VERSATORQ®2 SYSTEM

25.00
+20
–10

IN-LBS

MIN ● MAX ○

ON/OFF UNITS ZERO TARE

STORE RECALL SEND

CLEAR ▲ ▶

SET UP ▼ ENTER

VERSATORQ®

Snap-on.

Table of Contents

Snap-on.
VERSATORQ®2 SYSTEM

IMPORTANT SAFETY INSTRUCTIONS

WARNING

1. Read this manual completely before using the VERSATORQ2® system.
2. Always wear safety goggles when applying torque to fasteners.
3. To ensure personal safety and prevent equipment damage, make sure that all components, including all sensors, adaptors, extensions, drivers and sockets are rated to match or exceed the torque being applied.
4. Observe all equipment, system and manufacturer's warnings, cautions and procedures when using this meter.
5. Do not use this meter with power off. Always turn on the meter so the torque values are indicated on the display.
6. Use the pre-set alarm circuitry to protect fasteners and sensors from an overload.
7. Do not press Zero-Tare while torque is applied.
8. To avoid damaging sensors:
• Do not use a torque sensor to break fasteners loose.
• Verify the calibration of any sensor whose capacity you know or suspect has been exceeded. (Display shows OVER when sensor capacity is exceeded.)
• Check that the sensor's capacity matches or exceeds each application before proceeding.
9. For personal safety and to avoid sensor damage, follow good, professional tool practices when using drivers with sensors:
• Use the correct size socket for the fastener.
• Do not use sockets showing wear or cracks.
• Replace fasteners with rounded corners.
• Always pull (don't push) on a wrench handle, and adjust your stance to prevent a possible fall should something give. Do not use extensions, such as a pipe, on the handle of a wrench.
• When using ratchets, make sure the direction lever is fully engaged in the correct position.
10. Only use the MINI-USB port in areas known to be NON-EXPLOSIVE
11. Only use the HEADPHONE port in areas known to be NON-EXPLOSIVE
12. DO NOT replace batteries when an EXPLOSIVE ATMOSPHERE IS PRESENT.
    French: Nes pas remplacer la batterie quand une atmosphère explosive est prèsente
13. Only use specified AA batteries on pages 5 & 6 of this operation manual
    French: Utilisez uniquement les piles AA indiquèes sur les pages 5 et 6 du maunual d'utilisation
14. This device is not designed to withstand dielectric high voltage test. The chassis will not maintain 500V to ground of the wiring connections.

SAVE THESE INSTRUCTIONS

Introduction

The Snap-on VERSATORQ®2 portable ATEX / UL certified electronic torque analyzer displays torque readings from sensors that attach between sockets and driver. VERSATORQ®2 is a highly versatile torque analyzer / data acquisition system that can be used with sockets, extensions, universal joints, ratcheting drivers and any combination of these. Sensors, purchased separately, are available in 8 ranges from 2-20 in-oz, to 150-1500 ft-lb, and provide readings with an accuracy of 1 percent and 2 percent on other specified transducers.

The torque analyzer features a wide angle viewing LCD display with selectable readouts in ft-lb, in-lb, in-oz, Nm, cNm, kg and cmkg units, depending upon the sensor in use.

Torque analyzer settings are entered on a push-button membrane keyboard. High and low torque limits are adjustable to give an audible and visual alarm. The user selects Track mode to display torque values as they are applied, or Peak mode to display the highest torque value applied.

The torque analyzer stores and recalls up to 3500 readings and provides USB communication P/C interfacing and downloading.

The torque analyzer operates from a three AA battery source.
A display sleep mode conserves battery power.

Torque limits are indicated on dual LED and audible indicators. An audio output jack permits the use of head phones in a noisy environment. A belt clip on the back of the meter leaves both hands free when working portable.

The torque analyzer and the optional sensors can be calibrated by the user with a known torque input. A special memory chip, built into the sensor, identifies the sensor's range and calibration parameters to any Snap-on VERSATORQ®2 torque analyzer.

Battery Installation / Belt Clip

The *VERSATORQ®2* meter is shipped with three AA batteries installed.

Figure 1

Figure 2

Positive Battery Orientation

Battery Strap Retaining Clip

Negative Battery Orientation

Four 5/64" Hex Screws
(6-32 x ½ long)

Two threaded holes for Belt Clip 1/16" Hex
(Two 4-40 x ¼" long screws)

