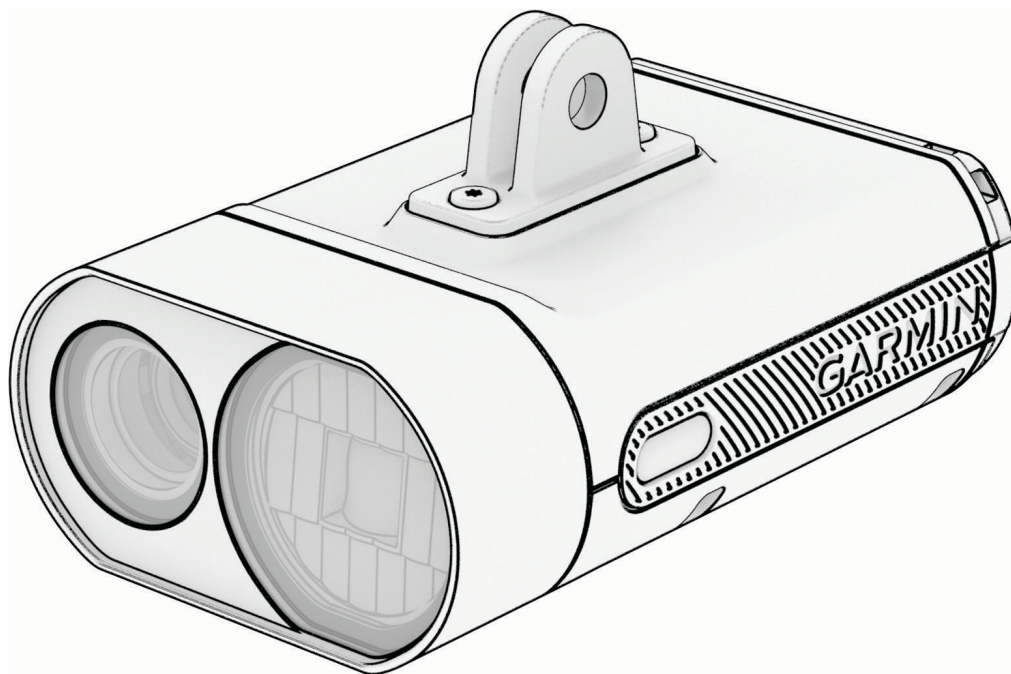


GARMIN®



VARIA™ VUE

Owner's Manual

© 2025 Garmin Ltd. or its subsidiaries

All rights reserved. Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Garmin. Garmin reserves the right to change or improve its products and to make changes in the content of this manual without obligation to notify any person or organization of such changes or improvements. Go to www.garmin.com for current updates and supplemental information concerning the use of this product.

Garmin®, the Garmin logo, ANT+®, Edge®, and Forerunner® are trademarks of Garmin Ltd. or its subsidiaries, registered in the USA and other countries. Garmin Express™ and Varia™ are trademarks of Garmin Ltd. or its subsidiaries. These trademarks may not be used without the express permission of Garmin. The BLUETOOTH® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Garmin is under license. microSD® and the microSD logo are trademarks of SD-3C, LLC. Wi-Fi® is a registered mark of Wi-Fi Alliance Corporation.

M/N: A04664

Country restrictions apply. 010-02911-00 is approved for operation in France and the United Kingdom.

