

User's Manual

SHIMANO STEPS E5100/ E5000 Series



Contents

IMPORTANT NOTICE	3
Important safety information	4
Anti-tampering function	5
Notice	6
Regular inspections before riding the bicycle	8
Booklet structure	9
Introduction	10
SHIMANO STEPS characteristics	10
• Assist mode	10
Before you ride	11
Quick guide	12
How to handle an assist bicycle	12
Making walking and pushing the bicycle easy (walk assist)	15
Switching between automatic and manual gear shifting	17
Names and specifications of parts	18
Names of parts	18
Specifications	20
Troubleshooting	21
Error / warning indication	21
When a problem occurs	22

IMPORTANT NOTICE




- Contact the place of purchase or a distributor for information on installation, adjustment, and replacement 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 (<https://si.shimano.com>).
- Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.
- 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, follow it for correct use, and store it so that it can be referenced at any time.

The following instructions must be observed at all times in order to prevent personal injury and physical damage to equipment and surroundings.

The instructions are classified according to the degree of danger or damage which may occur if the product is used incorrectly.

	DANGER	Failure to follow the instructions will result in death or serious injury.
	WARNING	Failure to follow the instructions could result in death or serious injury.
	CAUTION	Failure to follow the instructions could cause personal injury or physical damage to equipment and surroundings.

Important safety information

To ensure the safety of your E-BIKE, make sure to also refer to the user's manual for each product such as the battery, battery charger, cycle computer, and switch unit.

WARNING

- Do not disassemble or modify the product. This may cause the product to not operate correctly, and you may suddenly fall and be seriously injured.
- **Riding precautions**
 - Be sufficiently familiar with how to start the power assisted bicycle before riding on busy streets.
You may start the bicycle unexpectedly, which may result in an accident.
 - Be careful not to let the hemming of your clothes get caught in the chain while riding.
You may fall and be seriously injured.
 - Keep your fingers away from the chainrings, sprockets, and chain.
They can be seriously injured if caught in the drive train.
 - Ensure that head and tail lights can turn on before riding the bicycle.
- **Safety precautions**
 - Be sure to remove the battery and charging cable before wiring or attaching parts to the bicycle.
Failure to do so may cause an electric shock.
 - Do not 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.
 - Clean the chain with an appropriate chain cleaner regularly.
Intervals between maintenance depend on the use and riding circumstances.
 - Never use alkali- or acid-based solvents such as rust cleaners.
If those solvents are used the chain might break and cause serious injury.
 - Be sure to follow the instructions provided in the manuals when installing the product.
Only use SHIMANO genuine parts. If a component or replacement part is incorrectly assembled or adjusted, it can lead to component failure and cause the rider to lose control and crash.

CAUTION

- **Riding precautions**
 - Observe the instructions in the manual for the bicycle in order to ride safely.
- **Safety precautions**
 - Never modify the system.
Doing so may cause a system error.
 - Use the product under the supervision of someone responsible for safety, and only as instructed.
Do not allow anyone (including children) with reduced physical, sensory, or mental capacity, or those without experience or knowledge, to use the product.
 - Do not allow children to play near the product.

Anti-tampering function

Do not attempt to modify your drive unit's output power or maximum assist speed. Doing this may increase the risk of serious injury to yourself and others. It may also put you at legal risk if the modification violates national or regional regulations.

It may be against the law for a SHIMANO drive unit to be used outside the countries or regions where it is authorized for sale if it does not meet the applicable laws and regulations applicable for use in such areas. Make sure to confirm that the applicable laws and regulations are complied with before using the product in such places.

Do not tamper with peripheral devices related to the drive unit or assist control of e-bikes. Doing so will generally reduce the service life of the system and risk damaging the drive unit, other components, and the bike itself. It may also void the warranties of SHIMANO products used as components of the bike that has been tampered with. Using the system in a state that it was not designed for may threaten the safety of yourself and passers-by. Tampering with the bike increases the risk to the lives, bodies, and property of others, and the risk of substantial personal liability costs and criminal prosecution in the event of an accident.

SHIMANO STEPS systems detect whether the system has been tampered with and display an error code that indicates tampering (*1).

