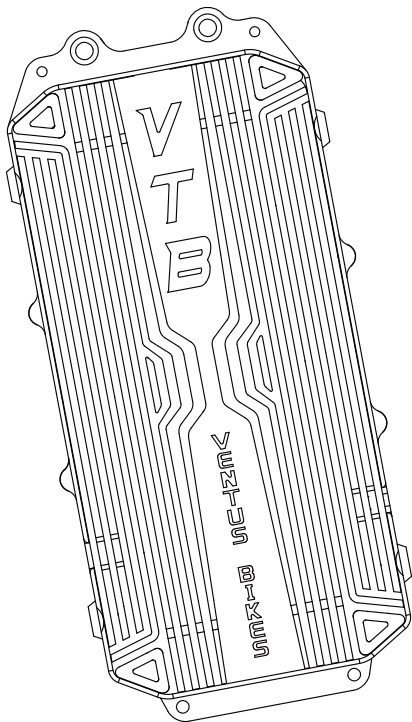




Venture To Begin

VTB Controller

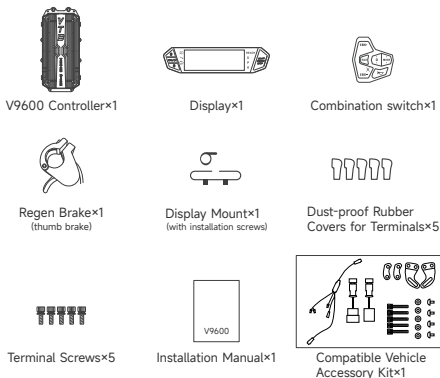


I. Preparations Before Installation

1. Installation Instructions

The V9600 controller is currently designed to operate in conjunction with the VTBGZ display, multi-functional combination switch, and regen brake (thumb brake). These components are packaged together with the controller for convenience. The installation of the accompanying components is straightforward, independently. It is recommended, however, that users refer to the contents of this manual for guidance during the installation process. The V9600 is a plug-and-play controller, requiring no prior knowledge of electronics or programming for installation and configuration.

2. Packing List



Accessory Kit Contents

①Mid-section Wiring Harness-TALARIA X3 Model×1

The model adapter connects to the bike's main wiring harness, with the upper and lower interfaces connecting to the longer controller harness and the display harness, respectively.



②General Encoder Motor Adapter×1

Connects to the motor encoder harness

③General Hall Motor Adapter×1

Connects to the motor Hall harness (for Hall-effect motors)

④Right Bracket×1 Left Bracket×1

Secures the V9600 Controller

⑤M6*30 Inner Hexagon Three-in-One Screws×5

Secures the positive and negative terminals and motor phase wire terminals

⑥6*12*12 Powder Metallurgy Copper Pillar×5

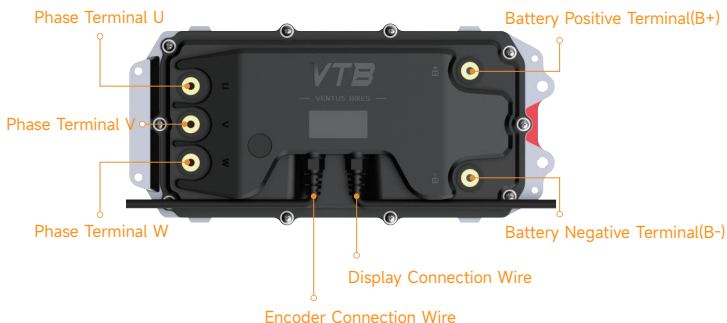
Secures the positive and negative terminals and motor phase wire terminals

⑦M6*10 Round-Head Screws×4

Secures the V9600 Controller

I. Preparations Before Installation

3.Route Description



Special Note

The V9600 controller is equipped with a motor calibration, allowing the phase connection sequence to be unrestricted and freely arranged. The designations of U, V, and W in this context are merely illustrative labels. This innovative feature is intended to accommodate various motor types, ensuring the system can automatically adjust phase sequences based on the connected motor to achieve optimal performance.

4.Installation Hole Diagram

The installation holes for the TARALIA X3 are indicated by the four positions outlined in the rectangular frame in the diagram.