Figure 3

Battery Strap Retaining Clip Tabs

Figure 4

Battery Strap Retaining Holes

Figure 5   **Figure 6**

Belt Clip Side View

Belt Clip Front View
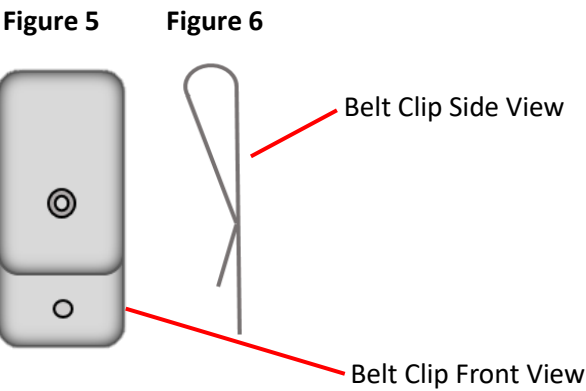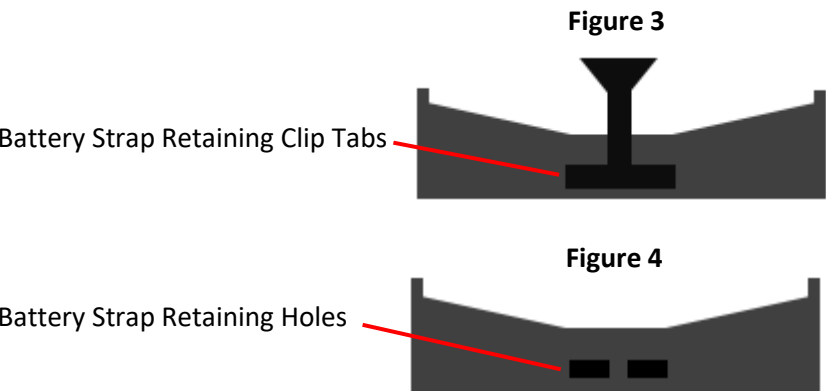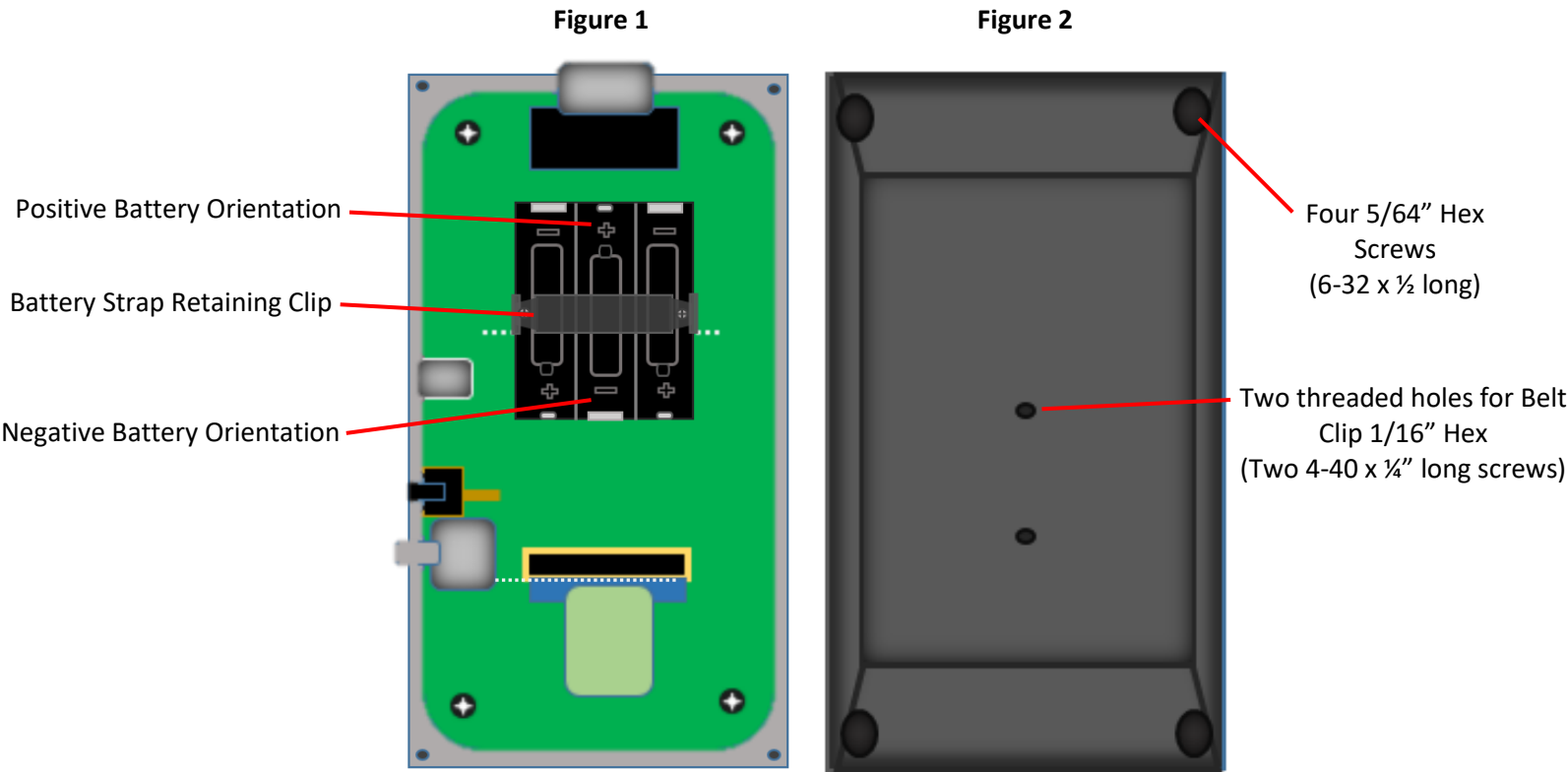
Battery Installation

Procedure:

1. Remove the four VERSATORQ®2 case housing retaining hex screws using a 5/64" hex tool, and lift off the case (Figure2).
2. With the battery holder exposed (Figure 1), lift the Battery Strap Retaining Tabs and remove (Figure 3), and install three AA Batteries in the correct orientation as shown in (Figure 1).
3. Reinstall the Battery Strap Retaining Clip and VERSATORQ®2 case Housing and reinstall the four retaining screws.

IMPORTANT!
USE ONLY the below SPECIFIED AA batteries
French : Utilisez uniquementdes piles indiquèes dans le manuel d'utilisation

WARNING!
DO NOT REPLACE BATTERIES WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT!

Manufacturer	Part No.
Energizer	E91
Panasonic	LR6XWA
Duracell	MN1500

Specifications

Torque Analyzer

Display . . . . 4 Digit w/Alpha & Numerical Function Flags
Display Capacity* . . . . 4 Digits
9 pin maximum sensor connector Um Voltage Value. . . . 20 volts
Accuracy. . ±1% of Reading (10 to 100% of Sensor Range)
          . . ±2% with VERSA1S10A and VERSA1S20A Sensors
Push Button Key Pad . . . . ZERO TARE, ON/OFF, SET UP,
UNITS, STORE, RECALL, CLEAR, SEND, ENTER, UP/DOWN/SIDE

Units of Measurement . . . . ft-lb, in-lb, in-oz,
                            Nm, cNm, mKg and cmKg
Operating Temperature . . . . 23 to 42ºC (40 to 110ºF)
Storage . . . . -20 to 50ºC (-2 to 122ºF)
Humidity . . . . Up to 90%, Non-condensing
Dimensions . . . . 3" Wide, 2.5" High, 6" Deep
                            (3" High with Belt Clip)
Weight . . . . 1 Pound
Charge Life (Full Charge to Shut-off) . . . 100 Hours Continuous
Batteries . . . . 3 AA Alkaline

Manufacturer   Part No.
Energizer…………… E91
Panasonic …………. LR6XWA
Duracell ……………. MN1500
ATEX / UL Certified. . . . . DEMKO 16 ATEX 1699X
Hazardous Location Designation . . . . . Class 1, Zone 2, Ex ic IIA
Temperature Class T6
File number E484919

Data Storage/Recall . . . . 3,500 Measurements
* VERSATORQ®2 display ignores torque inputs less than 0.5% of
  full scale in Track mode and 2.0% of full scale in Peak mode.

Sensors

VERSATORQ®2 Sensors provide industry standard square drives. They feature a full bridge strain-gage @ 350 Ohms nominal.

Sensors use a built-in EEPROM memory chip that stores sensor identification and calibration factors. Once a sensor is calibrated, it retains its accuracy between all VERSATORQ®2 Meters.

User calibration of sensors is possible given a known input torque and the VERSATORQ®2 torque analyzer Set-up function. Refer to page 12 for Calibration Procedures.

Sensors can withstand an overload of 120% of full range. The VERSATORQ®2 torque analyzer will alarm, (audible beep and display "OVER" flag) at 120 % of rated capacity.

Range	Part No.	Drive	Diam.	Length	Cable
2-20 in-oz*	VERSA1S20A*	¼ in.	0.5 in	2.9 in	48 in.
1-10 in-lb*	VERSA1S10A*	¼ in.	0.7 in	2.9 in	48 in.
5-50 in-lb	VERSA1S50A	¼ in.	0.9 in	2.1 in	48 in.
20-200 in-lb	VERSA1S200A	¼ in.	0.9 in.	2.1 in.	48 in.
10-100 ft-lb	VERSA2S100A	3/8 in.	1.2 in.	2.4 in.	48 in.
25-250 ft-lb	VERSA3S250A	½ in.	1.4 in.	2.6 in.	48 in.
60-600 ft-lb	VERSA4S600A	¾ in.	2.0 in.	3.9 in.	96 in.
150-1500 ft-lb	VERSA5S1500A**	1 in.	2.4 in.	4.4 in.	92 in.***

 * Knurled Handle for Fingertip Control
 ** Diameter Does Not Include Side Mounted Connector
*** Heavy Duty Coiled Cord with 4 pin MS style Sensor Connector