* ¹ Tampering refers to the state where a product does not comply with national or regional standards.

For details on error/warning codes, check the latest versions below:



<https://si.shimano.com/error>

Notice

■ Riding precautions

- Avoid wearing clothing that may get caught in a chain or wheel, as this may cause an accident.

■ Safety precautions

- If any malfunction or trouble occurs, consult the place of purchase.
- For any questions regarding methods of installation and maintenance, please contact your place of purchase.
- Be sure to attach dummy plugs to any unused E-TUBE ports.
- For installation and adjustment of the product, consult the place of purchase.
- The components are designed to be fully waterproofed to withstand wet weather riding conditions; however, do not deliberately place them into water.
- Do not clean the bicycle with 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. There is a risk of damage to the cycle computer and switch unit.
- Handle the components carefully, and avoid subjecting them to strong shock.
- Although the bicycle still functions as a normal bicycle even when the battery is removed, the light will 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 carrying the assist bicycle in a car, remove the battery from the bicycle and place it on a stable surface in the car.
- Contact the place of purchase for updates of the component software. The most up-to-date information is available on the SHIMANO website.
- 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.

■ Connection and communication with smartphone

Components that support Bluetooth[®] LE are required to connect the bicycle to a smartphone. Using E-TUBE PROJECT Cyclist enables you to perform a range of tasks, such as customizing individual components or the system, or updating firmware.

- E-TUBE PROJECT Cyclist: Application for smartphones
- Firmware: Software inside each component

■ Care and maintenance


- Do not use the thinners or harsh solvents to clean the products. Such substances may damage the surface. When cleaning the products, use a cloth moistened with a neutral detergent diluted with water.
- The chainrings and sprockets should be periodically washed with a neutral detergent. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the life of the chainrings, sprockets, and the chain.
- Use a damp, well wrung out cloth when cleaning the battery and plastic cover.

■ Assist

- The proper level of assistance cannot be achieved unless the proper settings have been made (proper adjustment of the chain tension, etc.), so consult with the place of purchase.

■ Labels

- Some of the important information contained in this manual is also indicated on the device label.

	<p>This symbol on your product, literature, or packaging reminds you that this product must be taken to separate collection at the end of its working life.</p> <p>Do not dispose of this product as unsorted municipal waste but instead take it for recycling. By ensuring the product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. For info on your nearest recycling point, check with your local waste authority.</p>
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<p>This device complies with part 15 of the FCC Rules.</p> <p>Operation is subject to the following two conditions:</p> <p>(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> <p>NOTICE: 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:</p> <ul style="list-style-type: none">• 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.

Regular inspections before riding the bicycle

Before riding the bicycle, check the following items. If any problems are found, consult your place of purchase or a distributor.

- Does the drive train perform gear shifting smoothly?
- Is there any looseness or damage in the component parts?
- Are the components securely installed to the frame/handlebar/stem, etc.?
- Do any abnormal noises occur while riding?
- Is there sufficient charge remaining in the battery?

Avoid wearing clothing that may get caught in a chain or wheel, as this may cause an accident.

Booklet structure

SHIMANO STEPS user's manuals are split among several booklets, as described below.

Be sure to read these user's manuals thoroughly before use, and follow them for correct use. Store the user's manuals so that they can be referenced at any time.

The latest user's manuals are available on our website (<https://si.shimano.com>).