II. Installation and Precautions

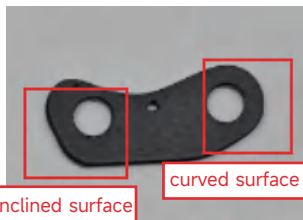
1. Cutting the Motor Bottom Cover

Use the appropriate tools to cut the motor bottom cover, cutting just above the original bottom cover logo. The result should look like the image:



2. Installing the Controller Bracket

Fix the controller mounting bracket from the accessory kit to both sides of the frame. The left and right brackets are symmetrical in structure. One side of the lower bracket is a curved surface, and the other side is an inclined surface. Ensure that the inclined surface aligns with the mounting surface, with the protruding side facing down.



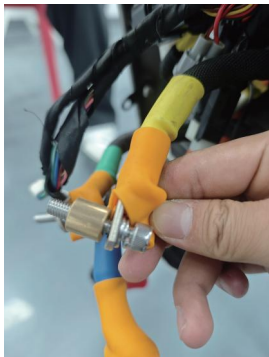
Note

Do not install the left and right brackets in reverse; the side for fixing the lower bracket should be the inclined surface side.

II. Installation and Precautions

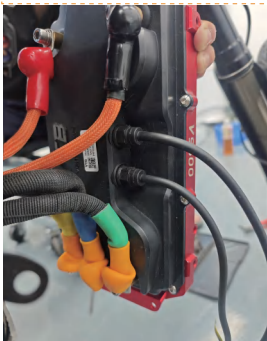
3.Connecting Motor Phase Wires

Connect the motor phase wires. Note that the copper pillars from the accessory kit need to be placed between the phase wire terminal and the copper terminal to provide additional height. Connect the motor phase wires to the phase terminals. It is not necessary to differentiate between cable colors, as the connection sequence is unrestricted. While the phase wire lengths may vary, great care must be taken to avoid entanglement during the connection process. Use a wrench to apply a torque of 16 N·m to securely fasten the terminal screws, ensuring all connections are robust to prevent potential loosening during operation. Once all the phase wires are correctly and securely connected, cover the connection points with dust-proof rubber covers.



Note

The V9600 controller is equipped with a motor calibration feature, allowing the phase wire connection sequence to remain flexible. Connections should therefore be arranged according to the actual length of the wiring harness for ease of installation and organization.



4.Connecting the Positive and Negative Power Terminals

Connect the power lines following the sequence: red for the positive terminal and black for the negative terminal. Ensure that every connection point is securely fastened to prevent loosening during operation. Once the positive and negative power lines are properly fixed, cover the connection points with dust-proof rubber covers for protection.

The final appearance after completing the installation of both the motor phase wires and the positive and negative power lines is shown in the diagram below:

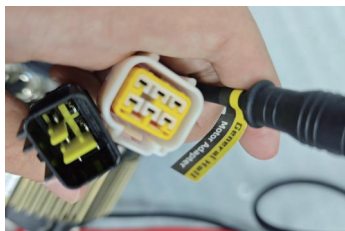
II. Installation and Precautions

5. Connecting the Motor Plug

Please choose either the general encoder motor adapter or the general Hall motor adapter for installation based on specific requirements; only one is needed. VTB is dedicated to providing comprehensive service to our customers and therefore offers an alternative cable as a backup. We deeply appreciate your support and trust.



For the stock TALARIA X3 motor, a general encoder motor adapter is required.



For third-party Hall motors, a general Hall motor adapter is needed.



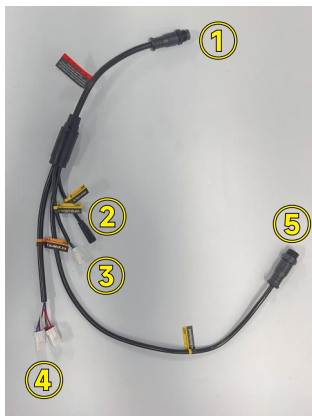
One end of the motor adapter connects to the motor harness interface, while the other end connects to the shorter harness of the controller.

Note

When connecting the square plug, a "click" sound indicates that the plug has been securely and correctly connected. If the plug is not fully inserted, it may loosen due to vibrations, resulting in functional abnormalities.

II. Installation and Precautions

6.Connect the Wiring Harness Plug



①: Main signal interface of the controller, connected to the longer wiring harness of the controller.

