

SHIMANO ST**O**PS

Shimano Total Electric Power System

User's manual

E7000 Series

Original instructions



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User's manuals in other languages are available at :

http://si.shimano.com

IMPORTANT NOTICE

- Contact the place of purchase or a bicycle dealer for information on installation and adjustment of the products which are not found in the user's manual. A dealer's manual for professional and experienced bicycle mechanics is available on our website (http://si.shimano.com).
- Do not disassemble or alter this product.
- Use the product according to local laws and regulations.
- The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by SHIMANO INC. is under license. Other trademarks and trade names are those of their respective owners.

For safety, be sure to read this user's manual thoroughly before use, and follow it for correct use.

Important safety information

For replacement information, contact the place of purchase or a bicycle dealer.

Be sure to observe the following in order to avoid burns or other injury from fluid leakages, overheating, fire or explosions.

To ensure safety



DANGER

Handling the battery

- Do not deform, modify, disassemble or apply solder directly to the battery. Doing so may cause leakage, overheating, bursting, or ignition of the battery.
- Do not leave the battery near sources of heat such as heaters. Do not heat the battery or throw it into a fire.
 Doing so may cause bursting or ignition of the battery.
- Do not subject the battery to strong shocks or throw it. If this is not observed, overheating, bursting, or fire may occur.
- Do not place the battery into fresh water or sea water, and do not allow the battery terminals to get wet. Doing so may cause overheating, bursting, or ignition of the battery.

 Use the Shimano specified charger and observe the specified charging conditions when charging the specified battery. Not doing so may cause overheating, bursting, or ignition of the battery.



To ensure safe riding

- Do not give too much of your attention to the cycle computer display while riding, otherwise accidents may result.
- Check that the wheels are securely installed to the bicycle before commencing riding. If the wheels are not securely installed, the bicycle may fall over and serious injury may result.
- If riding a power-assisted bicycle, make sure that you are fully familiar with the starting-off characteristics of the bicycle before riding it on roads with several vehicle lanes and pedestrian footpaths. If the bicycle starts off suddenly, accidents may result.
- Check that the bicycle lights illuminate before riding at night.

Using the product safely

- Be sure to remove the battery and charging cable before wiring or attaching parts to the bicycle. Otherwise, an electric shock may result.
- When charging the battery while it is installed on the bicycle, do not move the bicycle. The power plug for the battery charger may come loose and not be fully inserted into the electrical outlet, resulting in risk of fire.
- Do not inadvertently touch the drive unit when it has been continuously used for a long period of time. The surface of the drive unit becomes hot and could cause burns.
- When installing this product, be sure to follow the instructions given in the user's manual. Furthermore, it is recommended that you use only genuine Shimano parts at these times. If bolts and nuts are left loosened or the product is damaged, the bicycle may suddenly fall over and serious injury may result.
- Do not disassemble the product. Disassembling it may cause injury to persons.
- After reading the user's manual carefully, keep it in a safe place for later reference.

Handling the battery

- If any liquid leaking from the battery gets into your eyes, immediately wash the affected area thoroughly with clean water such as tap water without rubbing your eyes, and seek medical advice immediately. If this is not done, the battery liquid may damage your eyes.
- Do not recharge the battery in places with high humidity or outdoors. Doing so may result in electric shock.
- Do not insert or remove the plug while it is wet. If this is not observed, electric shocks may result. If there is water leaking out of the plug, dry it thoroughly before inserting it.
- If the battery does not become fully charged even after the designated charging time, immediately unplug the battery from the outlet and contact the place of purchase. Doing so may cause overheating, bursting, or ignition of the battery.
- Do not use the battery if it has any noticeable scratches or other external damage. Doing so may cause bursting, overheating or problems with operation.
- The operating temperature ranges for the battery are given below. Do not use the battery in temperatures outside these ranges. If the battery is used or stored in temperatures outside these ranges, fire, injury or problems with operation may occur.

1. During discharge: -10°C - 50°C

2. During charging: 0°C - 40°C

Cleaning

 The frequency of maintenance will vary depending on the riding conditions. Periodically clean the chain using an appropriate chain cleaner. Do not use alkaline or acidic cleaning agents for removing rust under any circumstances. If such cleaning agents are used, they may damage the chain and serious injury may result.



To ensure safe riding

 Observe the instructions in the user's manual for the bicycle, in order to ride safely.

Using the product safely

- Periodically check the battery charger and adapter, particularly the cord, plug, and case, for any damage. If the charger or adapter is broken, do not use it until it has been repaired.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Do not allow children to play near the product.

Handling the battery

- Do not leave the battery in a place exposed to direct sunlight, inside a vehicle on a hot day, or other hot places. This may result in battery leakage.
- If any leaked fluid gets on your skin or clothes, wash it off immediately with clean water. The leaked fluid may damage your skin.
- Store the battery in a safe place out of the reach of infants and pets.

Cleaning

- If any malfunctions or other problems occur, contact the place of purchase.
- Never attempt to modify the system yourself, as it may cause problems with system operation.

NOTE

Using the product safely

- Be sure to install caps to any connectors which are not being used.
- For installation and adjustment of the product, consult a dealer.
- The Product is designed to be fully waterproof to withstand wet weather riding conditions. However, do not deliberately place them into water.
- Do not clean the bicycle in a high-pressure wash. If water gets into any of the components, operating problems or rusting may result.
- Do not turn the bicycle upside down. The cycle computer or the shifting switch may get damaged.
- Handle the product carefully, and avoid subjecting it to any strong shocks.
- Although the bicycle still functions as a normal bicycle even when the battery is removed, the light does not turn on if it is connected to the electric power system. Be aware that using the bicycle under these conditions will be considered non-observance of the road traffic laws in Germany.
- When charging the battery while it is mounted on the bicycle, be careful of the following:
 - When charging, make sure there is no water on the charging port or the charger plug.
 - Ensure that the battery is locked into the battery mount before charging.
 - Do not remove the battery from the battery mount while charging.
 - Do not ride with the charger mounted.
 - Close the charging port cap when not charging.

Handling the battery

- When you carry a power-assisted bicycle in a car, remove the battery from the bicycle and place the bicycle on a stable surface in the car.
- Before connecting the battery, make sure that there is no buildup of water or dirt in the connector where the battery will be connected.
- The use of a genuine Shimano battery is recommended. If using a battery from another manufacturer, make sure to carefully read the instruction manual for the battery before use.

Disposal information for countries outside the European Union



This symbol is only valid within the European Union. Follow local regulations when disposing of used batteries. If you are not sure, consult the place of purchase or a bicycle dealer.

Connection and communication with PC

A PC linkage device can be used to connect a PC to the bicycle (system or components), and E-TUBE PROJECT can be used to carry out tasks such as customizing single components or the whole system and updating firmware.

