

Specifications:

Model	Range	Square Drive	Weight
SPA-502	5-50.00 ft-lb	3/8 inch	0.6 pound
SPA-1002	10-100.0 ft-lb	3/8 inch	0.6 pound
SPA-1503	10-150.0 ft-lb	1/2 inch	0.6 pound
SPA-2503	25-250.0 ft-lb	1/2 inch	0.8 pound
SPA-4004	40-400.0 ft-lb	3/4 inch	1.5 pound
SPA-6004	60-600.0 ft-lb	3/4 inch	1.5 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 @ $2^\circ/\text{s}$ to $400^\circ/\text{s}$
Required minimum 5% of F.S pre-torque

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

Resolution:

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

Model	Drive	ft-lb	in-lb	Nm
SPA-502	3/8 inch	0.01 ft-lb	0.1 in-lb	0.01 Nm
SPA-1002	3/8 inch	0.01 ft-lb	0.2 in-lb	0.02 Nm
SPA-1503	1/2 inch	0.02 ft-lb	0.3 in-lb	0.03 Nm
SPA-2503	1/2 inch	0.03 ft-lb	0.6 in-lb	0.06 Nm
SPA-4004	3/4 inch	0.05 ft-lb	1.0 in-lb	0.10 Nm
SPA-6004	3/4" inch	0.06 ft-lb	1.2 in-lb	0.12 Nm

Modes of measure: Track, Peak Hold, Angle

Measurement Modes:

ANGLE- 15 second display of peak Angle.

TRACK - Real-time digital indication of applied torque for dial, bending beam or electronic wrench testing.

PEAK - 15-second display of highest torque reached during each application to indicate over-shooting.

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:

Rechargeable Li-Ion Polymer cell, 3.7V, up to 200 hours of operation per charge. Charger: 2 - 4 hour.
110 - 240VAC wall block with universal adaptors, (included).
or through PC with USB cable, (not included).

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 Pro, 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 Pro 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 Pro 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 Pro 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 Meter Pro which have been subjected to abnormal use, accidental damage, neglect, or lack of maintenance. Any modification or disassembly of this Torque & Angle Meter Pro, 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 Pro

TRACK, PEAK, ANGLE INDICATOR

For Models
SPA-502, SPA-1002, SPA-1503
SPA-2503, SPA-4004, SPA-6004

Accuracy:

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

Battery:

200 hours operation per charge
Rechargeable Li-Ion Polymer

Display:

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

Power off:

Auto shut off after 2 minutes idle



Ver. Dec. 2014

Important Safety Instructions



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



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

Introduction

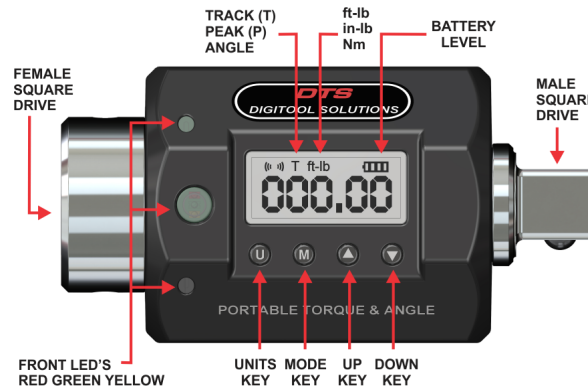
The DTS Torque and Angle Meter Pro provides Torque accuracy within $\pm 1\%$ both directions CW and CCW of reading between 10% and 100% of full scale. Angle accuracy $\pm 1^\circ$ of 90° rotation @ speeds between $2^\circ/s$ to $400^\circ/s$. It is rugged enough to accept the output torque of non-impacting: 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 Pro is entirely self-contained, there is no wrap up of interconnecting cables during use.

It features a rechargeable Li-Ion battery for long service life and the display is user selectable for ft-lb, in-lb or Nm units of measure. Three modes are featured:

- **TRACK** - real time digital indication of applied torque
- **PEAK** - 15-second display of highest torque reached during each application
- **ANGLE** display mode reports maximum Angle applied for 15 second.



Front Panel Display and Keypad

Keypad Functions:

Power ON - U or M key

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

- Clear angle in **ANGLE** mode, display "CLEAR"
- Zero Tare Torque (hold key 3 seconds) in Torque Mode.
- Zero Angle (hold key 3 seconds) in Angle Mode.

M - Mode Select - TRACK, PEAK, ANGLE

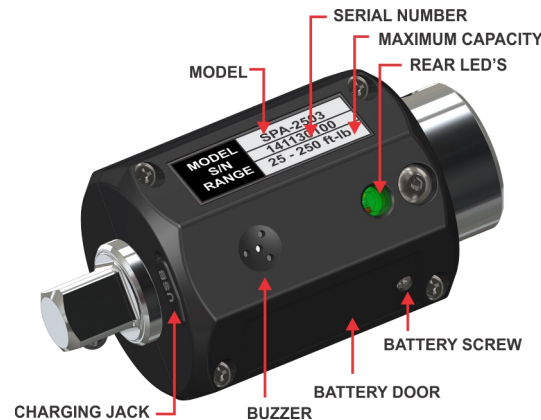
- Manual power off, (hold key 3 seconds)

▲ - Increase TARGET TORQUE / ANGLE value
(Press and Hold Key for rapid scrolling Up)

▼ - Decrease TARGET TORQUE / ANGLE value
(Press and Hold Key for rapid scrolling Down)

This device automatically Powers OFF after 2 minutes of idle Time.

Rear Panel Input/Output



Operator Instructions

1. Setup:

- Turn on the Torque and Angle Meter Pro by pushing the **U** or **M** buttons.
- Push the **U** key
For Track and Peak to view the units of measure: Repeatedly push the **U** key to display the desired units of measure, ft-lb, in-lb or Nm.
For Angle: push the **U** key will clear Display reset Angle "CLEAR"
- Push the **M** key to select the display mode:
TRACK (T) for dial, bending beam or electronic wrenches.
PEAK (P) for dial follower or peak reading electronic wrenches or non-impacting power tools or nut runners.
ANGLE (no icon) Just shows rotation @ speed $2^\circ/s$ to $400^\circ/s$

- 0000.00** ▲ or ▼ key to view the TARGET TORQUE or ANGLE value. Use these same keys to increase or decrease to the desired value.

During loading in TRACK, PEAK 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, increasing as the TARGET TORQUE value is approached.

2. Application:

- With the power on, install the Torque and Angle Meter Pro 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 Pro will display applied torque in real time.
- When the applied torque is within 4% of the TARGET TORQUE value in TRACK or 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 is exceeded 125% of the torque range, the display will indicate "OVER TORQUE."

Box Includes :

- Torque Angle Meter P/N SPA-XXXF
- Rechargeable Li-Ion Polymer cell P/N DTS-BAT1
- Universal battery charger P/N DTS-CHARGER1
- User's Guide P/N DTS-UG-SPA