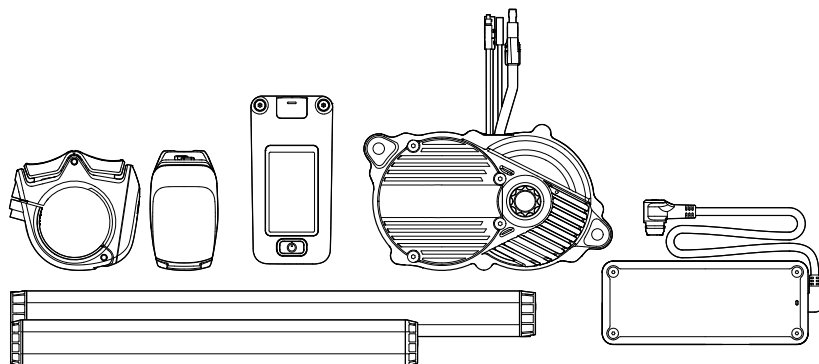


AVINOX DRIVE SYSTEM

User Manual

v1.0 2025.01





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Using this Manual

Legend

⚠ Important

💡 Hints and Tips

📖 Reference

Download Avinox App

It is recommended to connect with Avinox app for a better user experience. Scan the QR code to download the latest version.



- The app will be updated from time to time. The actual interface and functions will depend on the version of the app you are using.
- To check the Android and iOS operating system versions supported by Avinox App, visit <https://www.avinox-ebike.com/avinox-system/downloads>.

Information

- The drive system can be only installed on compatible electric bicycles (hereinafter referred to as bikes) to use.
- Before using the bike equipped with the drive system, make sure you are completely familiar with the product functions, read and adhere to all the instructions from the bike manufacturer.
- Strictly abide by local laws and regulations when riding.
- DO NOT make any unauthorized modifications to the drive system.
- DO NOT disassemble the product in any way, as this may cause damage.
- Contact after-sales or an authorized retailer to replace the parts of the drive system using original parts if required.
- DO NOT power on the drive system until you are fully prepared. Otherwise, the unexpected acceleration may lead to accidents.

- Make sure to pay attention to safety during riding and avoid being distracted by the bike screen.
- The range estimate provided by the app is for reference only. Make sure to plan your trip according to the riding conditions before setting out.
- Follow the assembly instructions provided by the bike manufacturer to install the drive system, or contact the authorized retailer for help.
- Watch out for the people nearby to avoid injury while riding.

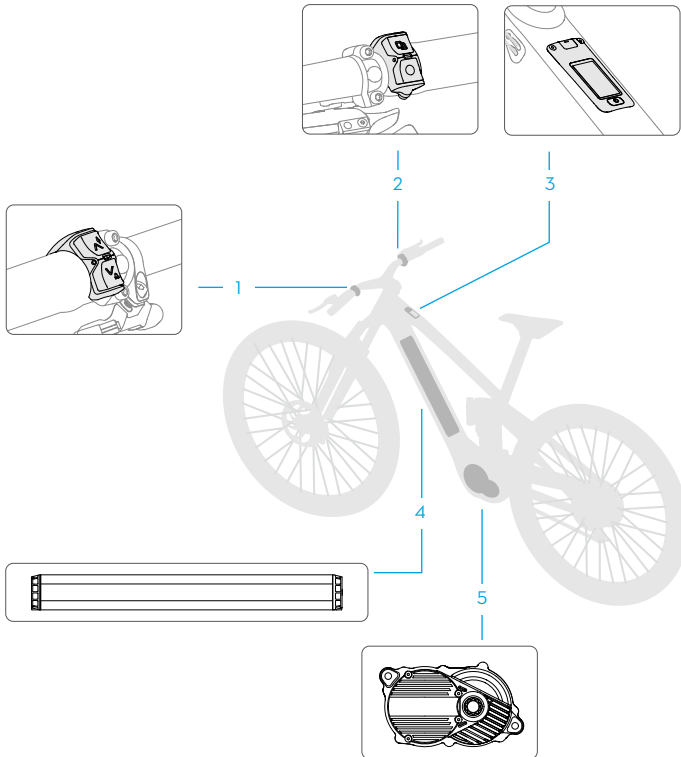
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1 Product Profile