Table of Contents

Introduction.....	1	Customizing Camera Settings with Your Edge Bike Computer.....	19
Getting Started.....	1	Other Compatible Devices.....	19
Installing the Out-Front Mount.....	2	Pairing the Device with a Compatible Garmin Watch.....	19
Tips for Installing the Headlight.....	5	Vault Storage.....	20
Device Overview.....	6	Subscribing to Vault.....	20
Turning On and Off the Device.....	6	Vault Transfer Options.....	20
Device Status LED.....	7	Connecting to a Wi-Fi Network for Vault.....	20
Camera Status LED.....	7	Device Information.....	21
Video Recording.....	8	Charging the Device.....	21
Saving Videos and Photos Manually.....	8	Tips for Charging the Device.....	21
About Incident Recording.....	8	Connecting the Device to Your Computer.....	22
Recording Modes.....	9	Installing or Replacing the Memory Card.....	23
Video Segment Lengths.....	9	Formatting Your Memory Card.....	24
Video and Photo Format.....	9	Device Care.....	24
The Varia App.....	10	Cleaning the Device.....	24
Pairing the Varia Vue with Your Phone.....	11	Cleaning the USB Port.....	24
Pairing an Additional Varia Device... ..	11	Long-Term Storage.....	24
Viewing Videos and Photos on the Varia App.....	12	Specifications.....	25
Downloading Videos and Photos on the Varia App.....	12	Battery Life Information.....	25
Deleting a Video or Photo on the Varia App.....	12	Headlight Light Intensity Modes.....	26
Varia App Device Settings.....	12	Symbol Definitions.....	26
Camera Settings.....	13	Troubleshooting.....	26
Customizing the Varia App Sounds and Alerts Settings.....	14	Resetting the Device.....	26
Edge Bike Computer Settings.....	14	Locking and Unlocking the Device.....	26
Pairing the Varia Vue with a Compatible Edge Bike Computer.....	14	Thermal Safety Shutdown.....	26
Viewing the Status Widget.....	15	The status LED flashes red while charging.....	26
Customizing Headlight Settings with Your Edge Bike Computer.....	15	The headlight disconnects from the Varia app.....	27
Light Network Settings.....	16	The headlight disconnects from the Edge bike computer.....	27
Light Mode Settings.....	16	How do I check the battery level?.....	27
Testing the Light Network.....	16	Updating the Device Software With the Varia App.....	27
Automatic Beam Intensity.....	16	Device Status LED for Software Updates.....	28
Adjusting the Beam During a Ride.....	17	Product Updates.....	28
Controlling the Camera with Your Edge Bike Computer.....	18	Updating the Software Using the Garmin Express Application.....	28

Replacement Parts.....28

Getting More Information..... 28

Introduction

WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

The device can improve situational awareness. It is not a replacement for cyclist attentiveness and good judgement. Always maintain awareness of your surroundings, and operate the bicycle in a safe manner. Failure to do so could result in serious injury or death.

The device is intended for outdoor use. Without proper airflow during use, the device may become hot. Handle with care.

Always consult your physician before you begin or modify any exercise program.

NOTICE

Some jurisdictions regulate or prohibit the use of headlight camera devices. It is the responsibility of the user to know and follow all applicable laws in the jurisdiction where the device is intended to be used.

Getting Started

You can use the Varia Vue with your compatible Garmin® device or a phone. This list provides an overview of the installation and setup tasks.

- Charge the device ([Charging the Device, page 21](#)).
- Install and format the memory card ([Installing or Replacing the Memory Card, page 23](#)).
- Install the headlight on your bike ([Installing the Out-Front Mount, page 2](#)).
- Download the Garmin Varia app to your phone, and pair the devices ([Pairing the Varia Vue with Your Phone, page 11](#)).
- If you are using an Edge® series bike computer, pair the devices ([Pairing the Varia Vue with a Compatible Edge Bike Computer, page 14](#)).
- If you are using a Garmin watch, pair the devices ([Pairing the Device with a Compatible Garmin Watch, page 19](#)).

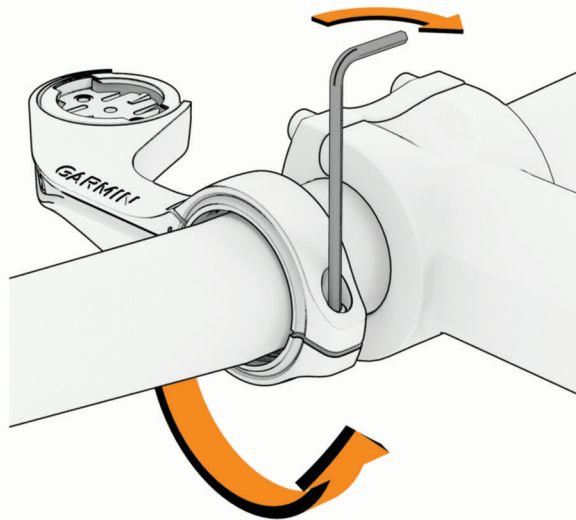
Installing the Out-Front Mount

You can use the out-front mount to install the headlight and your Edge bike computer. Garmin recommends that you adjust the mount for the viewing angle of the Edge bike computer before you install and adjust the headlight angle.