• PC linkage device: SM-PCE1/SM-PCE02

 \bullet E-TUBE PROJECT: PC application

• Firmware: software inside each component

Connection and communication with smartphone or tablet

It is possible to customize single components or the system, and update firmware, using E-TUBE PROJECT for smartphones/tablets after connecting the bicycle (system or components) to a smartphone or tablet via Bluetooth® LE.

• E-TUBE PROJECT: app for smartphones/tablets

• Firmware: software inside each component

Cleaning

- The number found on the battery mount key is necessary when purchasing spare keys. Keep it in a safe place.
 There is a space to enter the key number on the back cover of this user's manual. Enter the key number for safekeeping and later reference.
- Contact the place of purchase for updates of the product software. The most up-to-date information is available on the Shimano website. For details, refer to the "Connection and communication with devices." section.
- Do not use thinner or other solvents to clean any of the products. As such substances may damage the surfaces.
- You should periodically wash the chainrings in a neutral detergent. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the useful life of the chainrings and the chain.
- Use a damp cloth, with the water well wrung out, when cleaning the battery and plastic cover.
- For any questions regarding handling and maintenance, contact the place of purchase.
- Products are not guaranteed against natural wear and deterioration from normal use and aging.
- For maximum performance we highly recommend Shimano lubricants and maintenance products.

Assist

 If the settings are not correct, for instance if the chain tension is too tight, the proper assist force may not be obtained. If this happens, contact the place of purchase.

Label

 Some of the important information contained in this user's manual is also indicated on the battery charger label.

FCC compliance information

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Features of SHIMANO STEPS E7000 Series

- Hi-End MTB assistance components.
- Powerful propulsion and silent drive unit.
- Smooth and natural power assistance and riding experience.
- Support optimal suspension design afforded by compact drive unit construction. Shorter chain stay frame gives rider easier handling.
- Assist power stopped simultaneously with the stop of the rider's pedaling. Quickly re-start assistance upon pedaling again. Power assist system cooperates and harmonizes with human output.
- Superior control performance facilitates comfortable riding on mountain trails.
- Efficient pedaling even when power assist cuts off.
- Easy to operate assist switch system designed in accordance with ergonomic principles.
- Cycle computer that is compact without loss in visual clarity provides detailed traveling data by color recognition.
- Q-Factor comparable to mountain bikes reduces burden on the legs from the MTB rider's experiences.
- Optional chain device supports for rough riding conditions available.
- Large-capacity battery allows you to enjoy long rides.
- Intelligent walk assist with SEIS RD provides powerful assistance when walking the bicycle across uneven terrain such as
 rocky areas.
 - * The Walk assist mode function may not be able to be used in certain regions.



Assist mode

You can select an assist mode for each particular application.

[BOOST]	[TRAIL]	[ECO]
Steep slopes and precipitous mountain roads	Gentle ascending slopes and level ground	Long distance riding on level ground
		Level parks with signals

When the battery level is running low, the level of assistance is lowered to increase the traveling range.

[OFF]

- When you don't need power assistance.
- When you are concerned about remaining battery power.

[WALK]



This function is effective when walking the E-BIKE, taking it up a sloping road, or walking it across uneven terrain such as rocky areas.

The intelligent walk assist function activates when an electronic gear shifting system is connected. Intelligent walk assist: Generates high torque.

Quick walk assist: Starts immediately after pressing the switch.

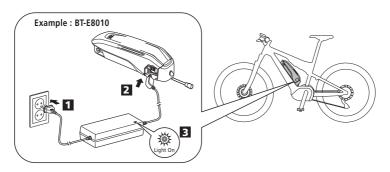
* The Walk assist mode may not be able to be used in certain regions.

Start your STEPS

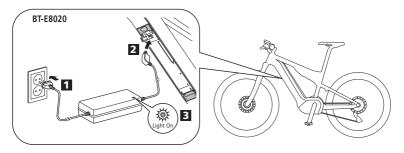
1. Charge the battery.

It is possible to charge the battety even while it is mounted on the bicycle. For detals, see "Charging the battery while installed on the bicycle."

<Down-tube mount type battery>



<Integrated battery>

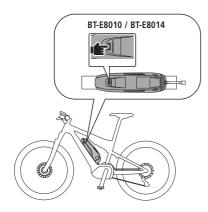


C Lights up	Charging
) Flashing	Charging error

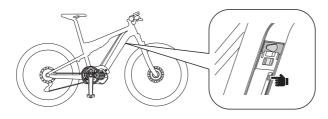
2. Turn on the power.

To turn off the power, repeat this procedure.

<Down-tube mount type battery>



<Integrated battery>



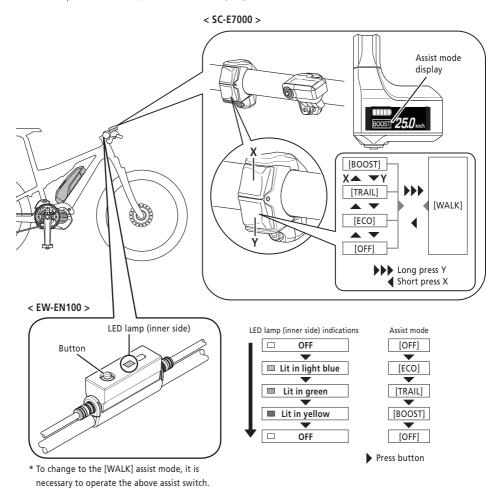
NOTE

When turning the power ON/OFF, do not place your foot on the pedal.

3. Select your preferred assist mode.

The bicycle is equipped with either SC-E7000 or EW-EN100.

* When the power is turned on, assist mode is set to [OFF].



Ride the bicycle.
 Assist will start when you start pedaling.

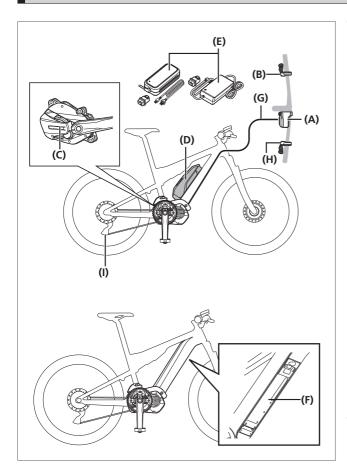


Before riding, please check the brake system of your bicycle and how to operate it beforehand.