1.1 Overview

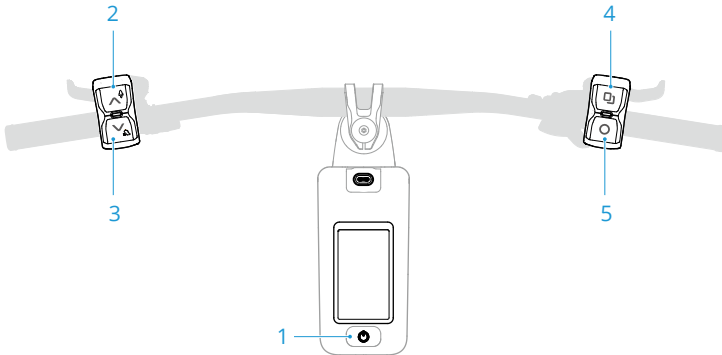


1. Left Wireless Controller
2. Right Wireless Controller
3. Control Display
4. Battery
5. Drive Unit

1.2 Control Display and Wireless Controllers

- ⚠ • Make sure to get familiar with the functions and operations of the control display and wireless controllers before riding the bike.

Button Features



1. Power Button

- Press and hold to power on/off. Press and hold for 20 s to force power off. When powered on for the first time, follow the prompts to select the language and activate the system.
- After powering on, press to switch the assist modes between Off, Auto, Eco, Trail, and Turbo.

2. ^ Assistance Level Increase Button

- Press to switch the assist modes in the order of **Off > Auto > Eco > Trail > Turbo**.
- Press and hold to activate Boost mode and the bike screen will display a countdown. Press the power button or assistance level increase/decrease buttons to exit Boost mode.

3. v Assistance Level Decrease Button

- Press to switch the assist modes in the order of **Turbo > Trail > Eco > Auto > Off**.
- Press and hold and then release the button to activate Walk mode. Once activated, press and hold the button to get power assistance to help pushing the bike uphill. Press any other button to exit Walk mode.

4. □ Screen Switch Button (customizable)

- Press to control the bike screen to slide right.

- Swipe up on the bike screen to enter Settings, and then you can customize functions for the button in **Customize Controls**.

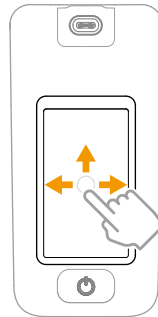
5. ○ Function Button (customizable)

- Press to control the bike screen to slide left. When the bike screen is on Settings page, press to return to previous page.
- Swipe up on the bike screen to enter Settings, and then you can customize functions for the button in **Customize Controls**.

Operating the Control Display

After the control display is powered on, it will show the home screen page. Tap or swipe on the screen to interact with the control display.

- Home Screen: Display the basic information.
- Swipe left/right: Enter the ride data pages, which can be customized in the app.
- Swipe up: Enter Settings to add accessories, set the recording mode and more.



2 Usage

2.1 Pair and Activate

When powered on for the first time, follow the prompt on the bike screen to complete pairing and activating. Tap **Skip** and you can ride for trial without activation. After the trial distance has run out, follow the steps below to pair and activate before you can continue to use it.

1. Press and hold the power button of the control display to power on.
2. Swipe up on the screen to enter Settings and tap **Pair to App** to view the QR code.
3. Make sure Bluetooth and network are enabled on your mobile device. Open Avinox App, then tap **Pair** and scan the QR code to pair.

2.2 Device Updates

When connected with the drive system, there will be a prompt in the app if a version update is available. It is recommended to update to the latest version to get a better user experience.

Make sure there is enough battery power before updating. During the update, make sure the signal on your phone is strong, and that the Bluetooth connection remains stable. DO NOT move the bike or power off the control display.

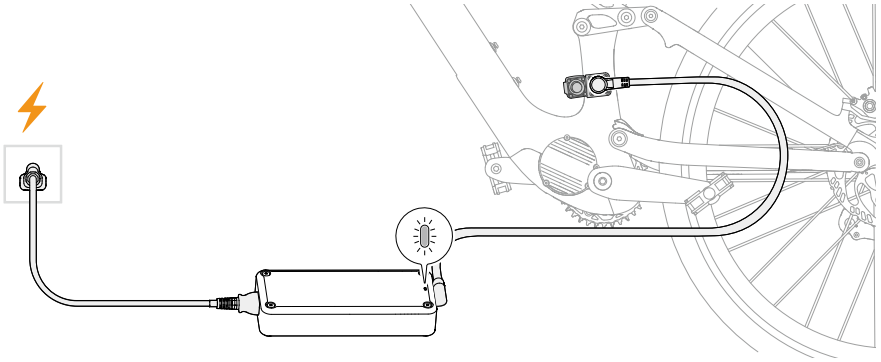
2.3 Charging

Charging the Battery



- Make sure to use the official charger to charge the battery.
 - While charging, make sure not to move the bike and place the charger on a level surface.
-