Name	Details
SHIMANO STEPS User's Manual	<p>This is the basic user's manual for SHIMANO STEPS. It contains the following content:</p> <ul style="list-style-type: none"> • SHIMANO STEPS quick guide • Basic operations when riding • How to operate assist bicycles that use flat handlebars, such as city, trekking, or MTB type bicycles
SHIMANO STEPS User's Manual for Drop Handlebar Bicycles (separate booklet)	<p>This booklet describes how to operate assist bicycles that use a drop handlebar and are controlled using dual control levers. This should be read along with the SHIMANO STEPS User's Manual.</p>
SHIMANO STEPS special battery and parts user's manual	<p>It contains the following content:</p> <ul style="list-style-type: none"> • How to charge and handle the SHIMANO STEPS special battery • How to attach and remove the SHIMANO STEPS special battery to the bicycle • How to use the satellite system ON/OFF switch and satellite charging port • How to read the battery LEDs when charging or during an error
SHIMANO STEPS Cycle Computer User's Manual <ul style="list-style-type: none"> • Clamp band type (SC-EM800) • Clamp band type (SC-E7000) • Bracket installation type (SC-E6100) • Switch unit integrated type (SC-E5000 / SC-E5003) 	<p>It contains the following content:</p> <ul style="list-style-type: none"> • Method for configuring settings via the main body buttons and switch unit • Wireless communication method (supported models only)
Switch Unit User's Manual	<p>This is the assist switch and shift switch user's manual. It describes switch unit handling and operations.</p>

Introduction

SHIMANO STEPS characteristics

- **Lightweight and compact design**
- **Quiet and smooth riding**
- **Electronic gear shifting system with excellent performance**

A high-precision sensor enables gear shifting with a motor precisely controlled by a computer.

- **Automatic gear shifting (for internal electronic 8/5-speed gear shifting)**

The sensor detects riding conditions such as climbing a hill in headwinds or riding in windless flatland, and further improves riding via computer-controlled automatic gear shifting.

- **Start mode (for internal electronic gear shifting)**

This function automatically shifts down to the gear position that has been set in advance when stopped at a traffic light and allows you to start in a light gear.

* If you gear shift into a gear that is lower than the gear position set while the bicycle is stopped, the gear will not shift up automatically.

Assist mode

Select the level of assistance from three modes according to riding conditions.

Assist mode	Level of assistance	Main application
[HIGH]	Increase	Sudden slopes
[NORM] * 1	Intermediate	Gentle ascending slopes and level ground
[ECO]	Decrease	Long distance riding on level ground, level parks with signals

* 1 Depending on the cycle computer, [NORMAL] may be displayed.

TECH TIPS

- When battery levels are unstable, or when assist power is not required, you can turn assist mode to [OFF].

Before you ride

You cannot use the battery immediately after shipment.

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

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

Please read the “ [SHIMANO STEPS Special Battery and Parts User's Manual](#) ” for how to charge and handle the battery.

TECH TIPS

When the battery level is low, system functions will be shut off in the following order:

(1) Power assist

The power assist will stop after the assist mode is automatically switched to [ECO]. If the battery-powered light is connected, the mode will switch to [ECO] earlier.

(2) Electronic gear shifting

(3) Lights

Quick guide

How to handle an assist bicycle

TECH TIPS

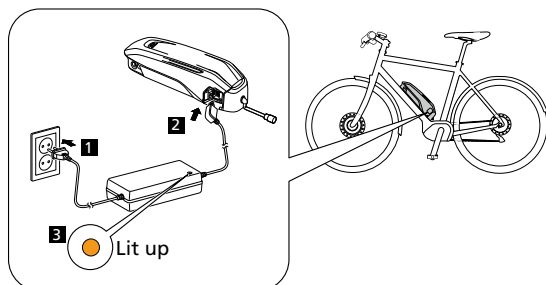
Depending on the assist bicycle used, the installed battery, cycle computer, and switch unit may differ from what is listed here. Also refer to the user's manual of the components you are using listed in "[Booklet structure](#)."

NOTICE

Check the compatibility of the battery and battery charger. Some batteries may not be chargeable with a conventional battery charger.

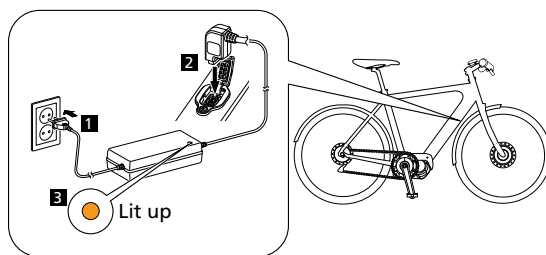
1. Charge the battery.