Sensor Ranges / (Resolutions) in Different Units of Torque Measurements

Part Number	Range	ft-lb	in-lb	In-oz	Nm	cNm	Kg	cmKg
VERSA1S20A*	2-20 oz-in	0.011-0.104 (.001)	0.125-1.250 (.001)	02.00-20.00 (.01)	0.014-0.141 (.001)	01.42-14.12 (.01)	0.002-0.014 (.001)	0.145-1.440 (.001)
VERSA1S10A*	1-10 in-lb	0.084-0.833 (.001)	01.00-10.00 (.01)	16.00-160.0 (.01) (.1)	0.110-1.130 (.001)	011.3-112.9 (.01)	0.012-0.115 (.001)	01.16-11.52 (.01)
VERSA1S50A	5-50 in-lb	0.417-4.167 (.001)	05.00-50.00 (.01)	080.0-800.0 (.1)	0.565-5.649 (.001)	056.5-564.9 (.1)	0.058-0.576 (.001)	05.77-57.61 (.01)
VERSA1S200A	20-200 in-lb	01.67-16.66 (.01)	020.0-200.0 (.1)	0320-3200 (1)	02.26-22.59 (.01)	0223-2259 (1)	0.231-2.305 (.001)	023.1-230.4 (.1)
VERSA2S100A	10-100 ft-lb	010.0-100.0 (.1)	0120-1200 (1)	N/A	013.6-135.5 (.1)	N/A	01.39-1.82 (.01)	0139-1382 (1)
VERSA3S250A	25-250 ft-lb	025.0-250.0 (.1)	0300-3000 (1)	N/A	033.9-339.0 (.1)	N/A	03.46-34.66 (.01)	0346-3456 (1)
VERSA4S600A	60-600 ft-lb	060.0-600.0 (.1)	0720-7200 (1)	N/A	081.3-813.4 (.1)	N/A	08.30-82.97 (.01)	0830-8295 (1)
VERSA5S1500A ** ***	150-1500 ft-lb	0150-1500 (1)	N/A	N/A	0203-2034 (1)		020.8-207.4 (.1)	N/A

 *Knurled handles allows for fingertip control.
 **Diameter does not include side mounted connector
 ***Heavy duty coiled cord with four-pin MS style connector.

Functional Description – DISPLAY

The 4 digit, .5 inch, wide angle LCD display shows applied torque in TRACK mode or the highest torque value captured in PEAK-hold mode. This display is also used for SETUP programming and to indicate functions and fault conditions.

Display flags include: cNm, Nm, cmkg, kg, in-oz, in-lb, and ft-lb units of measure, OVER torque alarm / message OuEr, LO BATT battery monitor, real time torque TRACK and captured PEAK modes.
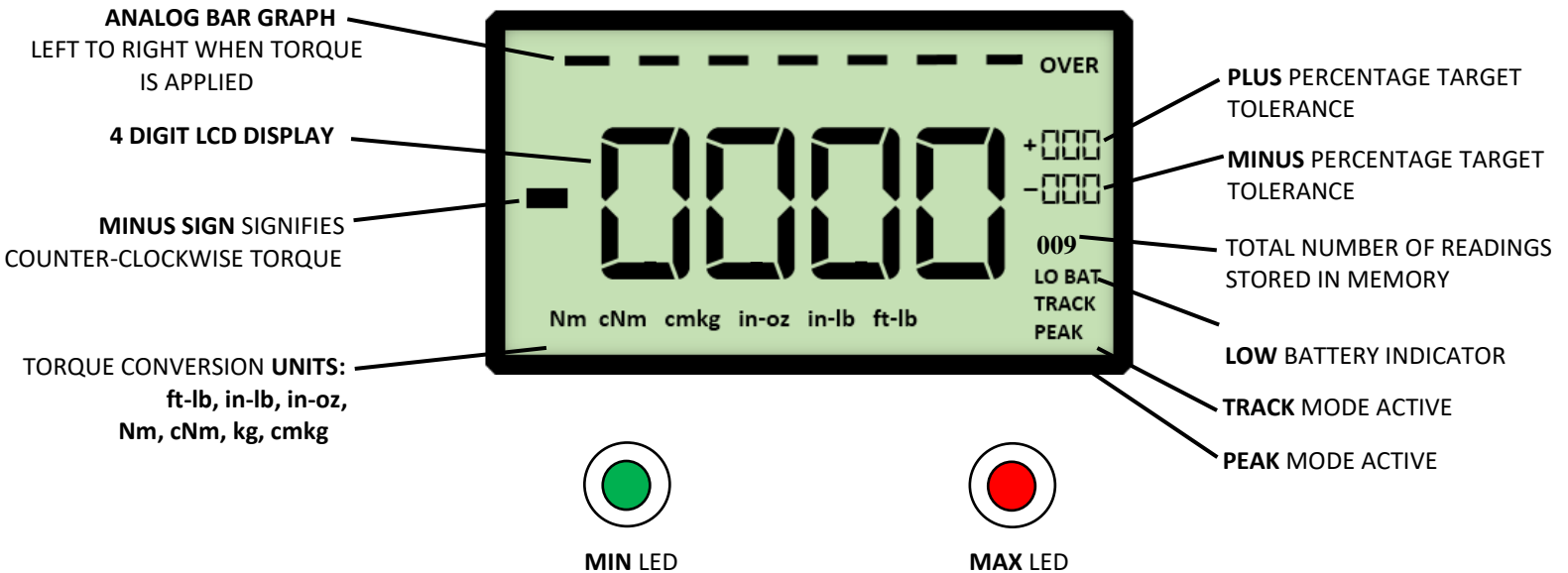
A small 3 digit display indicates the number of stored values.

Shows the total number of readings stored in memory. In the SET-UP mode, these displays indicate the UPPER (+) and LOWER (-) percentage values for ALARM preset, respectively.

A ten segment analog bar graph, scaled to the ALARM preset value, provides a live indication of applied torque. The graph moves left to right for CW and right to left for CCW torque inputs.

A green LED indicates at least MINimum preset torque is presently applied and a red LED indicates MAXimum preset torque.

WIDE ANGLE LIQUID CRYSTAL DISPLAY

ANALOG BAR GRAPH
LEFT TO RIGHT WHEN TORQUE IS APPLIED

4 DIGIT LCD DISPLAY

MINUS SIGN SIGNIFIES COUNTER-CLOCKWISE TORQUE

TORQUE CONVERSION **UNITS:**
ft-lb, in-lb, in-oz, Nm, cNm, kg, cmkg

OVER

PLUS PERCENTAGE TARGET TOLERANCE

MINUS PERCENTAGE TARGET TOLERANCE

TOTAL NUMBER OF READINGS STORED IN MEMORY

LOW BATTERY INDICATOR

TRACK MODE ACTIVE

PEAK MODE ACTIVE

MIN LED   **MAX** LED

Functional Description – KEY

MEMBRANE KEY PAD

ON/OFF — Power ON/OFF to and from sleep mode. (Battery Saver Switch on side of unit).

UNITS — Select UNITS conversion: ft-lb, in-lb, in-oz Nm, cNm, cmkg, kg

ZERO TARE — Manual ZERO TARE. Also momentarily displays full scale sensor range, preset and preset limits. (Automatic Zero Tare at power on, from sleep mode, and at sensor change).

STORE — STORE present torque reading in memory and clear peak-hold display.

RECALL — RECALL last torque reading from memory. Push ENTER to exit recall mode.

SEND — SEND data from USB port to PC EXCEL Spreadsheet

CLEAR — CLEAR last reading from display. To clear entire memory, push RECALL then hold CLEAR key.