1. Open the charging port cover and connect the charger.
2. During charging, the bike screen will display the current battery level.
3. Unplug the charger and close the port cover after the battery is fully charged. DO NOT pull the power cable by force when removing the charger.



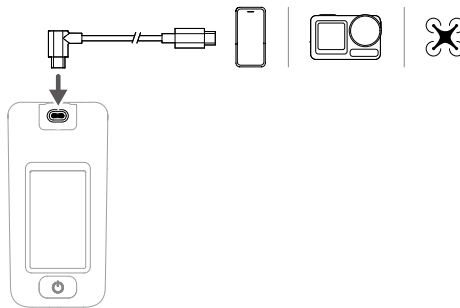
LED Indicator

Red: The battery is charging.

Green: Fully charged.

Yellow: The charger is connected incorrectly or abnormal.

Charging the External Devices



Use the USB-C cable to connect the control display with an external device, and then power on the control display to charge the connected device.

2.4 Avinox App

When the drive system is paired with the Avinox App via Bluetooth, users can customize the assist parameters and bike screen, and enable the bike protection function on the

app. After inserting SIM card in the control display, users can remotely control the bike using the app.

2.5 Assist Modes

The drive system provides four standard assist modes: Auto, Eco, Trail, and Turbo, and also supports Boost mode with high power output and Walk mode.



- Refer to [Control Display and Wireless Controllers](#) section to learn how to switch the assist modes.
- When connected to the app, users can customize the assist parameters. Refer to [Customizing Assist Modes](#) for more details.

Standard Mode

The four standard modes offer varying level of assistance to handle different riding scenarios.

Auto: This mode automatically adjusts assistance based on different riding situations, providing a moderate level of assistance to enhance the range.

Eco: With gradual start-up acceleration and lower assistance, this mode conserves battery energy and is suitable for long-distance flat terrain riding.

Trail: This mode provides moderate start-up acceleration and stronger assistance and is suitable for cross-country technical route.

Turbo: This mode provides maximum assistance and is suitable for steep slopes.

Boost Mode

In addition to the standard assist modes, the drive system also support the Boost mode with extra assistance for a short duration, which can help users riding with greater drive torque and power. This mode is suitable for challenging riding scenarios such as overcoming obstacles and climbing hills.

Press and hold  to activate Boost mode. During the period, the assistance will shut off when you stop pedaling. To exit Boost mode, press the power button or assistance level increase/decrease buttons.

Walk Mode

Press and hold  to activate Walk mode, then press and hold the button to get power assistance when pushing the bike or starting upon an incline. It also supports auto hold to prevent rollback on slopes.

The assistance will shut off automatically when stop pressing  or the speed exceeds 6 km/h.

Stationary Gear Shifting

Stationary gear shifting is supported when using Walk mode. After activating Walk mode, press the shift lever and lift the rear wheel, then press  twice to shift gears quickly.



- Only use Walk mode when pushing the bike. Using in inappropriate situations may cause accidents and personal injury.
- Ensure to keep your body away from the rotating crank and pedals to avoid injury when using Walk mode to assist pushing the bike and gear shifting.

Customizing Assist Modes

Open the app and tap **Custom Assist Modes**, users can view and adjust the parameters of Auto, Eco, Trail, and Turbo according to their preferences and scenarios.



- Make sure the drive system is powered on and connected to the app when setting the assist modes.

2.6 Ride Data Recording Mode

Users can set the ride data recording mode on Settings of the control display.

Recording Mode: Select between **Auto**, **Manual** and **Notification**.

- **Auto:** Recording will start automatically upon detecting riding. Users can also set a speed, and the recording will start when the speed exceeds the set value.
- **Manual:** Start recording manually and tap  to pause the recording during riding.
- **Notification:** Users can set a speed, and the control display will prompt whether to start recording when the speed exceeds the set value.