Example of external battery



Example of integrated battery

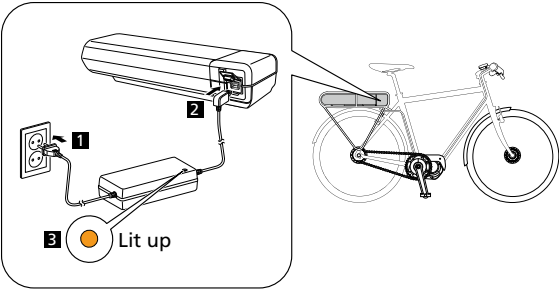
* According to the assist bicycle, the location of the charging port may be different from the one shown in the figure.





Example of rear carrier battery

Quick guide

How to handle an assist bicycle



 Lit up	Charging
 Flashing	Charge error

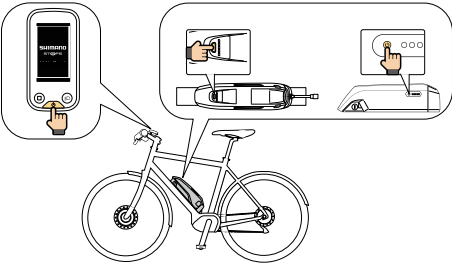
2. Turn the power ON.

If the cycle computer does not have a power button, the power can be turned ON using the battery power button.

To turn OFF the power, repeat this procedure.

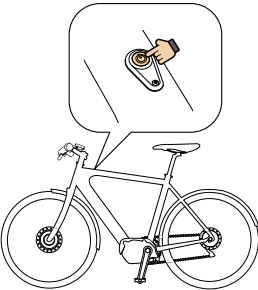
Example of external battery

The location of the battery power button differs according to the model.

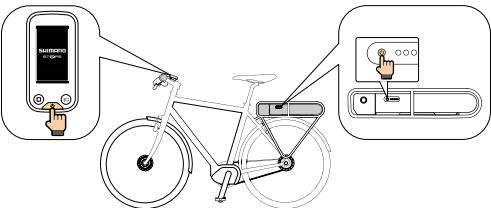


Example of integrated battery

* According to the assist bicycle, the location of the power button may be different from the one shown in the figure.



Example of rear carrier battery



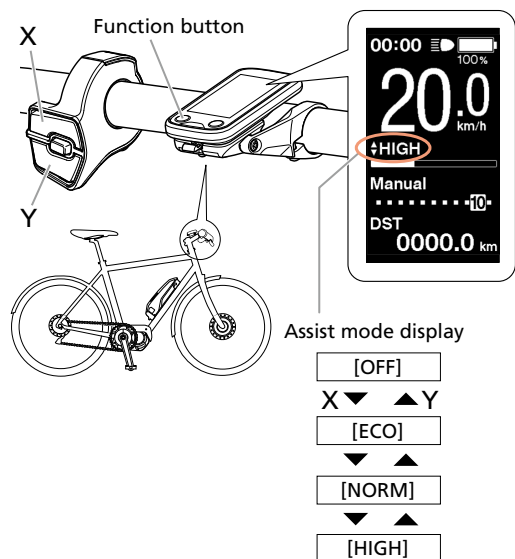
Quick guide

How to handle an assist bicycle

3. Select assist mode.

- When the power is turned OFF, the assist mode resets to [OFF].

Cycle computer example



TECH TIPS

- The function button of the cycle computer can be used to switch the assist mode, depending on your bicycle. The assist mode switches as indicated below each time the button is pressed.

[OFF] > [ECO] > [NORM] > [HIGH] > [OFF]

4. Get on the bicycle and start riding.

Turn the pedals to start assist.

⚠ CAUTION

Be sure to learn the brake control characteristics and other characteristics. Brake handling may vary slightly depending on the bicycle you are using.

5. Turn the power OFF and park your bicycle when you arrive at your destination.

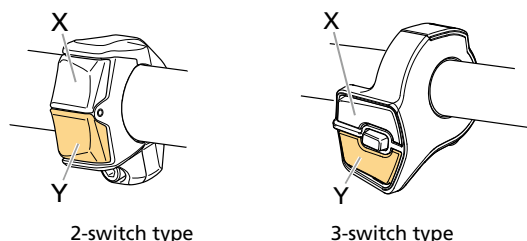
Making walking and pushing the bicycle easy (walk assist)

SHIMANO STEPS has a function where assist works even when you are walking and pushing the assist bicycle.

