

Electric Wireless Torque Driver

User Manual

(Before using the product, please read this manual carefully)

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Foreward

Thanks for using our Electric Wireless Torque Driver.

In order to give full play to the functions of this product and use this product safely and effectively, please read this product manual before using it and observe the precautions for use.

The company is responsible for the safety, reliability and performance of the equipment within the following conditions:

1. The installation, debugging and maintenance of the equipment shall be carried out by professionals who have been approved by our company or have obtained the corresponding national qualification level.
2. The use and operation of this tool should be operated by qualified or approved personnel. The operator should have special operation and application skills and should follow the instructions of this product.
3. This equipment cannot be used in the presence of flammable anesthetic gas mixed with air or with oxygen or nitrous oxide.

The company reserves the right to modify the equipment design, product technology, accessories, product manuals and the contents of the instrument package at any time without prior notice. If there is any difference between picture and object, please refer to the object as the standard.

Notice

(The following situations are not covered by the company's warranty.)

1. Faults and damages are caused by maintenance without authorization.
2. Faults, damage, etc. caused by unauthorized modification of the company's products.
3. Except the products provided by the company, the company's products are faulty, damaged, etc. due to other company's products.
4. Except the regular parts designated by the company during maintenance and repair, faults, damage, etc. are caused by the use of other accessories, damage, etc.
5. Faults to comply with the precautions and operating methods described in this product manual may cause malfunctions, damages, etc.
6. The operational environment of the product does not meet the conditions of use described in the product manual, such as, power supply, installation environment, etc; caused by faults, damages, etc.
7. Faults and damages caused by irresistible factors such as earthquakes, floods, and lightning.
8. The user does not install and use it according to the electromagnetic compatibility information provided by the specified file.
9. Due to strong electromagnetic interference during use, portable and mobile RF communication equipment such as mobile phones and microwave ovens can affect the performance of Electric Wireless Torque Driver.

Caution:

- The equipment or system should not be used adjacent to or stacked with other equipment. If it must be used adjacent or stacked, it should be observe and verified to work properly in configuration used.
- Except transducers and cables sold by the manufacturer of the equipment or system as spare parts for internal components, use non-prescribed accessories, transducers and cables may result in increasing emissions or decreasing immunity of the equipment or system.
- The use of non-prescribed accessories, transducers or cables with equipment and systems may cause damage to the equipment or systems increasing in emissions or a decreasing in immunity.

1. Overview

Electric Wireless Torque Driver is the equipment for precise mechanical transmission, which converts electrical energy into mechanical energy, rotates and transmits through a mechanical motor, and achieves the purpose of precise torque output through micro-control. This instrument is a handheld operation all-in-one machine which adopts wireless charging technology to make the operation more convenient and quicker.

Features:

1. This product is ergonomically designed, and the body is slim and portable.
2. It can automatically stop working according to the set load, and can memorize different actions of each program.
3. The product is set with soft start and stop, which is easy to operate and can ensure accurate torque and speed output.
4. The product can input data in advance, and can also change and save according to the situation of use.
5. The built-in battery for wireless charging reduces the trouble and cost of using replacement batteries. The product also has better dust-proof, waterproof and so on. No active connector makes the energy transfer safer and more reliable when the instrument is in use.
6. The electric contra angle head can sterilized by high temperature and pressure at 135°C.

2. Range of application and contraindications

Product scope and intended use:

Electric Wireless Torque Driver use for precise control of output tools with auxiliary torque.

Do not be used together with high-frequency surgical equipment.

Use with caution in cardiac patients.