5. Turn off the power.



Names of parts



- (A) Cycle computer/Junction [A]: SC-E7000 EW-EN100
- (B) Assist switch: SW-E7000 SW-M8050
- (C) Drive unit: DU-E7000
- (D) Battery (external type)/
 Battery mount (external type):
 BT-E8010
 BT-E8014
 BM-E8010
- (E) Battery charger: EC-E6000 EC-E6002+SM-BCC1
- (F) Battery (built-in type)/
 Battery mount (built-in type):
 BT-E8020
 BM-E8020
- (G) E-TUBE(EW-SD50)

When using electronic gear shifting

- (H) Shifting switch: SW-E7000 SW-M8050
- (I) Rear derailleur (DI2): RD-M8050

Specifications

Operating temperature range: During discharge	-10 - 50°C	Battery type	Lithium ion battery
Operating temperature range: During charging	0 - 40°C	Nominal capacity	Refer to the user's manual for the battery. For the latest information on manuals, see the website (http://si.shimano.com).
Storage temperature	-20 - 70°C	Rated voltage	36 V DC
Storage temperature (Battery)	-20 - 60°C	Drive unit type	Midship
Charging voltage	100 - 240 V AC	Motor type	Brush-less DC
Charging time	Refer to the user's manual for the battery. For the latest information on manuals, see the website (http://si.shimano.com).	Rated drive unit power	250 W

^{*} The maximum speed up to which power assistance is provided is set by the manufacturer and is conditional on where the bicycle is to be used.

Charging the battery

You cannot use the battery immediately after shipment. If the bicycle is stored for an extended period of time immediately after purchase, you will need to charge the battery before using the bicycle. Once the battery is charged, it starts to deteriorate.

The battery can be used after charging it with the designated charger.

Be sure to charge it before use. The battery can be used when the LED on it lights up.

The charging time will vary depending on the battery level and the battery charger being used. Refer to the battery charger user's manual for the designated charging time.

The use of a genuine Shimano battery is recommended. If using a battery from another manufacturer, make sure to carefully read the instruction manual for the battery before use.

Connect to E-TUBE PROJECT and click [Connection check] to confirm whether the battery in use is a genuine Shimano battery or another brand.



Use the Shimano specified charger and observe the specified charging conditions when charging the specified battery. Not doing so
may cause overheating, bursting, or ignition of the battery.

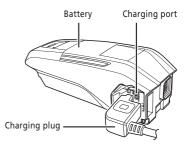
A CAUTION

- When removing the battery charger power plug from the outlet or the charging plug from the battery, do not pull it out by the cord.
- When charging the battery while it is mounted on the bicycle, be careful not to trip over the charger cord or get anything caught on it. This may lead to injury or cause the bicycle to fall over, damaging the components.

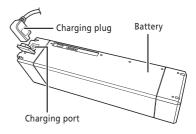
When charging the battery alone

- **1.** Connect the battery charger's power plug to the outlet.
- **2.** Insert the charging plug into the battery's charging port.
 - Charge the battery on a flat surface indoors.

BT-E8010/BT-E8014

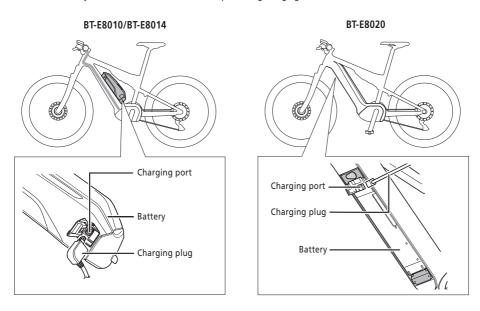


BT-E8020



Charging the battery while installed onto the bicycle

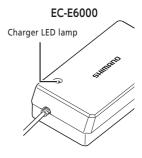
- 1. Insert the battery charger power plug into the outlet.
- **2.** Insert the charging plug into the charging port on the battery mount or the battery.
 - * Place the battery charger main body on a steady surface such as the floor before charging.
 - * Stabilize the bicycle to ensure that it does not collapse during charging.

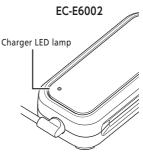


■ About the charger LED lamp

After charging has started, the LED lamp on the charger lights up.

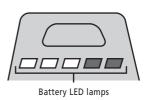
O Lit up	Charging
Blinking	Charging error
• Turned off	Battery disconnected





■ About the battery LED lamps

You can check the current charging status on the LED lamp on the battery.



Charging-in-progress indication

Battery level indication*1	Battery level
	0% - 20%
	21% - 40%
	41% - 60%
	61% - 80%
	81% - 99%
	100%

*1 III : No light III : Lit up III : Blinking

Battery level indication

The current battery level can be checked by pressing the battery's power button.

Battery level indication*1	Battery level
	100% - 81%
	80% - 61%
	60% - 41%
	40% - 21%
	20% - 1%
	0% (When battery is not installed on bicycle)
	0%, Power off / Shutdown (When battery is installed on bicycle)

*1 III : No light III : Lit up III : Blinking

NOTE

When remaining battery capacity is low, system functions begin to shut off in the following order.

- 1. Power assistance (Assist mode automatically switches to [ECO] and then assistance shuts off. The switch to [ECO] occurs earlier if a battery-powered light is connected.)
- 2. Gear shifting
- 3. Light

■ Handling and charging the battery

Charging can be carried out at any time regardless of the amount of charge remaining, but you should fully charge the battery at the following times. Be sure to use the dedicated charger when recharging the battery at these times.

• The battery is not fully charged at the time of purchase. Before riding, be sure to charge the battery until it is fully charged.

If the battery has become fully spent, charge it as soon as possible. If you leave the battery without charging it, it will cause the battery to deteriorate.

• If the bicycle will not be ridden for a long period of time, store it away with approximately 70% battery capacity remaining. In addition, take care not to let the battery become completely empty by charging it every 6 months.

■ Installing / removing the battery

Installation of the battery



CAUTION

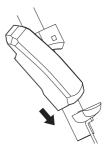
- Hold the battery firmly and be careful to prevent dropping when installing. The battery may fall out while riding if not properly locked in place.
- Pay attention to the following to prevent the battery from falling while riding the bicycle.
 - Make sure the battery is locked securely on the battery mount.
 - Do not ride the bicycle with the key inserted.

NOTE

Before riding, make sure that the charging port cap is closed.

BT-F8010/BT-F8014

- 1. Insert the battery from bottom side.
 - Align the indentation in the bottom of the battery with the protrusion on the battery mount.



- 2. Slide the battery.
 - Push in the battery until there is a click.
- 3. Remove the key.
 - Return the key to the locked position and then remove the key.



BT-E8020

This procedure is an example using a frame whose battery is removed/installed from below.

- 1. Insert the battery from bottom side.
- 2. Slide the battery.
 - Push in the battery until there is a click.



Removing



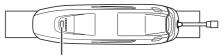
A CAUTION

• Hold the battery firmly and be careful to prevent dropping when removing or carrying it.