- Depending on the region of use, you may not be able to use it due to the laws of the region. In this case, the operations described here are disabled.
- This function cannot be used with bicycles that do not have assist switch installed.

1. Stop and switch to walk assist mode.

Press and hold Y on the assist switch (left side of the handlebar) until [WALK] is displayed on the cycle computer.



Cycle computer example



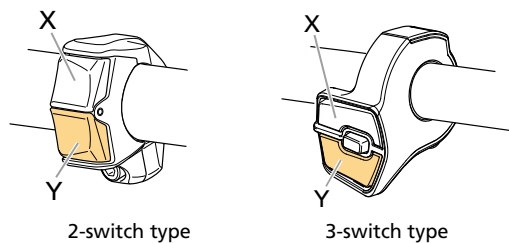
TECH TIPS

- If nothing is done for one minute after switching to walk assist mode, it will switch back to the assist mode that was selected before switching.

2. Carefully push the bicycle while pressing Y again.

The drive unit operates while Y is pressed to assist you in pushing the bicycle.

When the drive unit is operating, the screen display changes as shown in the figure.



Quick guide

Making walking and pushing the bicycle easy (walk assist)

Cycle computer example



NOTICE

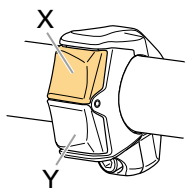
Walk assist operates at a maximum of 6 km/h. Be careful because the bicycle starts moving just by pressing Y.

TECH TIPS

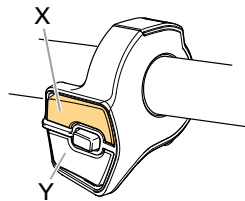
- During electronic gear shifting, the level of assistance of walk assist and speed are controlled by the current gear position.

3. Exit walk assist mode.

Press the button (X button) on the upper side of the assist switch (left side of the handle).



2-switch type



3-switch type

Switching between automatic and manual gear shifting

Depending on the assist bicycle used, you may be able to switch between automatic and manual gear shifting.

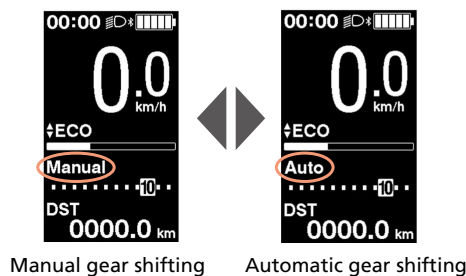
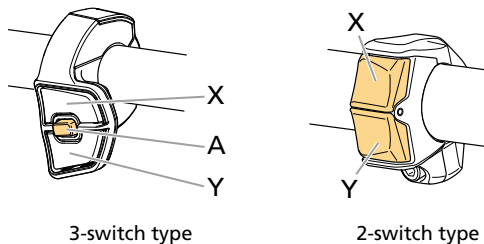
- Automatic gear shifting: Automatically shifts gears based on riding conditions. Manual gear shifting operations are possible even when automatic gear shifting is set.
- Manual gear shifting: This is standard electronic gear shifting. Gears are shifted by operating the shift switch.

1. Switch between automatic and manual gear shifting.

The shift switch (right side of the handlebar) is operated as follows, depending on the type:

- 3-switch type shift switch: Press the A button
- 2-switch type shift switch: Press and hold X and Y until the display of the cycle computer switches

Shifting switches between automatic and manual gear shifting as shown below.