3. Technical parameter

Model: F type

Operation Mode: Intermittent Operation

Main unit

Battery voltage: 3.6Vdc

Battery capacity: 2000mAh

Net weight: about 200g

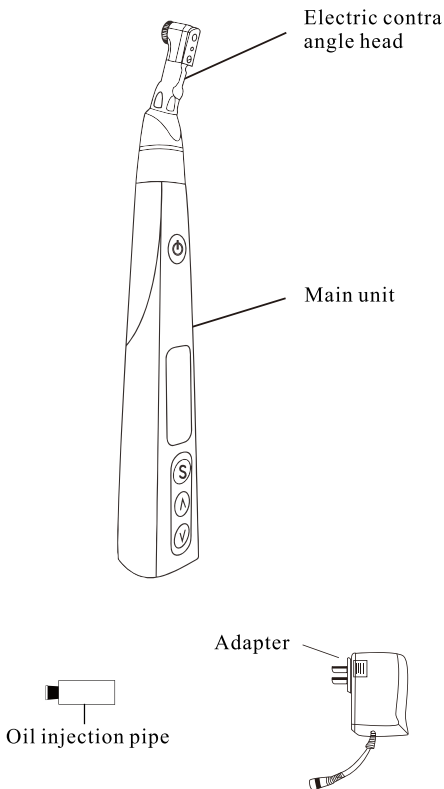
Power Adapter

Input rated voltage: AC110~220V 50/60Hz

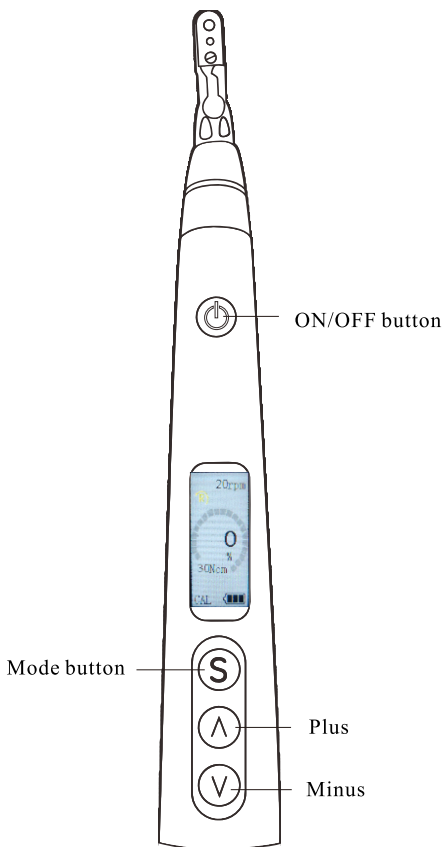
Output voltage: 5Vdc

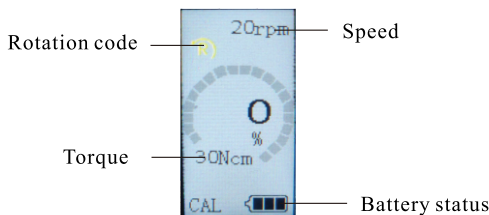
Output current: 1000mA


4. Structure



5. Operation panel introduction





 ON/OFF button: long press the ON/OFF button for more than 1 second, the unit will be turned on, and the screen starts display; then press and hold the ON/OFF button for 3 second, the unit is disconnected, and the screen display is turned off.

*Motor switch: After the unit is turned on, click the ON/OFF button, and the motor starts to work; when the ON/OFF button is clicked again, the motor stops working.

*Mode button: Press the “S” key to switch between speed and torque. The sequence : forward or reverse rotation → speed setting → torque setting, the selected setting item will flash.

*The Up and Down key: Increase or decrease the parameters of each selected item, and the current item is flashing in the screen. Click the “The Up and Down key” to change the parameters of the current project.

Detail as follow:

Speed range(rpm)	Speed ratio	Torque range(N •cm)
20-100	16:1	10~35

Power display:

The symbol of the battery level below, when the battery is charging, will be displayed cyclically.



: The battery is full or about to be full



: Remaining battery 20%–80%



: The battery power is below 20%




: The battery is low power, please charge it in time

Note: The display of the battery will change when the host is under load, because the power output is large during operation, which is a normal phenomenon.

6. Usage method

1) Charge

a. Insert the charging plug of the power adapter into the host to charge, and the battery indicator will be displayed cyclically.

b. After charging for a period of time, the screen displays “  ”, indicating that the charging has been completed.

