** key to display the desired Unit of measure, **ft-lb, in-lb or Nm**.

In Torque Mode:

- 1- Clear Torque Display (Push the **U** key)
- 2- Zero tare (Push and Hold the **U** key for 3 Sec.)

In Angle Mode:

- 1- Print torque and angle value to PC (Push the **U** when device display "PRINT")
 - 2- Zero Angle (Push and Hold the **U** key for 3 Sec.)
- Make sure the device stays on flat surface and is stationary.

- c. **Push the M key.** (Select Torque or Angle Mode.)

1 - Repeatedly push the **M** key to select **Torque** or **Angle** Mode.

2 - Exit Print Mode (Hold **M** key 3 sec.). After each angle measurement, users are presented with "PRINT". To clear the current data and go on to the next angle measurement. Hold **M** key will **clear data** and setup for the new measurement. Continued measurement can be done by applying torque again.

- d. **Push the ▲ or ▼ key.** (Increase or Decrease Target Torque to the desired value.)

Torque Mode: Use these keys to increase or decrease the Torque Target.

Angle Mode: Use these keys to increase or decrease to the trigger torque. Trigger torque is the minimum torque required for angle to calculate.

During loading in TORQUE and ANGLE modes, the Torque and Angle Meter will display the applied torque or Angle in real time. The yellow LEDs and The internal buzzer begin pulsing at 80% of the TARGET TORQUE, increasing as the TARGET TORQUE value is approached.

2. Application:

- a. With the power on, install the Torque and Angle Meter between the driver and the socket.
- b. Apply torque load to the fastener in either CW or CCW directions. During loading, the Torque and Angle Meter will display applied torque in real time.
- c. When the applied torque is within 4% of the TARGET TORQUE value in PEAK modes, the green LED, buzzer and vibrator (optional) will alert continuously. Stop applying torque, as the installation is complete.