Auto-Pause: When enabled, users can set a speed for pausing recording. Data recording will be paused if riding at speed lower than the set threshold.

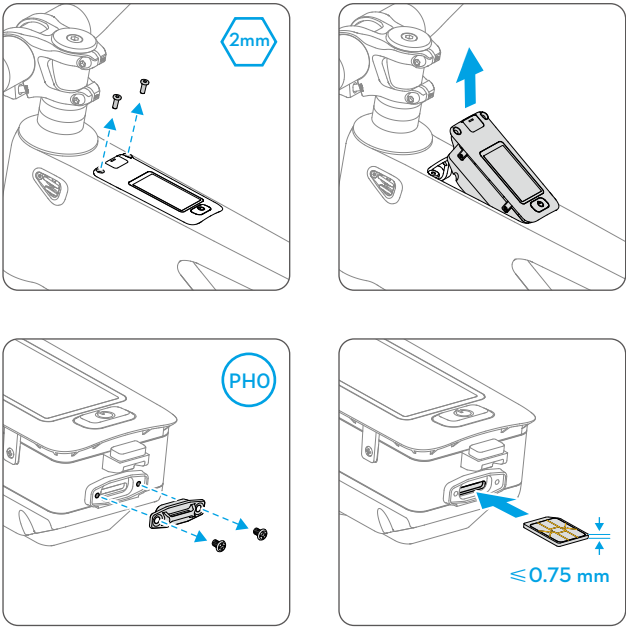
3 Advanced Functions

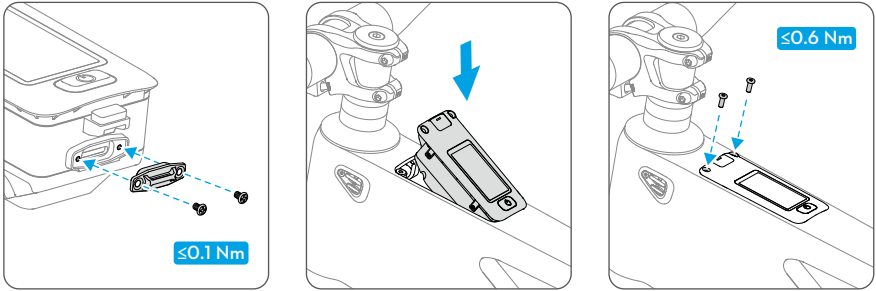
3.1 Bike Connectivity and Ride Data Sync

With the nano-SIM card installed, the bike can be connected to the app via mobile data. Users can remotely control the bike, check bike status, and sync the ride data to the cloud using the app.

Installing the nano-SIM Card

Prepare a nano-SIM card and install it as shown in the illustration.





- Make sure to purchase a nano-SIM card which supports 4G network from an official mobile network operator.
- If the SIM card is set with a PIN code, make sure to insert the SIM card into the mobile phone and cancel the PIN code setting. Otherwise, the control display will fail to connect to the internet.
- When removing from the frame, it is recommended to pry up the control display using a tool instead of pulling the Type-C port cover.

Bike Connectivity

After installing the nano-SIM card, power on the control display and open the app, tap **Cloud** and then enable **Bike Connectivity (SIM)**.

Swipe up the bike screen to check the signal. If the signal is normal, the connection status will display 4G in the app after turning off the Bluetooth on the mobile phone.



- If the bike screen displays no signal, check if the SIM card is correctly inserted and working normally. If there is no issue with the SIM card, check if the signal is good in the area. Contact official support if the issue persists.

Ride Data Sync

Open the app, tap **Cloud** and then enable **Ride Data Sync**. Ride data can be synced automatically using the mobile data. The synced ride data can be viewed on other devices by logging into the account.

3.2 Bike Protection

The drive system provides bike protection functions, allowing users to set a digital password and use the phone as the Bluetooth key to unlock the bike automatically. If the bike is moved by accident, it will sound an alarm and the app will also receive a notification.

-
- 💡 • The bike protection functions may not be available for extended use when the bike is in an environment below 0° C (32° F) or the battery level is lower than 5%.
 - It is only supported to set the bike protection functions when the bike and mobile phone are connected via Bluetooth.
 - The notifications can be pushed to the mobile phone only after enabling the app notification permission on the phone.
-

Password Authentication

Open the app, tap **Bike Protection > Password Authentication**. Follow the instructions to set the password.

