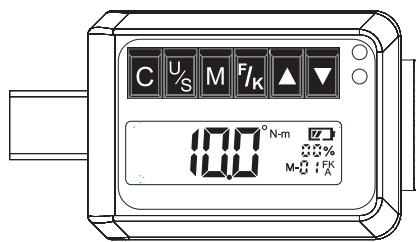




Operator's Manual

GTW - Digital Torque Adapter Series



CAUTION:

User Must Read and Understand the Operator's Manual. Save These Instructions For Future Reference.

5. Product Functions

The six keys and their symbols are as follows :



Name of keystroke	Function of keystroke
C key	Power and clear
U/S key	Unit Selection
M key	Memory Selection
F/K key	Mode Selection
▲(UP) key	Increasing number
▼(DOWN) key	Decreases number

5.1 Power and Clear

Press the C key to turn on the instrument. After the backlit LCD flashes, the display will be show 0000, and then enter the operating mode. When this product is used for the first time, it will display the product's smallest operating value after entering the operating mode. The units are preset as N-m, the memory will display the first set, the mode will be tracking mode F, the percentage position will display 0%, and the battery scale will show the voltage detected at that time (all 30 memory data sets will have the same preset value).

Turn Off : Press C key and hold 3 seconds to switch off.

Clear : Press C key to reset (when device turned on)

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5.2 Unit Switching

This product provides international standard metric units of N-m, metric units of Kg-cm, and British units of lb-in and lb-ft. The units will change each time the U/S key is pressed, in the order of N-m, Kg-cm, lb-in, and lb-ft; the preset units are N-m.

Torque unit conversion table :

	lb-in	lb-ft	Nm	Kg.cm
1 lb-in	1	0.083	0.113	1.152
1 lb-ft	12	1	1.356	13.83
1 Nm	8.851	0.737	1	10.2
1 kg.cm	0.868	0.072	0.098	1

5.3 Memory Function

All memory data sets are preset as the smallest value. To set a memory value, press the M KEY, and the digit on the far right of the M-01 display will begin to flash; use ▲ (up) or ▼ (down) to select the memory data set (up and down keys can be held down for continuous increase or decrease. Press the M Key after selected, will leave the select mode to stop flash.

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5.4 Tracking mode F / peak mode K

Tracking mode :

(preset as tracking mode at time of first use) After setting a value (assuming the value is 50N-m), the force applied by the wrench will gradually increase from 0000. When force is applied, the displayed value will change as the user applies different amounts of force; the reading will increase as force increases, and decrease as force decreases. The reading will jump to 50N-m when the user relaxes his grip and lets up.

Peak mode :

After setting a value (assuming the value is 50N-m), the force applied by the wrench will gradually increase from 0000. When force is applied, the displayed value will change as the user applies different amounts of force; the reading is the final torque value. After the display flashes 10 sec. (no actions or buttons will be effective at this time), it will automatic back to the original setting data or press the C key to return to the selected value, or apply force again and the measured torque value will rise from 0000.

5.5 Measurement range selection

Values can be freely selected as long as force is not being measured or memory selection has not been performed. After completing torque measurement in either mode, the selected value can be displayed.

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5.6 ▲ (UP) / ▼ (DOWN) selection

Pressing the ▲ (up) key once will cause the value on the far right to increase by one; pressing the key continuously will cause the value to increase continuously. Pressing the ▼ (down) key once will cause the value on the far right to decrease by one.

5.7 LED & Buzzers

The green LED will come on and there will be a beep each time a key is pressed. In the tracking mode, the two LEDs will be green and red. For example: when if the set torque value is 20N-m, the reading will begin to change from 0000 as soon as the user begins to apply force. It approach the preset value 80%, the green light will now begin to flash and the buzzer will be heard. As the applied torque approaches the preset value, the green light will flash faster, and the buzzer will buzz faster. When the applied torque reaches the preset value 100%, the green light will remain on and the buzzer will continue to sound. When the torque exceeds the preset value (101%), the red light will come on, and the buzzer will continue to sound; the buzzer sound will decrease gradually as force is relaxed.

The peak mode is the same as the tracking mode, but the LED and buzzer will stop once force is relaxed.

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Dear customer,

We appreciate your support purchasing our product –Digital Adapter. In order to learn the advantages of the product well, please kindly read the instruction carefully before you adjusting to any settings. Also please keep this manual for your reference in the future.

1. Product Overview

As a result of torque measurement and calibration requires strict certification, torque instruments must possess good temperature, precision, and resolution capabilities, and must also have the ability to correct for disturbances (ESD and EMI). And while the characteristics of peripheral components must meet specification requirements, measurement chip specifications must also meet requirements. Because of this, the simplification of peripheral passive elements can enable an instrument to accurately measure torque values, which will not only save cost, but also improve maintenance and assembly quality, and lessen the chance of damage to the used objects.

