

Specifications:

Model	Range	Square Drive	Weight
TA-502	5-50.00 ft-lb	3/8 inch	0.6 pound
TA-1002	10-100.0 ft-lb	3/8 inch	0.6 pound
TA-1503	10-150.0 ft-lb	1/2 inch	0.8 pound
TA-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 $\pm 2\%$ 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

Calibration: Recommended to be performed (by DTS) once a year or every 15,000 cycles whichever ever comes first

Resolution:

Model	Drive	ft-lb	in-lb	Nm
TA-502	3/8 inch	0.05 ft-lb	0.5 in-lb	0.1 Nm
TA-1002	3/8 inch	0.1 ft-lb	0.2 in-lb	0.2 Nm
TA-1503	1/2 inch	0.2 ft-lb	0.3 in-lb	0.3 Nm
TA-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- Display torque and angle applied for 15 seconds. (0.5 sec display Torque/ 0.5 sec display Angle)

TORQUE - Display torque value in real time when torque is loading and show 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 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 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:

Using 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.

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
 Website: digitoolsolutions.com



USER'S GUIDE

TORQUE & ANGLE Meter

TORQUE, ANGLE INDICATOR

For Models
 TA-502, TA-1002, TA-1503, TA-2503

Accuracy:

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

Battery:

Up to 200 hours operation

Display:

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

Power off:

Auto shut off after 5 minutes idle



Ver. Dec 14

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.**
- Insure 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

The DTS Torque and Angle Meter provides Torque accuracy within $\pm 2\%$ both directions CW and CCW 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.

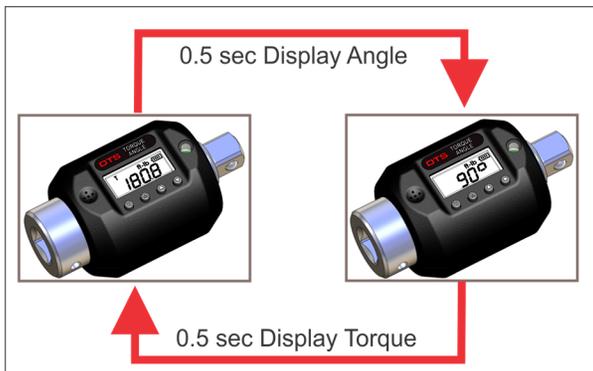
It may be used as an adaptor between any square drive hand tool, such as a ratchet wrench or breaker bar, and common fastener drive sockets

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 fl-lb, in-lb or Nm units of measure. Three modes are featured:

TORQUE - Display torque value in real time when torque is loading and show peak torque when torque is released.

ANGLE - Display torque and angle will clear values after 15 seconds.

Example: Applied Angle reach 90° , released force from handle the display will show Torque: 180.8 ft-lb for 0.5 second then display 90° for 0.5 second



Front Panel Display and Keypad

Keypad Functions:

Power ON - M key

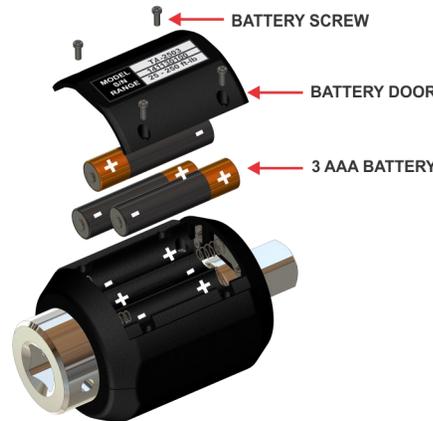
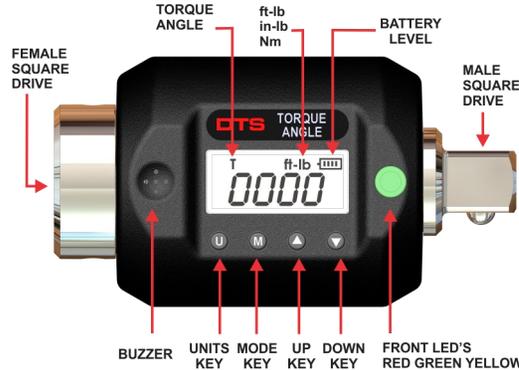
- U** - Unit Select - ft-lb, in-lb or Nm
 - Zero Angle (hold the key 3 Sec.)
 - Zero Tare Torque (hold the key 3 Sec.)

- M** - Mode Select - TORQUE, ANGLE
 - Manual power off, (hold the key 3 Sec.)

- ▲** - Increase TARGET TORQUE / ANGLE value (Push and Hold the key for rapid scrolling)

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

Powers OFF is automatic after 5 minutes of idle time



Rear Panel Input/Output

Operator Instructions

1. Setup:

- Power ON** the Torque & Angle Meter by pushing the **M** key.
Power-OFF Push and Hold the **M** key for more Than 3 sec to power down.

- 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- Clear Angle Display.(Push the **U** key)
 - 2- Zero Angle (Push and Hold the **U** key for 3 Sec.)
- Make sure the device stays on flat surface and station-ary.

- Push the M key.**(Select Torque or Angle Mode.) Repeatedly push the **M** key to select **Torque** or **Angle** Mode.

- Push the ▲ or ▼ key.** (Increase or Decrease Torque and Angle desired value.)
Torque Mode: Use these keys to increase or decrease to the desired Torque value.
Angle Mode: Use these keys to increase or decrease to the desired Angle value.

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

2. Application:

- With the power on, install the Torque and Angle Meter between the driver and the socket.
- 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.
- 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.

Release Indications:

Should the applied torque exceed the TARGET TORQUE value by more than 4%, the red LED and buzzer will alert continuously. If the Torque Meter range is exceeded by 125% the display will indicate "OVER TORQUE."

Box Includes :

- Torque Angle Meter P/N TA-XXXF
- User 's Guide P/N DTS-UG-T+A