▲ — Scroll UP increases numeric values and selects Track of Peak modes during Set-up programming.

▼ — Scroll DOWN decreases numeric values and selects Track of Peak modes during Set-up programming.

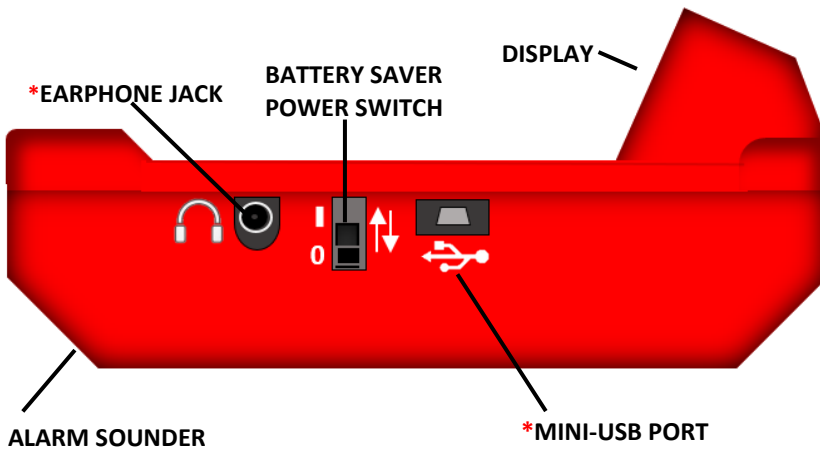**▶** — Scroll RIGHT to next significant value and selects Track of Peak modes during Set-up programming.

SET UP — SET-UP preset limits, PEAK, TRACK modes, and sensor calibration.

ENTER — ENTER program parameters during Set-up programming. Also used to exit Recall mode.

RIGHT SIDE VIEW

*EARPHONE JACK

**BATTERY SAVER
POWER SWITCH**

DISPLAY

ALARM SOUNDER

*MINI-USB PORT

END VIEW

SENSOR   MADE IN U.S.A.

SENSOR CONNECTION

POWER SWITCH — Disconnects the AA battery source from the VERSATORQ2 circuit. At power-on, unit comes to life, self-checks and returns to last SET-UP parameters unless sensor has been changed.

EARPHONE JACK — 1/8 inch diameter stereo tip jack, provides two distinctive tones; a low tone at MIN preset torque input and a high tone at or above MAX torque input. (Does not disable the Alarm sounder when in use).

*WARNING: ONLY USE THE HEADPHONE PORT IN AREAS KNOWN TO BE NON-HAZARDOUS!

AUDIBLE ALARM — Produces a distinctive 2 KHz continuous tone at MIN preset torque input and a pulsating tone at or above MAX torque input. Also sounds momentarily at each key pad entry.
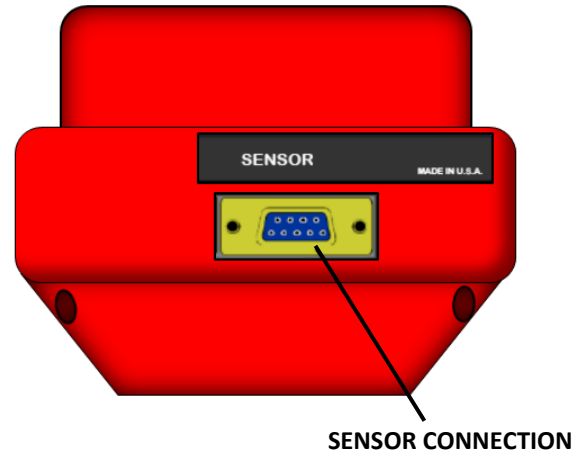
MINI USB PORT

*WARNING: ONLY USE THE MINI USB PORT IN AREAS KNOWN TO BE NON-HAZARDOUS!

SENSOR INPUT — Accepts DE9P subminiature 9-pin male connector. Sensors feature full bridge, 350 ohm, strain gages and built-in EEPROM memory chip for range identification and calibration. Sensor excitation is 3.3 volts DC. Gages are sampled 3 times/second and always sampled at 320 times/seconds when input exceed 1% of sensor range.

SET-UP Measurement Modes

At power **ON**, the torque analyzer does a display check and self-test. It automatically identifies the installed sensor and sets rated **UNITS** for display. The sensor full scale range is displayed for 2 seconds, then preset torque, upper limit percent and lower limit percent are displayed for 2 seconds. (With no sensor present the torque analyzer sounds a pulsating alarm and the display scrolls (**"no SEnSor."**).
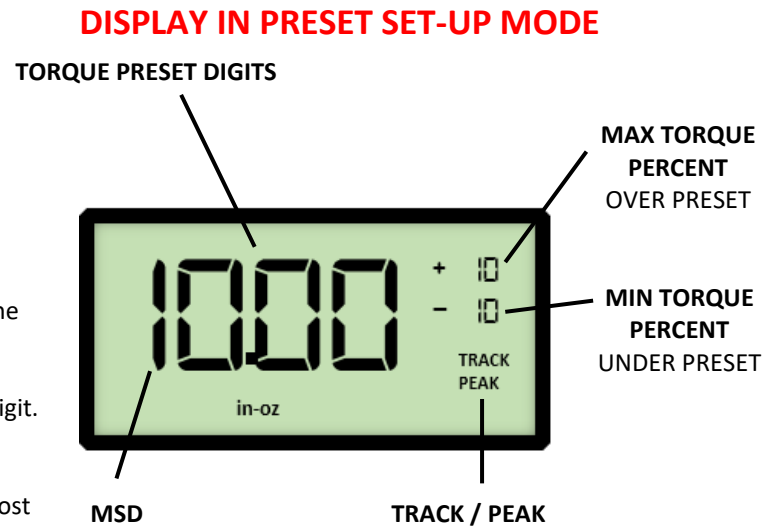
At power **ON**, or when changing sensors, the meter automatically sets **ZERO TARE**. It is important that no torque be applied to the sensor during start-up.

Using SET-UP to:
 • Set Preset Torque.
 • Set **MAX** torque as a percentage over preset torque.
 • Set **MIN** torque as a percentage under preset torque.
 • Select **TRACK** or **PEAK** mode.

Procedure:

1. Push **SET UP** key. The most significant digit **(MSD)** on the large numeric TORQUE PRESET DIGITS display will blink on and off.
2. Push the △▽ arrow keys to increment or decrement the **MSD** to the desired preset torque value. Be sure to consider decimal point location.
3. Push the ▷ arrow key to shift right to the next significant blinking digit.
4. Push the △▽ arrow keys to increment or decrement the value.
5. Repeat step 3 for the last two digits.
6. Push the ▷ arrow key to change **MAX TORQUE PERCENT** +10 the most significant digit **(MSD)** will blink.
➢ Push the △▽ arrow keys to increment or decrement the **MSD** digit.
➢ Push the ▷ arrow key for the least significant digit to blink.
➢ Push the △▽ arrow keys to increment or decrement least significant digit.
7. Push the ▷ arrow key to change **MIN TORQUE PERCENT** -10 the most significant digit **(MSD)** will blink.
➢ Push the △▽ arrow keys to increment / decrement the **MSD** digit.
➢ Push the ▷ arrow key for the least significant digit to blink.
➢ Push the △▽ arrow keys to increment / decrement least significant digit.
8. Push the ▷ arrow key to change to **TRACK** or **PEAK** mode.
9. Push the △ arrow key to toggle between **TRACK** and **PEAK** mode.
10. Push the **ENTER** key to accept the SET-UP changes and return to the measurement screen.