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2. Product Features

Simple multifunctional operation, vibration resistance, can preset torque value, unit switching, mode switching, memory & storage, digital up & down increments, power-saving mode, LED flashing & audible alarm, etc..

2.1 Digital torque value display.

2.2 LCD backlight display.

2.3 Can be used in both clockwise and counterclockwise directions.

2.4 Can store 30 memory values.

2.5 Power saving mode (enters power-saving mode after 2minutes).

2.6 Have buzzer and LED flashing indicators.

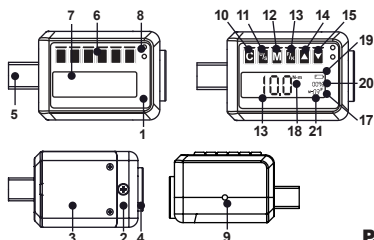
2.7 Low voltage detector (reminds user of battery life).

2.8 Four kinds of torque units, options include: N-m, Kg-cm, lb-ft, lb-in.

Accuracy:
CW±1.5% (clockwise)
CCW±2.5%(counterclockwise)

Function and Name for Each Parts

- | | |
|-----------------------------|-------------------------------|
| ① Upper Cover | ⑩ Memory select button |
| ② Lower cover | ⑪ Unit selection button |
| ③ Battery cover | ⑫ Mode selection |
| ④ Extension bar square hole | ⑬ Up button |
| ⑤ Extension bar square head | ⑭ Down button |
| ⑥ Button | ⑮ Torque value display |
| ⑦ LCD display monitor | ⑯ F/K (Follow/Peak Mode) |
| ⑧ LED | ⑰ Unit display |
| ⑨ Buzzer | ⑱ Battery display |
| ⑩ Power / clear button | ⑲ Percentage display |
| | ⑳ Memory group number display |



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3. Technical Specifications

Precision	CW±1.5% (clockwise) CCW±2.5% (counterclockwise)
Memory Capacity	30 data sets
LED	2 LED (1 Green + 1 Red)
Operating modes	Peak hold(K) / Track(F)
Units	N-m, Kg-cm, lb-ft, lb-in
Battery life	Standby mode: 1 year Continuous operation: 37 hours
Operating temperature / storage temperature	-10°C~60°C / -20°C~70°C

Humidity	Up to 90% non-condensing.
Drop test	1 meter
Shaking test	10 G
Service life test	10000 times
Environment test	Pass
ENC test	Pass

Notes : According to ISO6789 2003, a specified measuring range from 20% to 100% of the maximum torque value of the respective tool.

4. Before using the adapter

4.1 Battery installation

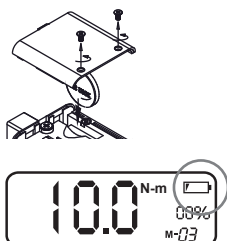
4.1.1 Open battery cover.

4.1.2 Insert battery, make sure polarity is correct.

4.1.3 Replace the battery cover.

4.2 Low voltage notification

It will display a low battery symbol in the upper right corner of the LCD display when the battery voltage drops below 2.3 volts, and it will shut off after several seconds.



P.03

5.8 LCD percentage display

The ordinary display is 0% In tracking mode, if the set torque value is 20N-m, the display will show 50% after force increases from 0N-m to 25N-m, and so on. The torque value will decrease after force has been relaxed, and the display will return to the torque setting value after force has completely relaxed.

The peak mode is the same as the tracking mode, but the displayed value will be the percentage of the final torque after force is no longer applied, the Maximum is 100%.

5.9 Low voltage display

The LCD battery display has four increments. Greater or equal to 3V is shown as completely charged; less than 2.8V is shown as 3 increments, less than 2.6V is shown as 2 increments, and less than 2.4V is shown as one increment; when there is less than 2.3V, all functions will cease, and the instrument will turn off after the LCD battery indicator flashes for 5 sec.

5.10 Reset memory function

Press and hold the C key + ▼ (down) key; after 5 sec., all values stored in memory reset to the preset factory values.



5.11 Backlight switch

Press the C key + ▲ (up) key to turn the backlight on or off; the backlight is preset as on.



5.12 Reset

In order to make accurate data, press C key each time before using the device. On state is prohibited to press C key to avoid get the error initial value.

5.13 Power saving mode

Enter power-saving mode after 2 minutes without using the device, press C key to wake up.

5.14 Overload Warning

Switch on or reset when screen continued to appear 110%, it means the device have been forced exceeds the maximum standard torque value 110%, may result in the products' damage or accuracy error.



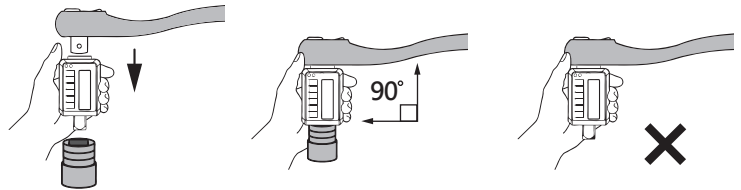
6. Maintenance and things to remembe.