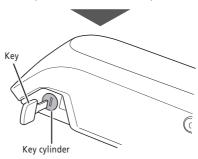
BT-E8010/BT-E8014

1. Insert the Key.

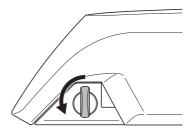
Turn off the power, then insert the key into the key cylinder in the battery mount.



Push power button to turn off the power.

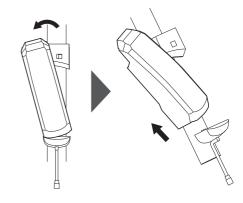


2. Turn the key until you feel some resistance.



3. Remove the battery

- Slide the battery, then remove it carefully.
- You can remove the battery only when the key is in the unlocked position.

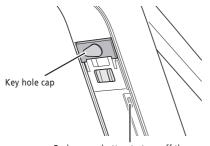


BT-E8020

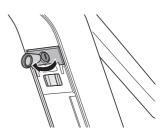
- This procedure is an example using a frame whose battery is removed/installed from below.
- If using a battery cover manufactured by another company, remove the battery cover before removing the battery.

1. Open the keyhole cap.

Turn off the power, then open the keyhole cap.



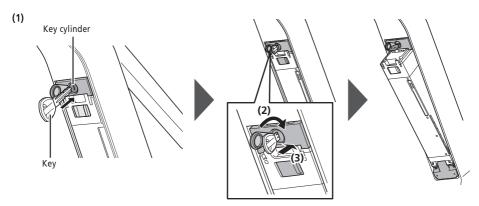
Push power button to turn off the power.



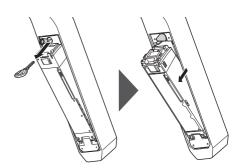
2. Unlock the battery.

- (1) Insert the key into the key cylinder in the battery mount.
- (2) Turn the key.
- (3) Push the key in.

The battery is unlocked. The plate spring holds the battery in place, preventing it from falling out.



- 3. Remove the battery.
 - (1) Remove the key, then close the keyhole cap.
 - (2) Remove the battery carefully.



NOTE

Do not install or remove the battery with the key left inserted on the battery mount or the keyhole cap left open. The battery may be damaged by coming into contact with the handle of the key or the keyhole cap.

Operation

■ Turning the power ON / OFF

- The power cannot be turned on while charging.
- If the bicycle has not moved for over 10 minutes, the power will automatically turn off (automatic power off function).

NOTE

Do not place your foot on the pedals when turning ON/OFF. This may cause a system error.

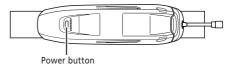
It is possible to forcibly power off BT-E8010/BT-E8020 by holding down the power button for 6 seconds.

 Press the power button on the battery. The LED lamps will light up indicating remaining battery capacity.

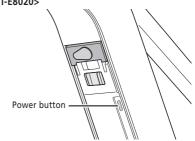
NOTE

When turning on the power, check that the battery is firmly attached to the battery mount.

<BT-E8010/BT-E8014>



<BT-E8020>



Display when Power is ON

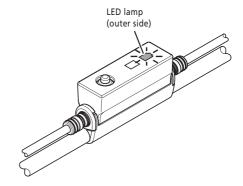
SC-E7000

This screen appears when the power is turned ON.



EW-EN100

The LED lamp (outer side) turns ON.



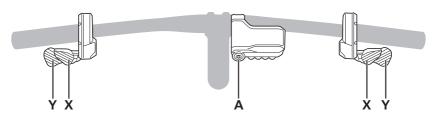
■ Basic operation

This section describes how to use the cycle computer and switch units.

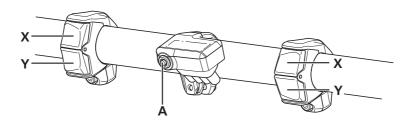
• The functions assigned to switches when riding can be changed from those described here. For details, please contact your place of purchase or a local bicycle dealer for assistance.

Cycle computer and switch units

SC-E7000/SW-M8050



SC-E7000/SW-E7000



Left switch (default: for assistance)		Right switch (default: for electronic shifting)	
Х	At riding: increase assistance. At setting: move the setting menu cursor, adjust settings,etc.	х	At riding: shift gears to increase pedal resistance.
Υ	At riding: decrease assistance. At setting: move the setting menu cursor, adjust settings,etc.	Υ	At riding: shift gears to decrease pedal resistance.

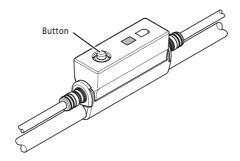
	Cycle computer (SC-E7000)
Λ.	At riding: change the travel data display on the cycle computer.
A	At setting: switch between the screens, confirm settings.

NOTE
When the bicycle uses a rear derailleur, be sure to shift gears while pedaling.

Junction [A] (EW-EN100)

EW-EN100 is used instead of cycle computer.

It is attached to the brake outer casing or brake hose and located near the handle bar.



Junction [A]		
Button	Press: change the assist mode each time you press it. Press and hold (about 2 seconds): turn the light ON/OFF	

NOTE

- To change to walk assist mode, a switch unit is required.
- The button does not recommend operating this unit while riding the bicycle. Please select your preffered assist mode before riding.
- For other functions assigned to the button, see "Setting (EW-EN100)."

■ Cycle computer basic screen

SC-E7000

Displays the status of the power assisted bicycle, traveling data.

(A) Battery level indicator

Displays the current battery level.

(B) Gear position (Only displays when electronic gear shifting is in use)

Displays the currently set gear position.

(C) Assist mode display

Displays the current assist mode. (Assist mode automatically switches to [ECO] as remaining battery capacity declines. The switch to [ECO] occurs earlier if a battery - powered light is connected.)

(D) Current speed

Displays the current speed.

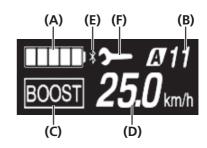
The display can be switched between [km/h] and [mph].

(E) Bluetooth display

Displayed when connected over Bluetooth.

(F) Maintenance alert

Indicates that maintenance is required. Contact your place of purchase or a bicycle dealer if this icon is displayed.

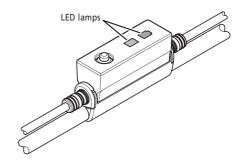


EW-EN100

LED lamps indicate the following status.

- Current battery level
- Current assist mode

For details, see "Battery level indicator" and "Changing the assist mode".



Battery level indicator

You can check the battery level on the cycle computer while riding.

SC-E7000

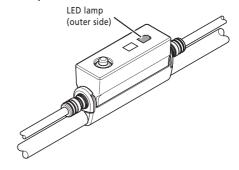
Display	Battery level
	81 - 100%
	61 - 80%
	41 - 60%
	21 - 40%
	1 - 20%*
	0%

^{*} The battery level indicator blinks when remaining battery capacity is low.