②: Use the OEM horn button for control.
No connection is required here.

③: Regen brake (thumb brake) plug, connected to the regen brake (thumb brake).

④: TALARIA X3 model adapter harness, connected to the bike's main wiring harness.

⑤: Display communication interface, connected to the display wiring harness.



Interface④ connects to the main vehicle wiring harness interface



Interface③ connects to the electronic brake (thumb brake) harness interface.

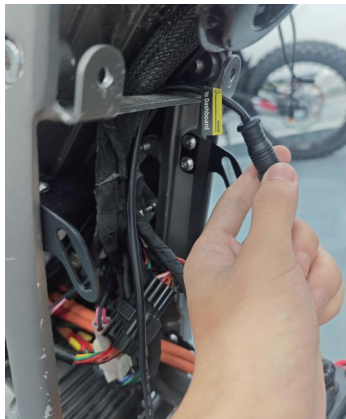
Note

The pins of Interface ① are relatively delicate; exercise caution during connection to prevent misalignment or bending of the pins. When connecting the square plug, a "click" sound indicates that the plug has been securely and correctly connected. If the plug is not fully inserted, it may loosen due to vibrations, resulting in functional abnormalities.

II. Installation and Precautions

7. Organize the Wiring Harness

After the wiring harness is connected, pass the display extension cable (interface ④) of the mid-section wiring harness through the groove on the inner side of the upper bracket of the controller and connect it to the display. The result is shown in the image below:



The wire harness connector at the rear of the controller should be as far to the sides as possible, and the upper wire harness should be placed behind the number plate. After the wire harness is tidied up, install the number plate and the side cover. The arrangement effect of the side wire harness is as shown in the figure.

Note

During the arranging of the wiring harness, it is crucial to avoid pinching or squeezing the wires. Ensure that they are not pulled or compressed when the handlebar rotates.



II. Installation and Precautions

8.Installing the Controller

Begin by aligning and securing the lower mounting holes of the controller using screws from the accessory kit, fastening them with a wrench. Adjust the position of the controller to align with the upper mounting holes, then tighten the screws with a wrench. Secure all four mounting screws tightly to ensure the controller is stable and free of movement, and finally, tighten the screws on the top of the motor cover to complete the installation.

Note

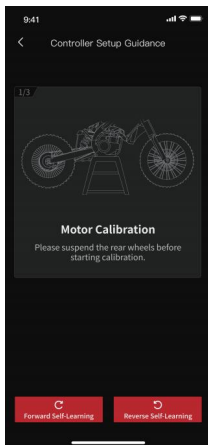
Ensure the installation area is sufficiently clear, and check through the gaps in the front battery panel for any pinched wires around the controller. Initially, do not over-tighten the top screws to allow for adjustments when aligning the lower mounting holes.

The installed controller should appear as shown in the illustration below.



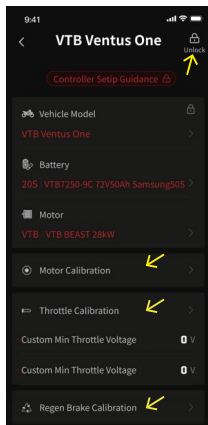
II. Installation and Precautions

8.Controller Setup Guide



After installing the controller, open the app and select the vehicle model on the main page to automatically enter the controller setup guide. Follow the instructions to complete the setup. During the guide, observe the wheel rotation direction during motor calibration. If it rotates correctly (forward) and a success message appears, the setup is complete. If not, select the alternative direction for calibration. Once familiar with the app's operations, you can independently perform motor self-learning, throttle calibration, or regen brake (thumb brake) calibration in the advanced settings.

At the end of the throttle calibration, you need to select a gap; for normal use, choose the standard gap. The throttle gap refers to the minimum throttle opening needed for a response, with the ultra-small gap being even smaller than the standard gap.



When adjusting battery or motor settings, you must first click on "Unlock" in the upper-right corner of the page and enter the unlock password: 123686, before making any changes.

Exercise extreme caution when altering battery or motor settings, as such modifications are not recommended for general users. The advanced settings are designed to meet the needs of users seeking a more refined and precise experience. The password is implemented as a safeguard to ensure the safety of non-professional users.

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