After setting on the app, restart the control display and enter the password on the bike screen to unlock, indicating that the password authentication is now effective.

Mobile Key Unlock

After enabling the password authentication, users can enable Mobile Key Unlock function.

1. Open the app, tap **Bike Protection** and then enable **Mobile Key Unlock**. When enabled, the bike will be automatically locked when powered off.
2. When you are close to the bike with the paired phone, powering on the control display will automatically unlock the bike without entering the password.

-
- 💡 • The drive system will power off and be locked automatically when the parking time exceeds the set duration of auto power off.
 - It is recommended to also use a physical lock for added security.
-

Theft Detection

After enabling Password Authentication, users can enable Theft Detection function.

1. Open the app, tap **Bike Protection > Theft Detection**.

2. After enabling the function, if any accident movement is detected while the bike is locked:
 - The control display will sound an alarm and an alert will display on the screen.
 - The app will prompt a notification at the same time.

 - ☀ • The accident movement will trigger a notification in the app only if the bike and mobile phone remain connected. Otherwise, only the control display will sound an alarm.

3. Tap **View Bike Location** in the app to check the real-time location and movement trajectory of the bike on the map.
 - If there is no risk of theft, tap **Beep off & Keep Locked** in the prompt to disable the beeping. The bike will remain locked.
 - If the movement is authorized, tap **Authorize & Unlock** to unlock the bike or tap **Cancel** and enter password on the bike screen to disable the alarm and unlock the bike.

 - ⚠ • After tapping **Authorize & Unlock**, the theft detection function will be disabled for an hour. The alert will not be triggered by any movement in that period.

4. To disable the function, tap **Bike Protection > Suspend Temporarily** and select the suspending time.

Remote Bike Control

When the bike is connected with the mobile phone via Bluetooth or mobile data, tap **Security** in the app to expand the map view to check the real-time bike location and status. If the bike is moved, the movement trajectory will be displayed on the map. When the drive system is powered on, the bike can be located by enabling the beep using the app. You can also use the app to set the assist modes and other settings remotely.

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- ☀ • When connected to the bike via Bluetooth, users can power on the bike using the app.
-

Disabling Bike Protection

Users can disable the bike protection functions in the app. It is required to enter the password when disabling the password authentication function. Once disabled, mobile key unlock and theft detection functions will no longer be available. Users can also disable these two functions individually with the password authentication is still available.

3.3 Setting Bike Screen

Open the app and tap **Bike Screen Display** to edit, add, and delete the data pages on the bike screen.



- Before setting, make sure the drive system is powered on and connected to the mobile phone.
-

3.4 Adding Accessory

The drive system is able to connect with various accessories, providing more ways to record data during riding.



- It is not supported to connect to multiple accessories of the same type simultaneously. Disconnect from the previous device before pairing with a new one.
 - When connecting a new wireless controller, press and hold the two buttons on the wireless controller simultaneously until the indicator flashes green and then follow the instructions to connect.
-

1. Press and hold the power button of the control display to power on, and then power on the accessory.
2. Swipe up the bike screen to enter Settings. Tap **Accessories > Add** and the system will start searching for nearby devices.
3. Tap the device name displayed on the bike screen to start pairing. Follow the on-screen instructions to complete the connection.

The added device are displayed on the **Accessories** page. Tap the device name to view the detailed information. Tap **Forget Device** to unpair with the device.

3.5 Gear Shifting Suggestions

The drive system can provide gear shifting suggestions during riding. The suggestions can help users select more appropriate gear when riding uphill, improving the pedaling efficiency and riding experience.

Power on the control display and swipe up the screen, then tap **Gear Shifting Suggestions** to enable the function. After enabling, the gear suggestion will be shown on the bike screen if there is a more suitable gear position for the current condition.