EW-EN100

While power is turned on, the LED lamp (outer side) indicates the battery level.

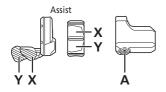
LED lamp (outer side) indication	Battery level
□ (Lit in green)	100 to 21%
(Lit in red)	20% or less
· j (blink in red)	Only a few left



■ Changing assist mode

SC-E7000

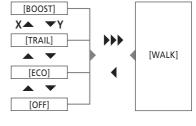
Press Assist-X or Assist-Y to switch assist modes.



BOOST) **25.0** km/h

[BOOST]: Assist boost [TRAIL]: Assist trail [ECO]: Assist eco [OFF]: Assist off [WALK]: Walk assist

* If there is no assist switch, you can also hold down A to switch to assist mode. However, it cannot be switched to [WALK] mode.

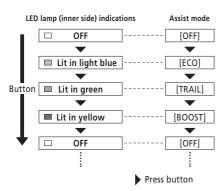


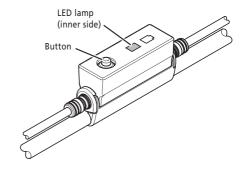
Long press Y
Short press X

EW-EN100

1. Press button.

Assist mode is changed each time you press it. The LED lamp (inner side) indicates current assist mode.



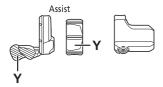


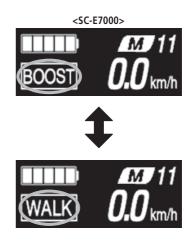
Switching to [WALK] mode (walk assist mode)

- The use of the walk assist mode function is prohibited by law in some regions.
- The walk assist function operates at a maximum of 6 km/h. During electronic gear shifting, the assist level and speed are controlled by the gear position.
- If Assist-Y is not pressed for at least one minute, the system will restart in the mode that was set prior to setting [WALK] mode.
- The intelligent walk assist function activates when an electric shifting system such as XTR, DEORE XT SEIS is connected. The system provides assistance according to the detected gear position.
 - "Intelligent walk assist" support rider more torque output in steep climb condition in lower side gears.
 - "Quick walk assist" function works quickly by holding down SW from any mode.

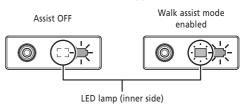
Switching to walk assist mode

- Hold down Assist-Y until it reaches the following state.
 - SC-E7000: The assist mode shown on the display switches to [WALK].
 - EW-EN100: The LED (inner side) lights up blue.





<EW-EN100>



NOTE

If it is impossible to switch to [WALK] mode for any reason (such as the speed not being [0 km/h] or there being pressure applied to the pedals), a warning sound will be played when switching.

Walk assist mode operation

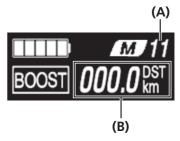
- **1.** Continue to press Assist-Y while in walk assist mode.
 - Walk assist will function only while Assist-Y is pressed.
 - If a switch unit is connected to EW-EN100, the LED (inner side) will flash blue when walk assist starts.
- 2. To cancel [WALK] mode, release Assist-Y and Assist-X.
 - When [WALK] mode is canceled, the mode active before [WALK] mode was set, is re-activated.





■ Current gear and traveling data display (SC-E7000)

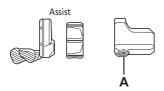
- **(A)** Gear position (Only displays when electronic gear shifting is in use)
- (B) Traveling data display

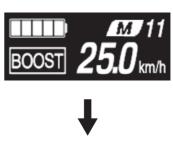


■ Switching between displayed traveling data

The type of traveling data displayed changes each time you press A.

• Holding down A when DST is displayed clears all traveling data.







Display item	Description
[DST]	Traveling distance
[ODO]	Cumulative distance
[RNG]	Travelable distance *1*3
[TME]	Travelable time *2
[AVG]	Average speed *2
[MAX]	Maximum speed *2
[CAD]	Your crank rotation speed *2
[CLK]	Current time *2

[DST]	•	[CLK]
•		_
[ODO]		[CAD]
_		_
[RNG]		[MAX]
•		_
[TME]		[AVG]

- *1 When [RNG] is displayed, the battery level is not displayed. The traveling range should be used as a reference only.
- *2 Optional item: You can configure the display settings in E-TUBE PROJECT. For details, refer to the "Connection and communication with devices." section.
- *3 When walk assistance is functioning, the on screen display [RNG] changes to [RNG ---].

NOTE

When traveling data is displayed, the screen returns to speed display after 60 seconds.

When speed data is displayed, pressing A changes the traveling data displayed starting with [DST].

Clearing the traveling distance

You can clear the traveling distance in the main screen. When the traveling distance is cleared, [TME], [AVG] and [MAX] are also cleared.

- Change the traveling data display to [DST] and press A for 2 seconds.
- **2.** Release the finger when the [DST] indication starts blinking.

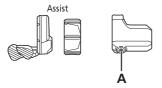
In this state, pressing **A** again clears the traveling distance.

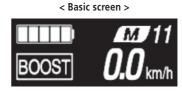
 The [DST] indicator light stops blinking and the screen takes you back to the basic screen after leaving it alone for 5 seconds.

About the setting menus

■ Accessing the setting menu

- 1. Stop your bicycle.
- 2. Hold down A to display the menu list screen.



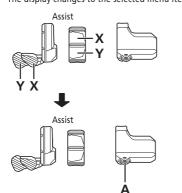


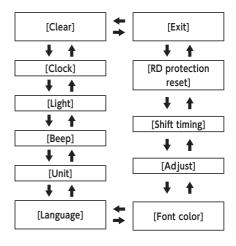
< Setting menu screen >



- 3. Select a menu item.
 - (1) Press Assist-X or Assist-Y to move the cursor on setting menu.
 - (2) Press A.

 The display changes to the selected menu item.





	Configurable items	Details			
_	[Clear]	Clear settings			
Τ	[Clock]	Clock setting			
ı	[Light]	Turning the light on/off			
X	[Beep]	Turning the beep noise on/off			
	[Unit]	Switching between km and miles			
	[Language]	Language setting	Į	,	
	[Font color]	Font color setting	ľ		
	[Shift timing]*1	Adjusting the electronic gear shifting unit			
	[RD protection reset]*2	Activating RD Protection Reset		*	† 1 No † 2 Or
	[Exit]	Return to the main screen	4		ur

* 1 Not used.

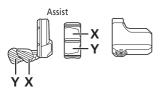
* 2 Only if rear derailleur is a electronic gear shifting

■ Clear

Reset the traveling distance to default.

When the traveling distance is cleared, [TME], [AVG] and [MAX] are also cleared.