- 1 Select a secure location to mount the Edge bike computer and headlight where they do not interfere with the safe operation of your bike.
- 2 Use the 2.5 mm hex key to remove the screw ① from the handlebar connector ②.

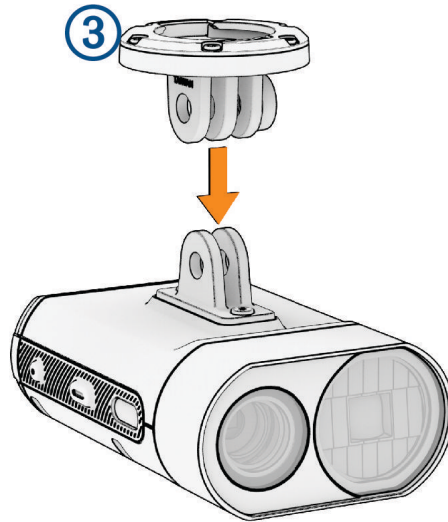


- 3 Place a rubber pad around the handlebar:
 - If the handlebar diameter is 25.4 mm, use the thicker pad.
 - If the handlebar diameter is 31.8 mm, use the thinner pad.
 - If the handlebar diameter is 35 mm, do not use a rubber pad.
- 4 Place the handlebar connector around the rubber pad.
NOTE: You should align the contours on the rubber pad with the grooves on the inside of the handlebar connector.
- 5 Replace the screw, and use the 2.5 mm hex key to tighten the screw.
NOTE: You should check the tightness of the screw periodically. Garmin recommends a torque specification of 7 lbf-in. (0.8 N-m).

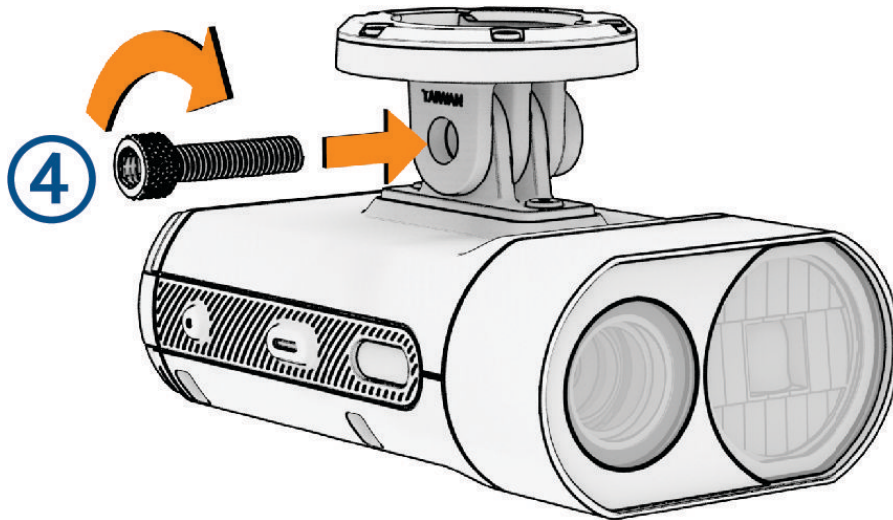


- 6 Install the Edge bike computer, and adjust the mount (optional).