 In order to maintain good accuracy, we recommend that you perform calibration around once each year.

- 6.1 Do not utilize any organic solvents to clean the product, such as: alcohol or paint thinner etc.
- 6.2 Do not place the product nearby any magnetic products.
- 6.3 Do not exert heavy force or pressure on the LCD screen.
- 6.4 Do not use the products as striking tools.
- 6.5 Do not hit the products by using hammer or other tools.
- 6.6 Exceeding the largest standard torque value may result in the products' damage or accuracy error (110%).
- 6.7 Do not use near or place in water.
- 6.8 Please wipe the product clean with a dry cloth, if the product is wet.
- 6.9 Do not place the product in the high temperature and damp environment or do not expose the product to sunlight.
- 6.10 Do not place the product in the full dust or sand environment.
- 6.11 Do not violently shake or drop the product.
- 6.12 Please take out the batteries if the product is not used a long period of time.
- 6.13 Do not throw the batteries into fire, and the batteries have to be recycled.
- 6.14 Please read carefully the operating manual, and then follow the guides of the manual, before using the digital torque adapter.
- 6.15 Off state is prohibited to use.
- 6.16 Do not use the additional tools to extend the length of the handle, such as: iron or plastic pipe.
- 6.17 Do not touch any button when torque is exerted.
- 6.18 The digital torque wrench cannot be applied to the conductive tools.

※ USAGE ■ Digital torque adapter

- Please use the correct size of wrench and socket to fit into the both ends of the digital torque adapter, and keep the wrench, digital torque adapter and socket at a mutually vertical state.
- Before using the products, please confirm the wrench, digital torque adapter and socket which is a mutually vertical state, and then you can use the wrench. Next, the torque value will display at digital torque adapter.
- If the wrench, digital torque adapter and socket are not connected or not kept at a mutually vertical state, please do not use the wrench, the situation will cause the digital torque adapter's damage.



P.S: Before completion of the boot process (see section 5.1), do not force in the torque wrench.

■ Warning note for using batteries :

1. Please take out the batteries, if the product is not used a long period of time.
2. Please prepare the more backup batteries, when the product is used in other places without electric power.
3. Do not mix old and new batteries.
4. Do not use the soiled batteries with perspiration and greasi ness.
5. Do not throw the batteries at fire, and the batteries have to be recovered.
6. The standard or rechargeable batteries can be used in our products.
7. If the LCD screen cannot display, please check whether the batteries are without electricity, or replace them.

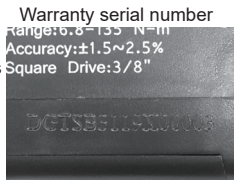
※ Product Warranty explanation

■ The standard of product warranty

We provide the complete warranty for increasing the product quality and life, as well as provide one year limited warranty with the maintenance of products.

■ Product warranty limits

During the warranty period, if the product's material or manufacturing process appears any deficiency, it affects the product function (include: Non-human factors or non-resistant external damage). We will provide the maintenance services with free or replace the qualified product (the same specification).



Please consult with the agent or the dealer in local.

■ Exclusions from warranty

If the product belongs to any of the non-normal conditions following, the product warranty will be terminated. These non-normal conditions will require that customers must pay cost in repairing or materials expenses which are formulated by the agent or the dealer in local. These non-normal conditions are displayed as below:

1. The purchased product is not from the indicated authorized distribution channels, and it cannot give the warranty proof.
2. The product serial number is changed, tore and unclear.
3. The customer does not comply with the user guides, it causes improper use to damage the product. In addition, any damage caused by natural disaster (such as: floods disaster, fires disaster, earthquakes, lightning stroke, typhoons, insect damage), human factors (surface scratching, falling, knocking, thumping and liquid infiltrating) and etc.
4. The surface scratching and abrading of any parts of products is regarded as non-warranty in normal use.
5. The faults of the product are caused by the installed, modified and added with other components without our authorization, or from the abnormality of other equipment.

6. The acceptable product exchange conditions include: "the product cannot be turned on the power", "the buttons cannot be operated", "the LCD is unable to display" and "the function of the product is unavailable". Other situations will be served as maintenance services.

7. We will provide the same specification or better products to maintain customers' products, and the defective components which are changed will belong to our company unless customers have to establish a contract for retaining these.
8. The product warranty limit excludes damages of the products' appearance and cover.
9. The product warranty limit excludes the products without the authorized distribution channels.
10. The product warranty limit excludes damages of the product transport.
11. The product warranty limit excludes the product faults caused by the abnormality of other equipment.

■ reserved rights

We will reserve the rights to changing the content of terms, we will post new terms if it has any changes, but we do not inform individual customers.