- 1. Enter the [Clear] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [Clear], then press A.
- 2. Press Assist-X or Assist-Y to select [DST].



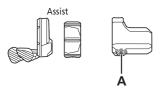
	Clear
Exit	
DST	000.0 km

Configurable items	Details
[Exit]	Return to the menu list screen
[DST]	Clearing the traveling distance

3. Press A to confirm.

After resetting, the screen will automatically return to the menu list screen.

• When the traveling distance is cleared, [TME], [AVG] and [MAX] are also cleared.



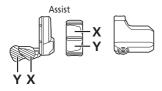


■ Clock

Configure the "Clock" setting. First set the "hour" and then set the "minute."

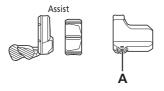
In step 2 and 4 in below procedure, you can change the values quickly by holding down Assist-X or Assist-Y.

- 1. Enter the [Clock] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [Clock], then press $_{\Delta}$
- 2. Press Assist-X or Assist-Y to adjust the time.
 - Press Assist-X to increase the numbers.
 - Press Assist-Y to decrease the numbers.

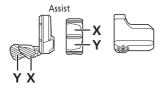




3. Pressing A enables the set value and moves you to the minutes setting.



- 4. Press Assist-X or Assist-Y to set the minutes.
 - Press Assist-X to increase the value.
 - Press Assist-Y to decrease the value.

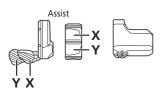


- **5.** Press A to confirm the setting.
 - After confirmation, the screen will automatically return to the menu list screen.

■ Light

Configure the battery-powered light setting.

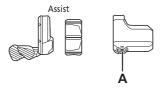
- 1. Enter the [Light] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [Light], then press A.
- 2. Press Assist-X or Assist-Y to select the required setting.



Configurable items	Details	
[ON]	Keep light always on	
[OFF]	Keep light always off	



• After confirmation, the screen will automatically return to the menu list screen.

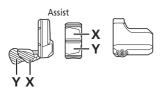




■ Beep

The beep noise can be turned on/off. Even if [Beep] is set to [OFF], a beep will sound when there is a misoperation, system error, etc.

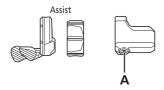
- 1. Enter the [Beep] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [Beep], then press A.
- 2. Press Assist-X or Assist-Y to select the required setting.



Configurable items	Details
[ON]	Enable beeps
[OFF]	Disable beeps



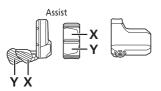
- **3.** Press A to confirm the setting.
 - After confirmation, the screen will automatically return to the menu list screen.



■ Unit

Distance units (km/miles) can be switched.

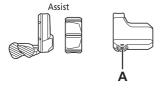
- 1. Enter the [Unit] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [Unit], then press A.
- 2. Press Assist-X or Assist-Y to select the required setting.



Configurable items	Details	
[km]	Displayed in km	
[mile]	Displayed in miles	



• After confirmation, the screen will automatically return to the menu list screen.

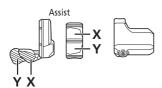




■ Language

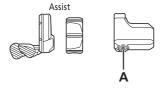
Configure the language setting.

- 1. Enter the [Language] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [Language], then press A.
- 2. Press Assist-X or Assist-Y to select the required setting.



Configurable items		
[English]		
[Français]		
[Deutsch]		
[Nederlands]		
[Italiano]		
[Español]		

- **3.** Press A to confirm the setting.
 - After confirmation, the screen will automatically return to the menu list screen.

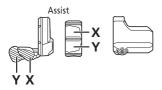




■ Font color

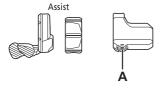
The font color can be changed.

- 1. Enter the [Font color] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [Font color], then press A.
- 2. Press Assist-X or Assist-Y to select the required setting.



Configurable items		
[White]		
[Black]		

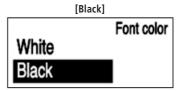
- 3. Press A to confirm the setting.
 - After confirmation, the screen will automatically return to the menu list screen.



■ Adjust

You can adjust gear shifting only when using an electronic gear shifting unit. If you need to adjust the derailleur, contact the place of purchase.

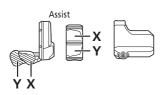




■ RD protection reset

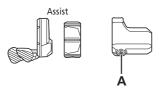
In order to protect the system from falls etc., if the bicycle is subjected to a strong impact, the RD Protection function will operate and the connection between the motor and the link will be momentarily severed so that the rear derailleur can no longer operate. Executing RD Protection Reset restores the connection between the motor and the link, as well as the function of the rear derailleur.

- 1. Enter the [RD protection reset] menu.
 - (1) Launch the setting menu.
 - (2) Press Assist-X or Assist-Y to select [RD protection reset], then press A.
- 2. Press Assist-X or Assist-Y to select the required setting.



Configurable items	Details	
[ОК]	RD Protection Reset will operate	
[Cancel]	To not execute RD Protection Reset, select [Cancel]	

3. Press A to confirm the setting.



4. Rotate the crankarm.

Connection of motor and the link is restored.

■ Fxit

Returns to the basic screen.

- **1.** Confirm that the menu list screen is displayed.
- 2. Press Assist-X or Assist-Y to select [Exit], then press A.
 - * The screen returns to the basic screen.





Settings (EW-EN100)

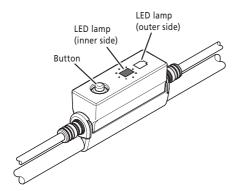
The setting function can not be used while riding the bicycle.

■ RD protection reset

In order to protect the system from falls etc., if the bicycle is subjected to a strong impact, the "RD Protection function" is enabled. The connection between the motor and the link will be momentarily severed so that the rear derailleur can no longer operate.

Executing "RD Protection Reset" restores the connection between the motor and the link, as well as the function of the rear derailleur.

 Press and hold the button (about 8 second) until the LED lamps respond as shown in the table on the right.



[RD protection reset]			
LED lamp (inner side) LED lamp (outer side)			
: Blinks in red	□ OFF		

2. Rotate the crankarm.

Connection of motor and the link is restored.

■ Adjust

You can adjust gear shifting only when using an electronic gear shifting unit.

If you need to adjust the derailleur, contact the place of purchase.

Connection and communication with devices

The system can be configured and firmware can be updated when the bicycle is connected to a device.

You need E-TUBE PROJECT to configure SHIMANO STEPS and update firmware.

Download E-TUBE PROJECT from the support website (http://e-tubeproject.shimano.com).

For information on how to install E-TUBE PROJECT, check the support website.