7 Connect the quarter-turn adapter ③ to the headlight.

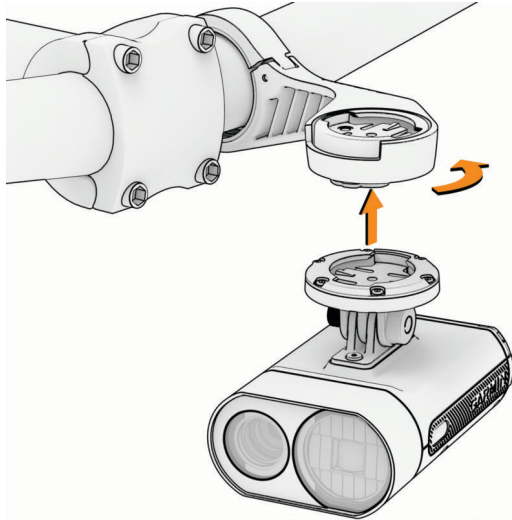


8 Insert the screw ④, and hand tighten.

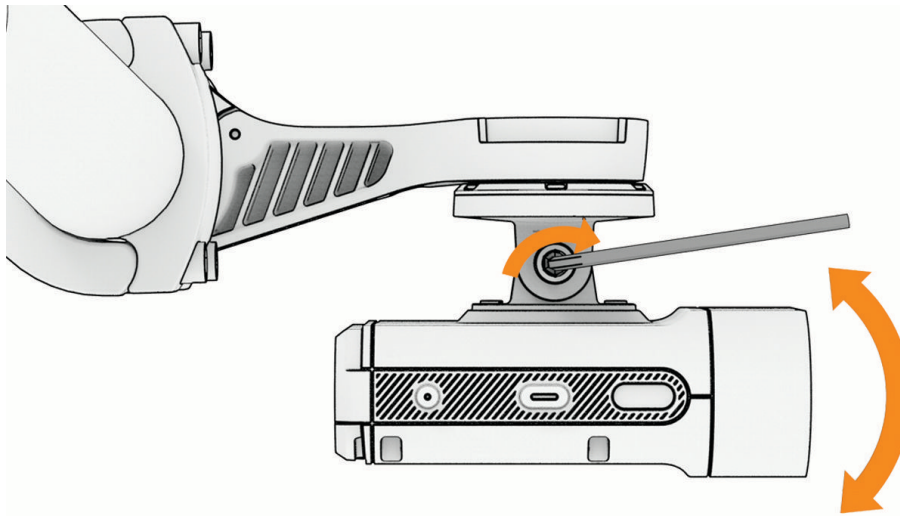


9 Align the notches of the quarter-turn adapter with the tabs on the bottom of the mount.

10 Press up slightly, and turn the adapter counterclockwise until it locks into place.



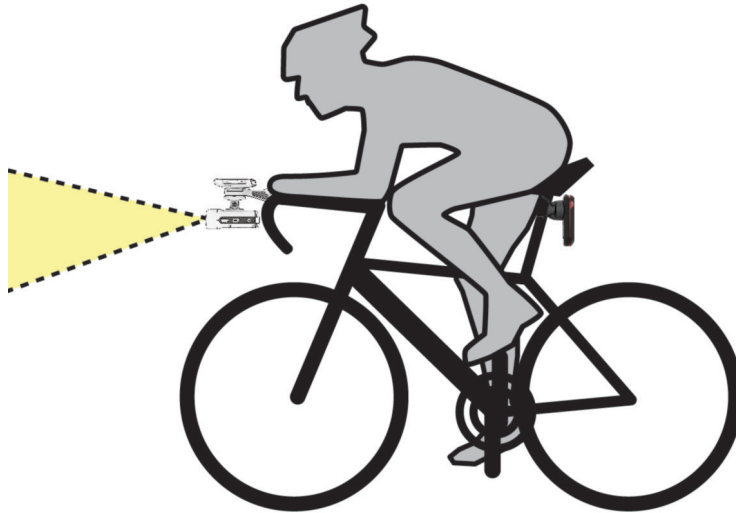
11 Adjust the headlight angle so it is parallel to the ground, and use the 4 mm hex key to tighten the screw.



NOTE: You should check the tightness of the screw periodically.