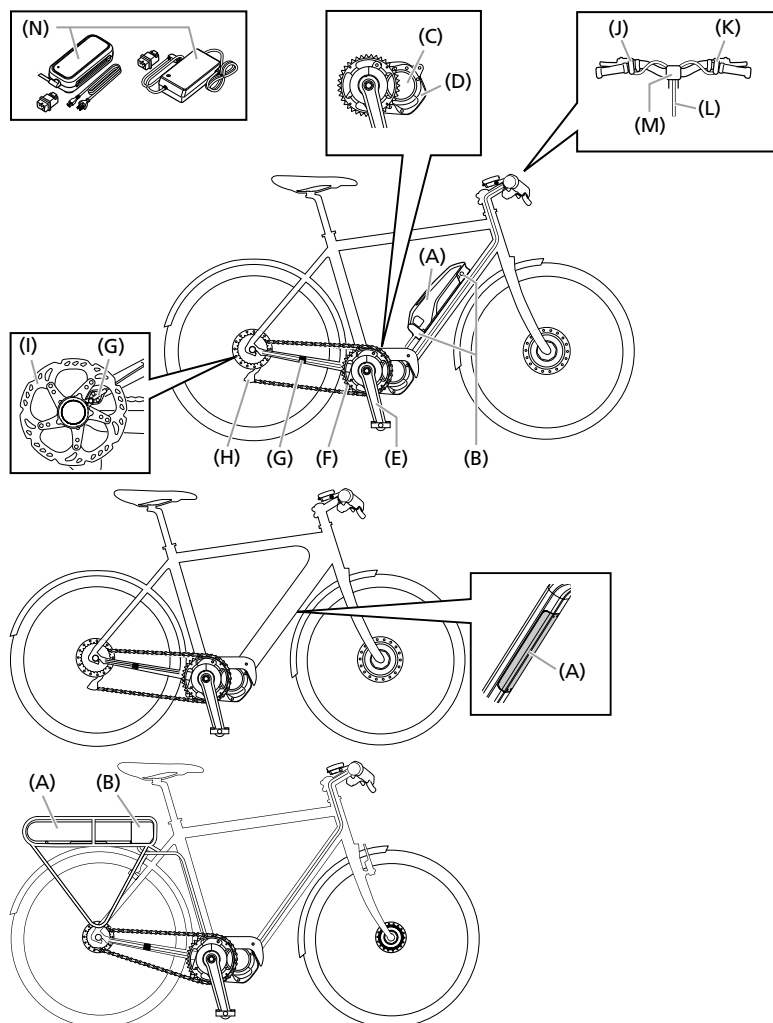


TECH TIPS

- The display will differ depending on the model of cycle computer. Refer to the user's manual of your cycle computer.

Names and specifications of parts

Names of parts



(A)	Battery * 1
(B)	Battery mount * 2
(C)	Drive unit
(D)	Drive unit cover
(E)	Crank arm
(F)	Chainring
(G)	Speed sensor * 3
(H)	Shifting unit * 4
(I)	Rotor
(J)	Switch unit (assist switch)

Names and specifications of parts

Names of parts

(K)	Switch unit (shift switch) or shifter
(L)	Electric wire
(M)	Cycle computer
(N)	Battery charger

* 1 Either an external type, integrated type, or rear carrier type battery is included, depending on your bicycle. Also, the battery may be installed at a location different from the position specified in the figures.

* 2 The battery mount of the integrated battery is installed inside the frame.

* 3 It is attached to one of the two locations specified in the figure.

* 4 Electronic gear shifting: Di2 rear derailleur or motor unit + Di2 internal geared hub

Mechanical gear shifting: rear derailleur or internal geared hub

Specifications

Operating temperature range * 1	-10 - 50°C
Storage temperature * 1	-20 - 70°C
Drive unit type	Midship
Motor type	Brushless DC
Rated drive unit power	250 W

* 1 These are the temperature specifications of the drive unit alone. The values in the temperature specifications may differ according to the battery and other components used in your E-BIKE. Refer to the user's manual of each product to ensure proper usage and storage.

TECH TIPS

- The maximum speed that provides assist is set by the bicycle manufacturer, but may vary depending on the conditions under which the bicycle is used.

Troubleshooting

Error / warning indication

For details on error/warning codes, check the latest versions below:



<https://si.shimano.com/error>

NOTICE

If the error persists, stop using the bicycle and swiftly contact your place of purchase or a distributor for assistance.

When a problem occurs

The FAQ for SHIMANO STEPS can be accessed with the following:



<https://bike.shimano.com/faq/STP0A>

SHIMANO



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