NOTE

- SM-PCE1/PCE02 is needed to connect SHIMANO STEPS E7000 Series to a PC. SM-JC40/JC41 will be needed in the following situations.
 - There are no free E-TUBE ports on the cycle computer (for example, if using an electronic gear shifter)
- Firmware is subject to change without notice. If necessary, contact the place of purchase.
- Connecting to devices is not possible while charging.

■ About wireless functions

Functions

The latest functions can be checked by updating the software via E-TUBE PROJECT. For details, consult the place of purchase.

ANT connection

The wireless unit can send all information that can be displayed on the basic screen of the cycle computer to an external device.

Bluetooth® LE connection

E-TUBE PROJECT for smartphones/tablets may be used if a Bluetooth® LE connection is established with a smartphone/ tablet. A special connectivity app can be used to check traveling data on a smartphone connected over Bluetooth® LE, even when using EW-EN100.

How to make connections

To connect an external device wirelessly to SC-E7000 or EW-EN100, the device needs to be in connection mode. For information on how to set external devices to connection mode, refer to the user's manual for the external device.

ANT connection

When SHIMANO STEPS turns on, communication can be received. Switch the external device to connection mode and then connect it.

Bluetooth® LE connection

Communication can only be received under the following conditions. Be sure to switch the external device to connection mode ahead of time.

- Within 15 seconds of SHIMANO STEPS turning ON
- Within 15 seconds of operating any button other than the SHIMANO STEPS power switch

2.4 GHz digital wireless system

2.4 GHz-frequency digital wireless technology, which is the same technology used for wireless LAN.

However, on very rare occasions, objects and places may generate strong electromagnetic, waves and interference, which

However, on very rare occasions, objects and places may generate strong electromagnetic, waves and interference, which may result in incorrect measurement.

- Television, PC, radios, motors/engines, or in car and trains.
- Railroad crossings and near railway tracks, around television transmitting stations and radar bases.
- Other wireless computers or digitally controlled light.

Specifications for wireless system

Model no.	lodel no. SC-E7000	
Frequency band	2402 - 2480 MHz	2402 - 2480 MHz
Maximum radio-frequency power	+4 dBm	+4 dBm
Firmware version	4.0.0	4.0.0

Troubleshooting

■ Battery LED lamp error indications

System errors and similar warnings are indicated by the battery LED lamps through various lighting patterns.

Error indication type	Indication condition	Lighting pattern *1	Recovery
System error	Communication error with the bicycle system		Make sure that the cable is not loose or improperly connected. If the situation does not improve, contact the place of purchase.
Temperature protection	If the temperature exceeds the guaranteed operating range, the battery output is turned off.		Leave the battery in a cool place away from direct sunlight until the internal temperature of the battery decreases sufficiently. If the situation does not improve, contact the place of purchase.
Security authentication error	This is displayed if a genuine drive unit is not connected. This is displayed if any of the cables are disconnected.		Connect a genuine battery and drive unit. Check the condition of the cables. If the situation does not improve, contact the place of purchase.
Charging error	This is displayed if an error occurs during charging.		Remove the charger from the battery and press the power button. If an error appears contact an agency.
Battery malfunction	Electrical failure inside the battery	# #	Connect the charger to the battery and then remove the charger. Press the power button with only the battery connected. If an error appears with only the battery connected, contact the place of purchase.

*1 III : No light III : Lighting up iii : Blinking

■ Error messages on the cycle computer

Warnings

This disappears if the error is fixed.



List of warnings

Code	Display preconditions	Operational restrictions while warning is displayed	Remedy
W010	Temperature of the drive unit is higher than it is during times of normal operation.	Power assistance may be lower than usual.	Stop using the assist function until the temperature of the drive unit drops. If the situation does not improve, contact the place of purchase.
W011	The traveling speed cannot be detected.	The maximum speed up to which power assistance is provided may be lower than usual.	Check that the speed sensor is properly installed. If the situation does not improve, contact the place of purchase.
W013	Initialization of torque sensor was not completed successfully.	Power assistance may be lower than usual.	With your foot off the pedal, press the battery power button and turn on the power again. If the situation does not improve, contact the place of purchase.
W032	An electronic derailleur may have been installed in place of a mechanical derailleur.	Power assistance provided in [WALK] mode may be lower than usual. * The Walk assist mode function may not be able to be used in certain regions.	Reinstall the derailleur for which the system is configured to support. If the situation does not improve, contact the place of purchase.

Errors

If an error message is displayed on the entire screen, follow one of the procedures below to reset the display.

- Press the power button of the battery.
- Remove the battery from the holder.

NOTE

If resetting the battery power does not solve the problem or the same problem occurs frequently, contact the place of purchase.



List of errors

Code	Display preconditions	Operational restriction when an error is being displayed	Remedy
E010	A system error was detected.	Power assistance is not provided during riding.	Press the power button of the battery to turn it on again. If the situation does not improve, contact the place of purchase.
E013	An anomaly was detected in the drive unit's firmware.	Power assistance is not provided during riding.	Contact the place of purchase or bicycle dealer.
E014	The speed sensor may have been installed in the wrong position.	Power assistance is not provided during riding.	Contact the place of purchase or bicycle dealer.
E020	A communication error between the battery and drive unit was detected.	Power assistance is not provided during riding.	Check that the cable between the drive unit and battery is properly connected. If the situation does not improve, contact the place of purchase.
E021	Battery connected to drive unit conforms with system standards but is not supported.	Power assistance is not provided during riding.	Press the power button of the battery to turn it on again. If the situation does not improve, contact the place of purchase.
E022	Battery connected to drive unit does not conform with system standards.	All system functions shutdown.	Press the power button of the battery to turn it on again. If the situation does not improve, contact the place of purchase.
E033	The current firmware doesn't support system operation.	Power assistance is not provided during riding.	Connect to E-TUBE PROJECT and update firmware for all unit.

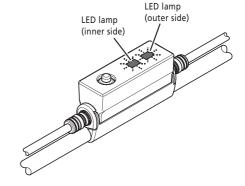
Code	Display preconditions	Operational restriction when an error is being displayed	Remedy
E043	Part of the cycle computer's firmware may be damaged.	Power assistance is not provided during riding.	Contact the place of purchase or bicycle dealer.

Error indications (EW-EN100)

If an error occurs, both LEDs of the EW-EN100 blink rapidly at the same time as shown below.

Inner side Outer side Blinks fast in red

If the above occurs, immediately turn off the power then consult the place of purchase or a bicycle dealer.