DISPLAY IN PRESET SET-UP MODE

TORQUE PRESET DIGITS

MAX TORQUE PERCENT
OVER PRESET

MIN TORQUE PERCENT
UNDER PRESET

MSD

TRACK / PEAK

How to Measure Torque / Sleep Mode

Caution: If the display ever indicates OVER, discontinue torquing and verify the calibration of the sensor. **(See Page 12 and 13)**

Caution: Never push the ZERO TARE key with torque applied.

Caution: For best accuracy sockets should be attached directly to the sensor's male drive. If an extension is used, the extension should be installed between the sensor and the wrench — not between the sensor and the socket. See Fig.1

TRACK Mode

1. Select the desired torque sensor and connect it to the VERSATORQ®2 torque analyzer.
2. Power **ON** the torque analyzer using the power switch located on the right side. If the power switch is already **ON**, push the **ON/OFF** key to wake up the torque analyzer from sleep mode.
3. If the display indicates **PEAK** mode, refer to **SET-UP** programming on page 7 to change to **TRACK** mode.
4. Using the **UNITS** key, select the desired units of measure.
5. Applied torque is read in real time on the large 4 digit numeric display.
6. The torque analyzer will sound a continuous tone and the **MIN** (**Green**) **LED** will light when torque input reaches the lower preset value, (preset minus percent tolerance.)
7. The meter will sound a pulsating tone and the **MAX** (**Red**) **LED** will light when torque input reaches the upper preset value, (preset plus percent tolerance.)
8. To change the preset value and **MIN-MAX**, (upper and lower percentage tolerances), refer to **SET-UP** on **page 9.**

Sleep Mode

The VERSATORQ®2 meter is programmed to automatically shut off when idle for five minutes. This feature helps conserve the life of the batteries.

PEAK-HOLD Mode

1. Select the desired torque sensor and connect it to the VERSATORQ®2 torque analyzer.
2. Power **ON** the torque analyzer using the power switch located on the right side. If the power switch is already **ON**, push the **ON/OFF** key to wake up the meter from sleep mode.
3. If the display indicates **TRACK** mode, refer to **SET-UP** programming on **page 7** to change to **PEAK** mode.
4. Using the **UNITS** key, select the desired units of measure. Changing the units will convert the current target torque to the equivalent value in the new units.
5. Applied torque is captured and held on the large 4 digit numeric display. The reading will increase if additional torque is applied. The captured reading will automatically clear when torque is reapplied.
6. The torque analyzer will sound a continuous tone and the **MIN** (**Green**) **LED** will light when torque input reaches the lower preset value, (preset minus percent tolerance).
7. The torque analyzer will sound a pulsating tone and the **MAX** (**Red**) **LED** will light when torque input reaches the upper preset value, (preset plus percent tolerance).
8. To clear the display push the **CLEAR** key.
9. To change the preset value and **MIN-MAX**, (upper and lower percentage tolerances), refer to **SET-UP** on **page 9.** the torque analyzer will go into sleep mode if idle for 5 minutes.
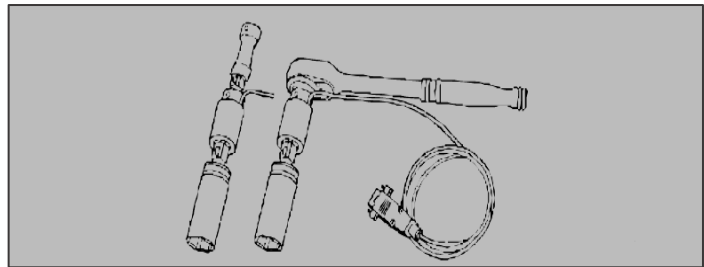
A CORRECT DRIVER - SENSOR - SOCKET RELATIONSHIP:
Sensors should always be next to the socket. If an extension were used, the extension would go between the sensor and the ratchet (driver) – Not between the sensor and the socket