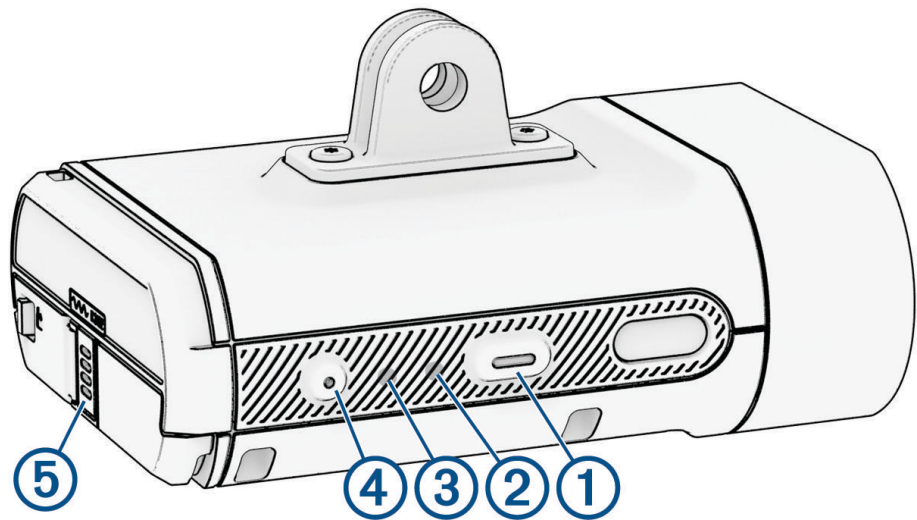
Tips for Installing the Headlight

- Select a secure location to mount the device where it does not interfere with the safe operation of your bike.
- Select a mount that best fits your bike.
- Install the device correctly. The device faces forward, and must be mounted underneath the handlebars ([Installing the Out-Front Mount, page 2](#)).



- Make sure there are no obstructions in front of the light.
- Adjust the headlight angle so it illuminates the ground ahead.
- To correctly line up the headlight, use the camera preview feature on the Varia app ([Camera Settings, page 13](#)).
- If using an Edge bike computer, install the mount so the bike computer is visible from a comfortable riding position.
- Go for a test ride during the day in a safe environment.

Device Overview



① Device button	Hold for 1 second to turn the device on and enter active mode. Press to change the device and light modes. When the device is off, hold for 2 seconds to enter pairing mode (Pairing the Varia Vue with Your Phone, page 11). Hold for 2 seconds to turn the device off.
② Device status LED	Changes color and pattern based on the battery level, pairing status, device modes, and charging status (Device Status LED, page 7).
③ Camera status LED	Changes color and pattern based on the camera status (Camera Status LED, page 7).
④ Camera button	When the device is active, press to save a video or take a picture. When the camera is saving a video, hold for 2 seconds to stop saving. Hold for 4 seconds to turn the camera on or off.
⑤ Microphone	Captures audio.

Turning On and Off the Device

- 1 Hold the device button for 1 second to turn on the device.
The first time you turn on the headlight, it enters pairing mode. The status LED flashes . The device can be paired with the Varia app ([Pairing the Varia Vue with Your Phone, page 11](#)) or Edge bike computer ([Pairing the Varia Vue with a Compatible Edge Bike Computer, page 14](#)).
- 2 Hold the device button for 2 seconds to turn off the device ([Locking and Unlocking the Device, page 26](#)).

Device Status LED

LED Activity	Status
Single flashing 	The device is in pairing mode. The device is in pairing mode for 5 minutes or until you press the device button.
Single flashing 	The battery level is good, and the device is in smart mode. NOTE: In smart mode, ANT+® technology is turned on, and Bluetooth® technology is turned off.
Double flashing 	The battery level is good, and the device is in active mode. The device can be controlled by a paired compatible Garmin device, or a phone connected with the Varia app. NOTE: In active mode, both ANT+ technology and Bluetooth technology are turned on.
Rapidly flashing 	The battery is charging. As the charge increases, the flash period increases until it is fully charged.
Solid 	The battery is fully charged.
Alternating 	The device is updating software (Device Status LED for Software Updates, page 28).
Alternating 	The device is uploading videos to Garmin Vault (Vault Storage, page 20).
Double flashing 	The battery level is low with approximately 60 or fewer minutes of battery life remaining, and the device is in active mode.
Single flashing 	The battery level is low with approximately 60 or fewer minutes of battery life remaining, and the device is in smart mode.
Slowly flashing 	An error occurred. You may need to reset the device (Resetting the Device, page 26).