■ Troubleshooting

Assist function

Symptom	Cause / Possibility	Remedy
Assistance is not being provided.	Is the battery sufficiently charged?	Check the battery charge. If the battery is nearly spent, recharge it.
	Are you riding on long slopes in summer weather or riding for a long time carrying a heavy load? The battery may be overheating.	Turn off the power, wait for a while and then check once more.
	The drive unit (DU-E7000), cycle computer (SC-E7000) or assist switch (SW-E7000-L) may be connected incorrectly or there may be a problem with one or more of them.	Contact the place of purchase.
	Is the speed too high?	Check the cycle computer display. Assistance is not provided at speeds set by the manufacturer or more.
	Are you pedaling?	The bicycle is not a motorbike, so you need to operate the pedals.
Assistance is not being provided.	Is the assist mode set to [OFF]?	Set assist mode to a mode other than [OFF]. If you still do not feel that assistance is being given, contact the place of purchase.
	Is the system power ON?	Press the battery power button to turn the power ON. If the power does not turn ON or there is no assist feeling when the power is ON, contact the place of purchase.
Assist traveling distance is too short.	The traveling distance may become shorter depending on road conditions, the gear position and total light usage time.	Check the battery charge. If the battery is nearly spent, recharge it.
	The battery characteristics will drop during winter weather.	This is not a sign of a problem.
	The battery is a consumable part. Repeated recharging and long periods of use will cause the battery to deteriorate (lose its performance).	If the distance that can be traveled on a single charge is very short, replace the battery with a new one.
	Is the battery fully charged?	If the distance that can be traveled when the battery is fully charged has decreased, the battery may have degraded. Replace the battery with a new one.

Symptom	Cause / Possibility	Remedy
Pedaling is stiff.	Are the tires inflated to a sufficient pressure?	Use a pump to add air.
	Is the assist mode set to [OFF]?	Set the assist mode to [BOOST]. If you still do not feel that assistance is being given, contact the place of purchase.
	The battery may be running low.	After charging the battery well, check the level of assistance again. If you still do not feel that assistance is being given, contact the place of purchase.
	Did you turn on the power with your foot placed on the pedal?	Turn on the power again without putting pressure on the pedal. If you still do not feel that assistance is being given, contact the place of purchase.

Battery

Symptom	Cause / Possibility	Remedy
The battery quickly loses its charge.	The battery may be at the end of its service life.	Replace the battery with a new one.
The battery cannot be recharged.	Is the power plug of the charger securely inserted into the electrical outlet?	Disconnect and then reconnect the power plug of the charger, and then repeat the recharging operation. If the battery still cannot be recharged, contact the place of purchase.
	Is the charging plug of the charger securely inserted into the battery?	Disconnect and then reconnect the charging plug of the charger, and then repeat the recharging operation. If the battery still cannot be recharged, contact the place of purchase.
	Is the charging adapter securely connected to the charging plug, or to the battery charging port?	Securely connect the charging adapter to the charging plug or to the battery charging port, and charge again. If the battery still does not charge, consult a dealer.
	Is the connecting terminal for the battery charger, charging adapter, or battery dirty?	Wipe the connection terminals with a dry cloth to clean them, and then repeat the recharging operation. If the battery still cannot be recharged, contact the place of purchase.
The battery does not start recharging when the charger is connected.	The battery may be at the end of its service life.	Replace the battery with a new one.
The battery and charger are becoming hot.	The temperature of the battery or charger may have exceeded the operating temperature range.	Stop recharging, wait for a while and then recharge again. If the battery is too hot to touch, it may indicate a problem with the battery. Contact the place of purchase.
The charger is warm.	If the charger is being used continuously to charge batteries, it may become warm.	Wait a while before using the charger again.

Symptom	Cause / Possibility	Remedy
	Is the charging plug of the charger securely inserted into the battery?	Check the connection for any foreign objects before reinserting the charging plug. If there is no change, contact the place of purchase.
The LED on the charger does not illuminate.	Is the battery fully charged?	If the battery is fully charged, the LED on the battery charger turns off, but this is not a malfunction. Disconnect and then reconnect the power plug of the charger, and then repeat the recharging operation. If the LED on the charger still does not illuminate, contact the place of purchase.
The battery cannot be removed.		Contact the place of purchase.
The battery cannot be inserted.		Contact the place of purchase.
Fluid is coming out from the battery.		Contact the place of purchase.
An abnormal odor can be detected.		Stop using the battery immediately and contact the place of purchase.
Smoke is coming out from the battery.		Stop using the battery immediately and contact the place of purchase.

Lights

Symptom	Cause / Possibility	Remedy
The front light or the tail		
light does not illuminate	The E-TUBE PROJECT settings may be	Contact the place of purchase.
even when the switch is	wrong.	Contact the place of purchase.
pressed.		

Cycle computer

Symptom	Cause / Possibility	Remedy
The cycle computer is not displayed when you push the battery power button.	The amount of battery charge may be insufficient.	Recharge the battery, and then turn the power on once more.
	Is the power turned on?	Hold down the power button to turn on the power.
	Is the battery charging?	The power cannot be turned on while the battery is mounted on the bicycle and being charged. Stop charging.
	Is the electric wire connector correctly installed?	Check to see if the connector of the electric wire connecting the motor unit to drive unit is not disconnected. If you are not sure, contact the place of purchase.
	A component that the system cannot identify may be connected.	Contact the place of purchase.

Symptom	Cause / Possibility	Remedy
The gear position is not displayed.	The gear position is only displayed when using the electronic gear shifting unit.	Check if the electric wire connector is disconnected. If you are not sure, contact the place of purchase.
Can the beep be turned off.		Change the setting. Refer to "Beep".
The setting menu cannot be launched while riding the bicycle.	The product is designed so that if it detects that the bicycle is being ridden, the setting menu cannot be launched. This is not a sign of an abnormality.	Stop the bicycle and then make the settings.

Other

Symptom	Cause / Possibility	Remedy
When pressing the switch, two beeps sound, and the switch cannot be operated.	Operation of the switch being pressed has been disabled.	It is not a sign of a malfunction.
Three beeps sound.	An error or warning is occurring.	This occurs when a warning or error is displayed on the cycle computer. Refer to the section "Error messages on the cycle computer" and follow the instructions provided for the appropriate code.
When using an electronic gear shifting, I feel that the level of assistance weakens when the gears shift.	This occurs because the level of assistance is being adjusted to the optimum level by computer.	It is not a sign of a malfunction.
Sound occurs after gear shifting.		Contact the place of purchase.
A noise can be heard from the rear wheel during normal riding.	Gear shifting adjustment may not have been carried out correctly.	For mechanical gear shifting Adjust the cable tension. For details, refer to the Service Instructions for the derailleur. For electronic gear shifting Contact the place of purchase.
When you stop the bicycle, the gear does not shift to the position preset in the start mode.	You may have been pressing the pedals too strongly.	If you press the pedals lightly, the gear shifts more easily.

* Key number

The number that is on the key is required should you need to purchase spare keys. Make a note of the number in the following box and keep it in a safe place.



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