STORE, RECALL and CLEAR Readings in Memory

To store a reading in **TRACK** mode, push the **STORE** key while torque is being applied. The number of each stored reading is displayed in the small upper numeric display.
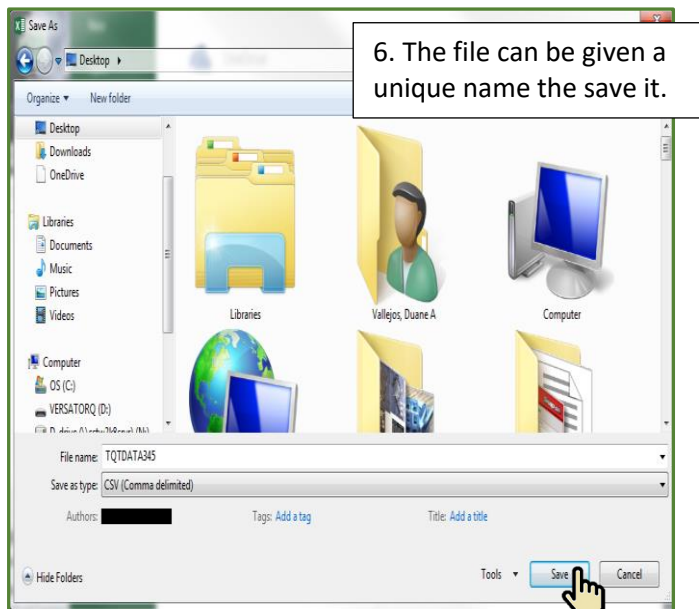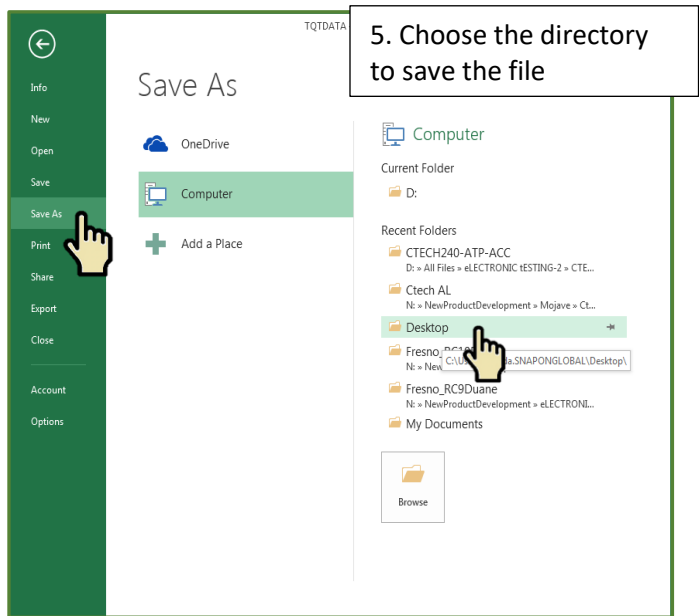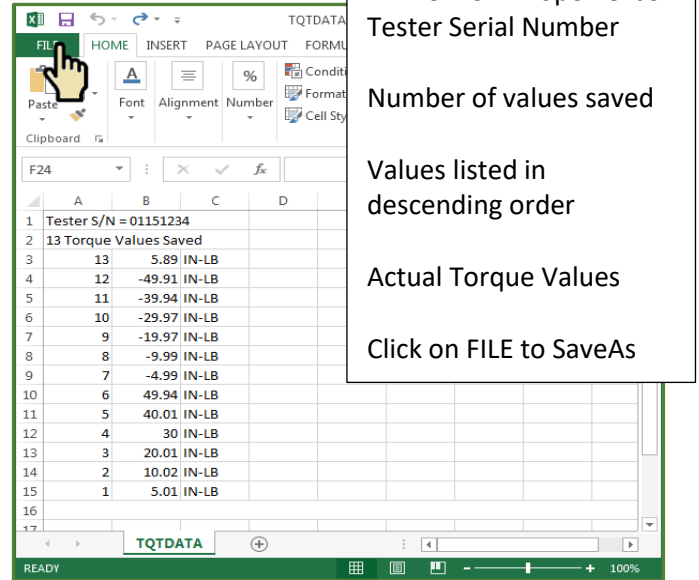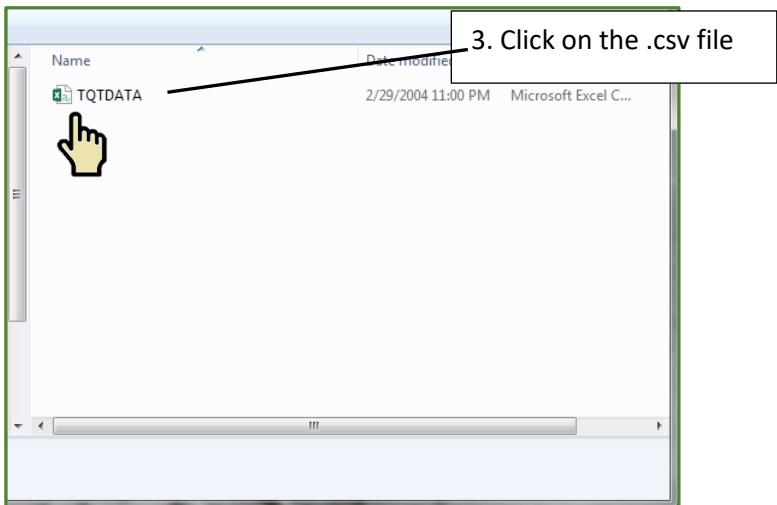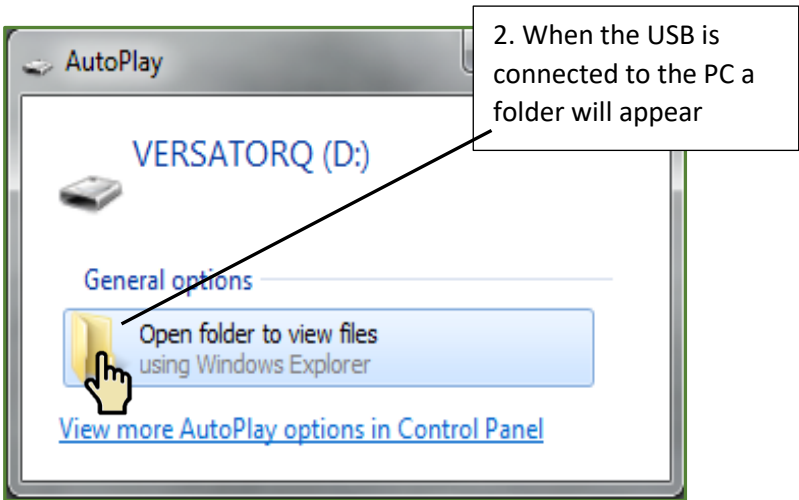
To store a reading in **PEAK-HOLD** mode, push the **STORE** key after the torque reading has been captured. The display will automatically clear for the next reading.

To display previously stored readings, push the **RECALL** key. Continue to push **RECALL** to decrement from last reading to first. (The number of the displayed torque reading is indicated in the small upper numeric display). Push **ENTER** to exit recall mode.

To clear the entire memory push the **RECALL** key, then push and hold the **CLEAR** key for approximately three seconds. Or delete the CSV file on PC

DOWN LOADING – To PC

1. Connect the USB cable between the VERSATORQ®2 torque analyzer USB port and the PC computer USB port.

2. When the USB is connected to the PC a folder will appear

3. Click on the .csv file

4. The file will open excel
   Tester Serial Number
   Number of values saved
   Values listed in descending order
   Actual Torque Values
   Click on FILE to SaveAs

	A	B	C	D
1	Tester S/N = 01151234			
2	13 Torque Values Saved			
3	13	5.89	IN-LB	
4	12	-49.91	IN-LB	
5	11	-39.94	IN-LB	
6	10	-29.97	IN-LB	
7	9	-19.97	IN-LB	
8	8	-9.99	IN-LB	
9	7	-4.99	IN-LB	
10	6	49.94	IN-LB	
11	5	40.01	IN-LB	
12	4	30	IN-LB	
13	3	20.01	IN-LB	
14	2	10.02	IN-LB	
15	1	5.01	IN-LB	
16				

5. Choose the directory to save the file

6. The file can be given a unique name the save it.

Transducer Calibration CW

Equipment Required:

• **Precision calibrated test bar and certified calibration weights.**

QUICK CHECK

1. With the VERSATORQ®2 torque analyzer in the TRACK mode, (refer to page 9). Apply full load to 100% of sensor rated capacity in the CW (CLOCKWISE) direction 3x.
2. Remove weights and wait 30 seconds then press the ZEROTARE key.
3. Apply 10% load of sensor rating and verify the reading is within accuracy specifications.
4. Repeat step 3 at the 40%, 60%, 80% and 100% check values and verify all readings are within accuracy specifications.
5. Repeat steps 1 thru 4 for quick checks in the CCW direction. If any readings are out of tolerance specification, proceed to Sensor calibration section below.
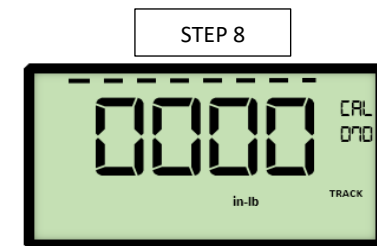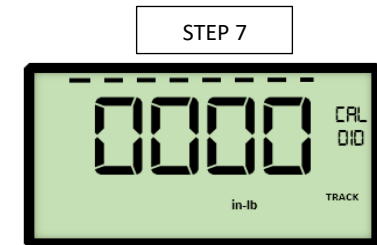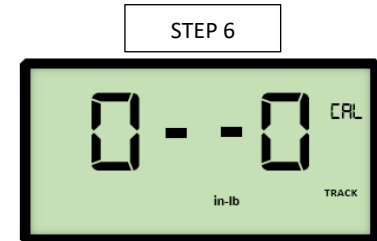
Equipment Required:

• **Precision calibrated test bar and certified calibration weights. Install New Batteries. Use only the batteries listed on page 5**

Sensor Calibration CW (Clockwise Direction)