Camera Status LED

LED State	Status
Solid 	The device is recording video to the video loop. New video overwrites old video.
Flashing 	The device is saving a video or photo. This locks the file, preventing it from being overwritten.
Slowly flashing 	There is a problem with the memory card.
Solid 	The memory card is being formatted. The device is in mass storage mode.
Slowly flashing 	The device is powering on. The device is accessing the memory card.
Slowly flashing 	The device is in Wi-Fi® sharing mode.

Video Recording

NOTICE

Some jurisdictions may prohibit or regulate the recording of video, audio, or photographs, or may require that all parties have knowledge of the recording and provide consent. It is your responsibility to know and follow all laws, regulations, and any other restrictions in jurisdictions where you plan to use this device.

The Varia Vue is a safety device with a camera, providing peace of mind that the latest footage is always captured. When the camera is enabled, the device is always recording in a circular video loop, overwriting the oldest video footage with new footage.

You can save a video recording manually to prevent it from being overwritten during typical usage ([Saving Videos and Photos Manually, page 8](#)). If the memory card is full with saved video, the device will overwrite the oldest saved video to continue recording.

TIP: After you save a video recording, you should download the recording to your phone, or transfer the recording to your computer or other external storage location for permanent storage ([Downloading Videos and Photos on the Varia App, page 12](#), [Connecting the Device to Your Computer, page 22](#)). You can purchase a Vault subscription to store your video in a secure online storage server ([Vault Storage, page 20](#)).

TIP: Garmin recommends periodically backing up saved footage to your phone, computer, or the Garmin Vault.

Saving Videos and Photos Manually

When the camera is enabled, the device is always recording and saving video to the memory card, overwriting the oldest video footage with new footage. You can also save video files and photos manually at any time to prevent the camera from overwriting them.

- On the device, press the camera button ([Device Overview, page 6](#)).
- From the Varia app, select  or  ([The Varia App, page 10](#)).
- On your compatible Edge bike computer, select an option ([Controlling the Camera with Your Edge Bike Computer, page 18](#)):
 - To take a photo, select **Take Photo**.
 - To save a 2-minute segment of video, select **Save Clip**.
 - To manually save video, select **Film Ride**

TIP: To stop saving video, hold the camera button for 2 seconds.

The memory card has limited storage. After you manually save a video recording, you should download the recording to your phone, or transfer the recording to your computer or other external storage location for permanent storage ([Downloading Videos and Photos on the Varia App, page 12](#), [Connecting the Device to Your Computer, page 22](#)). Saved recordings are automatically displayed in the **Locked** folder when your paired phone is connected to a Wi-Fi network ([Viewing Videos and Photos on the Varia App, page 12](#)).

About Incident Recording

By default, the device uses a sensor to detect possible incidents and saves video footage automatically before, during, and after the detected event ([Camera Settings, page 13](#)). The video footage is stamped with the time, date, and location (if available) of the event.

Recording Modes

The Varia Vue supports three different recording modes ([Changing Your Recording Mode, page 13](#)).

Continuous	The camera is always enabled and recording to the video loop.
On Radar Activity	Camera recording is enabled only when a connected Varia radar device detects radar threats. If no radar device is connected, the Varia Vue enables the camera and continuously records video to the video loop.
Off	Camera recording is disabled. You can manually save a video at any time, and incidents are recorded (About Incident Recording, page 8).

Video Segment Lengths

The Varia Vue stores video footage in a circular loop in 2-minute segments and in chronological order. The Varia app stitches consecutive 2-minute segments into 10-minute videos.

The length of manually saved video segments corresponds to the duration between starting and stopping the video, up to a maximum of 10 minutes. If the video is longer than 10 minutes, it will be broken into multiple videos.