2) Loading and unloading method of contra angle head

When connecting the contra angle head to the main machine, the positioning pin of the contra angle and the positioning groove of the main machine are aligned and inserted until a “click” sound is heard. When taking out, pull out in a parallel and straight direction.

Note:

When loading and unloading the contra angle head, the motor switch should be turned off first, and then the loading and unloading operation should be carried out after the motor stops rotating.

3) Loading and unloading method of equipment

Open the circlip (to the right), align the square handle of the equipment with the corresponding part of the shaft and insert it, and then pull the circlip to its original position. When removing the equipment, it can be removed by opening the retaining ring.

Note:

When loading and unloading tools, be sure to turn off the motor.

When installing the equipment, be sure to pull and press the equipment back and forth a few times to confirm that the equipment is really installed before using it.

Please ensure that the equipment clean. If dirt, etc. enters the inside of the elbow, it will cause the output to vibrate.

4) Operation

Press and hold the ON/OFF button to start the instrument. Then press the ON/OFF button to start working; press it again to stop operating.

5) End of use

After use, long press the ON/OFF button to turn off. Remove the contra angle head from the main unit . If you forget to turn off after use, the power will automatically turn off without any operation within 5 minutes.

When the system is shutdown, it will automatically save the content of the mode before the shutdown, and restore the content of the interface before the shutdown when the system is turned on next time.

7. Cautions

- 1) It is forbidden to use or place this product in places with strong sunshine, near the stove and other high temperature places.
- 2) Do not inject lubricating oil and sterilize at high temperature and pressure on the unit.
- 3) The instrument is not waterproof, so the main unit should be soaked in water or liquid medicine as much as possible to prevent the instrument from being damaged by heat or rust caused by short circuit, and it is also easy to cause discoloration of the instrument.
- 4) Do not drop the unit, and place the unit in a flat and stable place while charging.
- 5) Please use the special power adapter configured by our company for charging, and other power adapters are prohibited.
- 6) Please use the contra angle head provided or approved by our company, otherwise it may cause the instrument to malfunction.
- 7) This instrument will not cause electromagnetic interference to the equipment used in the same environment, nor will it be affected by the electromagnetic interference of the general use environment, but please avoid using it in a responsible electromagnetic environment with strong magnetic fields and strong electric fields.

8. Troubleshooting

If the product is found to be in abnormal operation during use, please refer to the following methods for maintenance .

Problem	No charging display
Can not turn on	No power, please charge it.
	Press the ON/OFF button in short time. Please press the ON/OFF button more than 1 second.
	Power ON/OFF button is broken.
No charging display	The power adapter is not plugged in properly. Please put out and plug the power adapter again.

If the above methods are still not working properly, please contact the dealer or our company.

9. Maintenance

- 1) If not using for a long time, when you use it, please check it works normally and safely or not.
- 2) If not using for a long time, please make sure to charge once every two months to ensure the span-life of the lithium battery.
- 3) Please clean the surface of the main unit by soft cloth with neutral detergent, and then using wet cloth to clean it.

Contra angle head: Loosen the lock ring of the curved part of the curved handpiece, take out the transmission gear, and lubricate the transmission shaft with oil.

When filling the contra angle head with oil, pull the clip spring apart. More than once a day after treatment or before autoclaving, oil lubrication with cleaning lubricant.

Note:

- 1) It is forbidden to wipe with banana oil, oil (light gasoline), etc.
- 2) Do not put the machine in the sun or near the fire, so as not to cause the battery explosion.

10. Sterilization

Please use a brush (metals are strictly prohibited) to remove the dirt attached to the surface of the contra angle head, and then wipe the main unit clean with a soft cloth dipped in alcohol for disinfection.

The method of sterilized by high temperature and pressure:

- 1) Do not exceed 135°C during autoclaving (e.g. 121°C/20 minutes or 132°C/15 minutes for autoclaving).
- 2) Please autoclave only the contra angle head. When not in use, please seal it in a sterilization bag and keep it in the clean place.