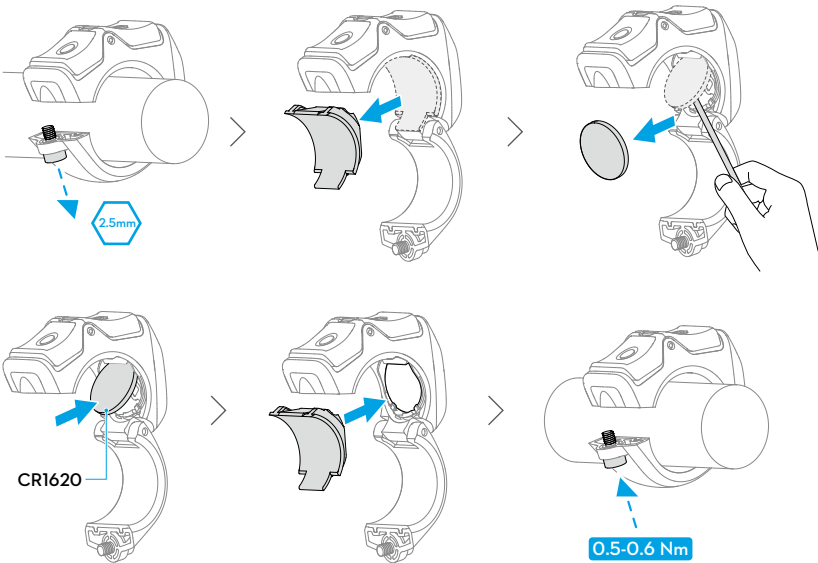


- Shifting the gear according to the prompt helps maximize the efficiency of the assistance while reducing the tension on the chain.
-

4 Maintenance

4.1 Replacing Battery of Controller

The indicator of the wireless controller will flash red when the battery level is too low. Follow the illustrations to replace the battery.



- ⚠ • DO NOT use metal tools to remove the battery as it may cause a short circuit.
- Make sure to clean the installation area and the bolts after multiple disassembly. Otherwise, it may cause abnormal noise during attaching and detaching.

4.2 Cleaning

The frequency of maintenance varies depending on the riding conditions. Make sure to turn the battery off and close the covers of the charging port and Type-C port before cleaning. Clean dirt on surface using a soft, dry cloth. If necessary, use a damp cloth and neutral detergent to clean.

- ⚠ • Improper cleaning may cause damage to electrical components.

- DO NOT use a high pressure water spray to clean the motor, battery, and any electrical components, as it may cause a fire.
 - DO NOT expose electrical component interfaces to liquids. Make sure to dry the interfaces before connecting to prevent damage.
 - Clean the Type-C port with a soft, dry cloth or tissue if there is any liquid or foreign object.
-

4.3 Battery Maintenance

-  • The battery should be stored in a cool and dry environment without direct sunlight at a temperature from 0° to 40° C (32° to 104° F).
 - Regularly check battery levels and battery charge cycles. Battery capacity may be affected after using for 500 cycles, which will not impact riding.
 - When the battery level is less than 10%, charge promptly as it will affect battery life.
 - Battery performance will be affected if the battery is not used for an extended period. Discharge and charge the battery completely once every three months to keep it in good condition.
-

-  • DO NOT continue to use if the charger port or cable shows signs of wear or other damage.
 - Disconnect the battery from the charging device when it is fully charged. DO NOT overcharge the battery. Otherwise, the battery cells may be damaged.
 - The battery life may be reduced if it is charged at a high temperature. After each ride, allow the battery to cool down to approximately room temperature before charging. Charging the battery at a temperature of 0° to 40° C (32° to 104° F) can extend the battery life significantly.
 - Remove the battery from the frame when stored for an extended period and keep it out of the reach of children.
 - If the battery needs to be stored for a long time, it is recommended to discharge the battery to 30%. Storing with a high battery level will shorten the battery life, and storing with a low battery level may lead to over-discharge.
 - Before transportation, discharge the battery to about 30% and remove it from the frame. Otherwise, the battery may fall out during transportation, or the battery connectors may be worn out. Transport the battery using a carrying box. DO NOT transport a damaged battery.
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5 Appendix

5.1 Specifications

Visit the following website for specifications.

<https://www.avinox-ebike.com/avinox-system/downloads>

5.2 Troubleshooting

When the drive system detects error, there will be a warning on the bike screen. Swipe up the screen to enter Settings and tap **System Status** to learn the warning details and corresponding troubleshooting.



- If the issue persists, contact official Support or authorized retailers for help.
-

5.3 Upload Logs

If an error occurs or the system crashes during use, users can open the app and tap **Help > Support**. Follow the prompts in **Drive System Errors** to export and send the logs to official Support for analysis.

Tap **App Errors** to submit any problems encountered during the use of the app and get help.

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Download the latest version from



<https://www.avinox-ebike.com/avinox-system/downloads>

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