1. Attach a sensor to the VERSATORQ2® meter and power on the unit. Confirm the meter is in the **TRACK** mode. If not press the SET UP button
2. to change.
3. Install the correct calibration test bar or wheel for the attached sensor then press the **ZERO TARE** button.
4. Press and hold the **SETUP** key enter the code **"5222"** to begin **CW** calibration.
5. The FULL SCALE (FS) transducer size screen will appear with the first digit blinking.
   ➢ If the FS does not match the transducer size use the **UP/DOWN/SIDE** arrow keys to change the value. If the decimal point is not in the correct location press the **SIDE ARROW** button until far right digit is flashing, then press **SIDE ARROW** button one more time then use the **UP/DOWN** arrow buttons to move decimal point to the desired location.
   ➢ Press the **UNITS** key until the displayed units match the sensor unit
   ➢ Press the **ENTER** key
6. Preload the sensor maximum rated capacity three times in the **CW** direction. Remove the weight and wait 30 seconds.
   ➢ Press the **ENTER** key, and marching zeros "0000" should be visible on the **LCD** screen, indicating the **ZEROTARE** operation. The calibration screen will appear.
7. Attach the weights to apply a **CW** torque equal to 10% of the rated capacity of the sensor size. The screen will show a changing number which gradually drops to near zero. Wait 30 seconds the press the **ENTER** key.
8. Attach the weights to apply a **CW** torque equal to 70% of the rated capacity of the sensor size. The screen will show a changing number which gradually drops to near zero. Wait 30 seconds the press the **ENTER** key.
9. Remove all weights and press the **ZEROTAR**E key. The displayed value should return to zero, and will now be in the main measurement screen.

STEP 4

STEP 5

STEP 6

STEP 7

STEP 8

STEP 9

Transducer Calibration CCW

Equipment Required:
• **Precision calibrated test bar and certified calibration weights.
Install New Batteries. Use only the batteries listed on page 5**

Sensor Calibration CCW (Counterclockwise Direction)

1. Attach a sensor to the VERSATORQ2® meter and power on the unit. Confirm the meter is in the **TRACK** mode. If not press the SET UP button
2. to change.
3. Install the correct calibration test bar or wheel for the attached sensor then press the **ZERO TARE** button.
4. Press and hold the **SETUP** key enter the code **"5333"** to begin **CCW** calibration.
5. The FULL SCALE (FS) transducer size screen will appear with the first digit blinking.
   NOTE: If this function was performed in the CW direction, the correct FS and decimal point location will match what was previously entered during CW calibration process.
6. Preload the sensor maximum rated capacity three times in the **CCW** direction. Remove the weight and wait 30 seconds.
   ➢ Press the **ENTER** key, and marching zeros "0000" should be visible on the **LCD** screen, indicating the **ZEROTARE** operation. The calibration screen will appear.
7. Attach the weights to apply a **CCW** torque equal to 10% of the rated capacity of the sensor size. The screen will show a changing number which gradually drops to near zero. Wait 30 seconds the press the **ENTER** key.
8. Attach the weights to apply a **CCW** torque equal to 70% of the rated capacity of the sensor size. The screen will show a changing number which gradually drops to near zero. Wait 30 seconds the press the **ENTER** key.
9. Remove all weights and press the **ZEROTAR**E key. The displayed value should return to zero, and will now be in the main measurement screen.
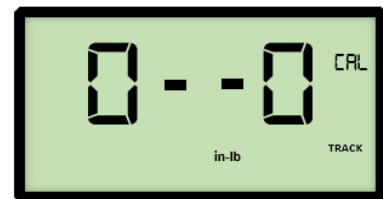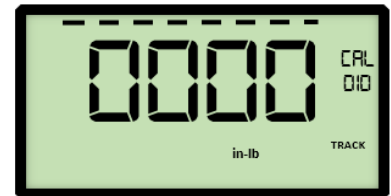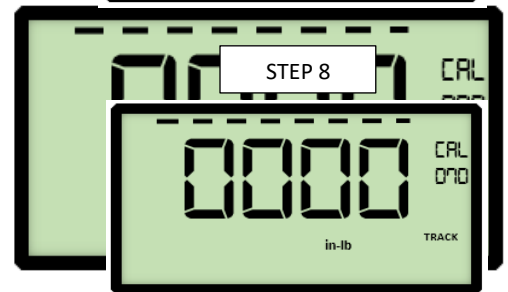
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STEP 4

STEP 5

STEP 6

STEP 7

STEP 8

STEP 12

STEP 9

Accessories

VERSATORQ®2 TORQUE AND DATA ANALYZER

NOTE: VERSATORQ®2 *INCLUDES:*

- *VERSATORQ®2 meter*
- *MINI-USB CABLE (USBATOMINIB)*
- *CARRYING CASE (PB57A)*
- *THREE AA BATTERIES (INSTALLED)*
- *Belt Clip (276-61)*
- *5/64" HEX KEY (BATTERY INSTALLATION)*

Optional Sensors

Range	Part No.	Drive	Diam.	Length	Cable
2-20 in-oz*	VERSA1S20A*	¼ in.	0.5 in	2.9 in	48 in.
1-10 in-lb*	VERSA1S10A*	¼ in.	0.7 in	2.9 in	48 in.
5-50 in-lb	VERSA1S50A	¼ in.	0.9 in	2.1 in	48 in.
20-200 in-lb	VERSA1S200A	¼ in.	0.9 in.	2.1 in.	48 in.
10-100 ft-lb	VERSA2S100A	3/8 in.	1.2 in.	2.4 in.	48 in.
25-250 ft-lb	VERSA3S250A	½ in.	1.4 in.	2.6 in.	48 in.
60-600 ft-lb	VERSA4S600A	¾ in.	2.0 in.	3.9 in.	96 in.
150-1500 ft-lb	VERSA5S1500A**	1 in.	2.4 in.	4.4 in.	92 in.***

Knurled handles allows for fingertip control. (±2% accuracy with VERSA1S10A and VERSA1S20A Sensors)
**Diameter does not include side mounted connector
***Heavy duty coiled cord with four-pin MS style connector.

VERSATORQ®2 SYSTEM

Notes

VERSATORQ®2 SYSTEM

Notes

Snap-on Tools Company

EC Declaration of Conformity

The undersigned representing the following supplier:

Snap-On Specialty Tools
19220 San Jose Ave.
City of Industry, CA 91748
USA

$C\epsilon$

Herewith declare that the Products:
Brand: Snap-on
Series: VERSATORQ2 Torque Metering & Data Aquisition System
Models: VERSATORQ2 and Associated VERSATORQ2 Sensors
                         VERSA1S10A VERSA1S200A VERSA1S20A VERSA1S50A
                         VERSA2S100A VERSA3S250A VERSA4S600A VERSA5S1500A

This declaration of conformity is issued under the sole responsibility of the manufacturer.

These products are in conformity with the provisions of the following EC directives (and their amendments) when installed in accordance with the installation instructions contained in the product documentation.