Note:

- 1) Because the bottom layer of the high-temperature sterilization rack is close to the heat source, the local temperature will be very high, so try to place the utensils on the middle or upper layer.
- 2) It is strictly forbidden to use oxidizing potential water (strongly acidic water, super acidic water) or sterilizing liquid to wash, impregnate and wipe the utensils.

11. Transportation and storage

Storage Condition: Temperature: -10°C~50°C;

Humidity: <80%;

Atmospheric pressure: 70KPa~106KPa

Environmental conditions: No sunlight, no rain, no dust, no corrosive gas, no chemical volatiles, and a well-ventilated place.

Transportation: Suitable for common mode of transportation, please handle with care.

12. Product list

Main unit	1
Base	1
Contra angle(16:1)	1
Adapter	1
Cover	1
User manual	1

13. After-sales service

Due to quality problems (except human factors), the product will be repaired free of charge within one year, and repair parts will be charged for more than one year. If the accessories provided with the product are damaged or used up, they can be purchased from the company.

Product Warranty Certificate:

Customer Information	
Name	
Phone No.	
Address	
Sales Information	
Seller	
Phone No.	
Address	
Model No.	
Invoice No.	
Purchasing Date	
Stamp by Seller	

14. Maintenance record

Send back Date	Problem	Reason	Record Date	Accendant	Remark
Solution:					

Send back Date	Problem	Reason	Record Date	Accendant	Remark
Solution:					

Send back Date	Problem	Reason	Record Date	Accendant	Remark
Solution:					

Appendix:

Electromagnetic environment – guidance

Electric Wireless Torque Driver use RF energy only for their internal function. Therefore, its RF emissions are low and may not cause any interference in nearby electronic equipment.

Electric Wireless Torque Driver suitable for use in all installations, including domestic and direct connection to the residential public low voltage supply network for domestic use.

Guidelines and manufacturer's declaration – electromagnetic immunity

Electric Wireless Torque Driver is intended to be used in the electromagnetic environment specified below, and the purchaser or user of the Electric Wireless Torque Driver should ensure that it is used in this electromagnetic environment.

Electromagnetic environment – guidance

Floors should be wood, concrete or tile, and if covered with synthetic materials, the relative humidity should be at least 30%.


Mains power should be of the quality used in a typical commercial or hospital environment.

Mains power should be of the quality used in a typical commercial or hospital environment.


Mains power should be of the quality used in a typical commercial or hospital environment. If the user of the Electric Wireless Torque Driver requires continuous operation during power outages, then use battery power.


The power frequency magnetic field shall have the characteristics of the power frequency magnetic field level of a typical location in a typical commercial or hospital environment.


Note: UT refers to the AC network voltage before applying the test voltage


Guidelines and manufacturer's declaration – electromagnetic immunity	
Electric Wireless Torque Driver is intended to be used in the electromagnetic environment specified below, and the purchaser or user of the Electric Wireless Torque Driver should ensure that it is used in this electromagnetic environment.	
Electromagnetic environment – guidance	
Portable and mobile RF communication equipment should not be used closer to any part of the Electric Wireless Torque Driver, including cables, than the recommended separation distance. This distance should be calculated by a formula corresponding to the frequency of the transmitter.	
Recommended isolation distance for this instrument: $d \approx 2.7M$ Interference may occur near equipment marked with the following symbols.	


15. Maintenance record


 -10°C~+50°C


 Atmospheric pressure for storage.

 Humidity limitation.

 Prohibited to work when the contra angle is not clamping the bur or using standard rod.

 Use oil to lubricate the contra angle.

 Do not use disinfectants containing acetone, sodium chloride, etc., and do not immerse the contra angle in the disinfectant.

 The air pressure of the dental chair should not exceed 0.25 (2.5kgf/cm²).



Cautions check the usage manual.



Date of manufacture



For door only.



Manufacturer



Follow the waster of electric and electronic equipment(WEEE) Directive(2002/96/CE) to dispose of the product and accessories.



High temperature and high pressure disinfection.



Class II equipment.



Typt B conforming component.