2014/30/EU	- EMC Directive
2011/65/EU	- Restriction of certain hazardous substances (RoHS)
2012/19/EU	- Waste electrical and electronic equipment (WEEE)
2014/34/EU	- Equipment for potentially explosive atmospheres

And that the standards referenced below have been applied:

EN IEC 61326-1:2021	Electrical Measurement, Control and Laboratory Equipment, EMC requirement Part 1 -General Requirement
EN 55011:2016 + A2:2021	Industrial, scientific and medical equipment. Radio-frequency disturbance characteristics. Limits and methods of measurement - Radiated Emissions
EN 61000-4-2:2009	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test
EN IEC 61000-4-3:2020	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test
EN 61000-4-8:2010	Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test
EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
EN IEC 60079-0:2018	Explosive atmospheres Equipment - General Requirements
EN 60079-11:2012	Explosive atmospheres Equipment protection by intrinsic safety "i"

Year of CE marking: 2022

Company Authorized to Compile the Technical File:
Snap-on Tools Company
2801 80th Street
Kenosha, WI 53141-1410, USA

Authorized Representative within
the European Union (EU) is:
Francesco Frezza
Snap-on Equipment
Via Prov. Carpi, 33
42015 Correggio RE
Italy

Signature: _____

Director, Engineering: Nathan Lee
Snap-on Specialty Tools
19220 San Jose Avenue
City of Industry, CA 91748
March 2022

Snap-on Tools Company
UK Declaration of Conformity

UK CA

The undersigned representing the following supplier:

Snap-on Specialty Tools
19220 San Jose Ave.
City of Industry, CA 91748
USA

Herewith declare that the Products:
Brand: Snap-on
Series: VERSATORQ2 Torque Metering & Data Aquisition System
Models: VERSATORQ2 and Associated VERSATORQ2 Sensors
                     VERSA1S10A VERSA1S200A VERSA1S20A VERSA1S50A
                     VERSA2S100A VERSA3S250A VERSA4S600A VERSA5S1500A

This declaration of conformity is issued under the sole responsibility of the manufacturer.

These products are in conformity with the provisions of the following UK Statutory Instruments (and their amendments) when installed in accordance with the installation instructions contained in the product documentation.

2016 No. 1091	The Electromagnetic Compatibility Regulations 2016
2012 No. 3032	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
2013 No. 3113	The Waste Electrical and Electronic Equipment Regulations 2013
2016 No. 1107	The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016

And that the standards referenced below have been applied:

BS EN IEC 61326-1:2021	Electrical Measurement, Control and Laboratory Equipment, EMC requirement Part 1 -General Requirement
BS EN 55011:2016 + A2:2021	Industrial, scientific and medical equipment. Radio-frequency disturbance characteristics. Limits and methods of measurement - Radiated Emissions
BS EN 61000-4-2:2009	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test
BS EN IEC 61000-4-3:2020	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test
BS EN 61000-4-8:2010	Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test
BS EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
BS EN IEC 60079-0:2018	Explosive atmospheres Equipment - General Requirements
BS EN 60079-11:2012	Explosive atmospheres Equipment protection by intrinsic safety "i"

Year of UKCA marking: 2022

Company Authorized to Compile the Technical File:
Snap-on Tools Company
2801 80th Street
Kenosha, WI 53141-1410, USA

Authorized Representative within
the United Kingdom (UK) is:
Matthew Law
Snap-on Tools LTD.
Telford Way Industrial Estate
Kettering, Northants
NN16 8SN
United Kingdom

Signature: _____

Director, Engineering: Nathan Lee
Snap-on Specialty Tools
19220 San Jose Avenue
City of Industry, CA 91748
March 2022

• CERTIFICATION

This Snap-on VERSATORQ®2 was calibrated at factory using calibrated arms and weights that are traceable to National Institute of Standards and Technology (N.I.S.T.). Testing parameters comply with ISO 6789-2003 and ASME B107-28-2010.

IMPORTANT!	Calibration events are recorded in memory which provides evidence to void factory certification of compliance.

• MAINTENANCE / SERVICE

Clean Meter by wiping with a cloth. DO NOT use solvents, thinners or carburetor cleaners.

DO NOT immerse in anything.

Service, repair and calibration are to be done by Snap-on Service Centers only. Contact your

Snap-on Tools representative.

• CALIBRATION

Contact your Snap-on sales representative for calibration services.

• ATEX/UL CERTIFICATONS

Model Number: VERSATORQ2
Serial Number: XXXXXXXXX

CE ⟨Ex⟩ **Certification Number: DEMKO 16 ATEX 1699X**
II 3G Ex ic IIA T6 Gc
-25˚C ≤ Tamb ≤ +40˚C

c(UL)us
LISTED
E484919

Telemetering Equipment for Use in Hazardous Locations
Class I, Zone 2, AEx ic IIA T6
Class I, Zone 2, Ex ic IIA T6
-25˚C ≤ Tamb ≤ +40˚C

AUTHORIZED SNAP-ON REPAIR CENTERS

USA

Eastern Repair Center
6320 Flank Drive
Harrisburg, PA 17112
Phone: 717-652-7914
Fax: 717-652-7123

Northern Repair Center
3011 E. State Rt. 176, Dock A
Crystal Lake, Il 60014
Phone: 815-479-6850
Fax: 815-479-6857

Western Repair Center
3602 Challenger Way
Carson City, NV 89706-0753
Phone: 775-883-8585
Fax: 775-883-8590

CANADA

Western Repair Centre
7403-48 Street SE
Calgary, Alberta
Canada, T2C-4H6
Phone: 403-720-0525
Fax: 403-720-0524

INTERNATIONAL

United Kingdom Repair Center
Telford Way
Telford Way Industrial Estate
Kettering, Northants
NN16 8UN England
Phone: 44-1-536-413855
Fax: 44-1-536-413900

Australia Repair Centre
Snap-on Tools Australia PTY.LTD
80 Holbeche Road
Arndell Park NSW 2148
Australia
Phone: 61-2-9837-9155
Fax: 61-2-9837-9192

Singapore Repair Center
Snap-on Tools Singapore Pte Ltd
25 Tagore Lane, #01-01,
Singapore, 787602
Phone: 65-64515570
Fax: 65-64515574

Japan Repair Center
Snap-on Tools Japan K.K.
2-1-16 Shinkiba
Koto-ku, Tokyo 136-0082
Japan
Phone: 81-3-5463-1280
Fax: 81-3-5463-1284

Snap-on/SUN De Mexico
S.A. De C.V.
Avenida Presidente Juarez No. 2016
Col Los Reyes Zona Industrial
Tlalnepantla Edo De Mexico
CP54070 MEXICO
Phone: 52-55-53903122
Fax: 52-55-53903259

China Repair Center:
Snap-on Asia Manufacturing (Kunshan) Co. Ltd.
500 Tong Feng Road East
Kunshan, Jiangsu 215300, China.
Phone: 86-51257708282 ext. 2068

Korea Repair Center:
Snap-on Tools Korea
#201-205, Sambo Techno Tower 122
Jomaru-ro 385beon-gil, Bucheon,
Gyeonggi-do
Republic of Korea 14556.
Phone: 82-323267310
Fax: 82-323267312

India Repair Center:
Snap-on Tools Private Limited
Gat No 2328, Ganga Retreat Club Road
Off Nagar Road
Wagholi, Pune - 413207
India.
Phone: +91 8956422112

IMPORTANT ENVIRONMENTAL NOTES:

1. THIS EQUIPMENT MAY CONTAIN HAZARDOUS MATERIALS WHICH CAN BE HARMFUL TO THE ENVIRONMENT.

2. DO NOT DISPOSE OF THIS EQUIPMENT AS MUNICIPAL WASTE. RETURN IT TO DISTRIBUTOR OR A DESIGNATED COLLECTION CENTER

THANK YOU FOR CARING ABOUT OUR ENVIRONMENT!

Snap-on Incorporated
Kenosha, WI 53141-1410 USA

Printed in USA

22-02

ZVERSATORQ2 REV. C