Incident event videos are 90 seconds long if recording mode is continuous, with 15 seconds of footage preceding the occurrence of the incident. If recording mode is off, only 75 seconds of video footage is recorded starting from when the incident occurred ([Recording Modes, page 9](#)).

Video and Photo Format

Videos and photos are stored in the DCIM directory on the memory card. Videos are stored in MP4 and GLV file format, and photos are stored in JPG format. GLV is a low-resolution video file that provides a better mobile preview experience in the Varia app.

Varia Vue uses a video compression standard called HEVC (High Efficiency Video Coding), also known as H.265. HEVC allows video to be saved at up to half the file size while maintaining the captured image quality. Some media players might not support H.265 video compression playback.

NOTE: For more information on how to view your videos with the best image quality, go to www.garmin.com/videos.

You can view and transfer videos and photos by inserting the memory card into your computer or connecting the device to your computer ([Connecting the Device to Your Computer, page 22](#)).

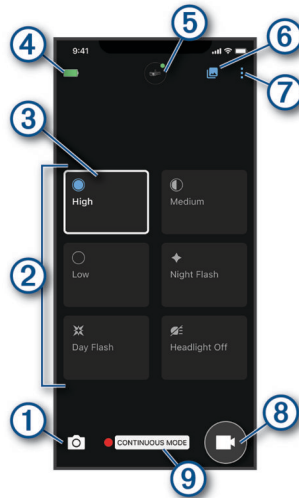
The videos and photos are sorted into folders.

100EVENT	Contains videos saved automatically when the device detects an incident.
101PHOTO	Contains photos.
102SAVED	Contains videos saved manually by the user.
103UNSDV	Contains unsaved video footage currently in the video loop. The device overwrites the oldest unsaved video when the storage space for unsaved videos is full.

TIP: You can also view and transfer videos and photos using the Varia app ([Viewing Videos and Photos on the Varia App, page 12](#)).

The Varia App

The Varia app connects to your Varia Vue headlight using Bluetooth technology. The app displays light information, settings, videos, and photos.



①	Select to take a photo.
②	Displays the available light setting modes (Headlight Light Intensity Modes , page 26).
③	Indicates your current light setting mode.
④	Displays the battery status of the paired Varia device.
⑤	Select to change the device and camera settings (Varia App Device Settings , page 12).
⑥	Select to open the video and photo gallery (Viewing Videos and Photos on the Varia App , page 12).
⑦	Select to update the sounds and alerts on your phone. (Customizing the Varia App Sounds and Alerts Settings, page 14). Select to view your Vault videos, settings, and more. NOTE: Vault features require a paid subscription (Vault Storage, page 20).
⑧	Select to start saving a video.
⑨	Displays your current recording mode (Changing Your Recording Mode , page 13).

You can download the Varia app from the app store on your phone.

Pairing the Varia Vue with Your Phone

You can pair your Varia Vue to the Varia app on your phone to customize device settings, receive software updates, and view and edit video. After the initial pairing, the Varia app automatically connects to the Varia Vue when you open the app and the headlight device is active and within range.

- 1 Bring your phone within range (0.3 m) of the Varia Vue.

NOTE: Stay 10 m away from other Bluetooth sensors while pairing.

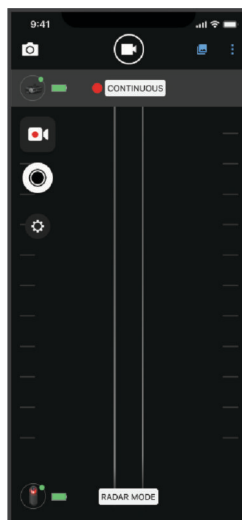
- 2 On your compatible phone, enable Bluetooth technology.
- 3 From the app store on your phone, install and open the Varia app.
- 4 Select **Add New Device**.
- 5 While the Varia Vue is turned off, hold the device button for 2 seconds to enter pairing mode.
The device status LED flashes , and the device turns on. The device is in pairing mode for 5 minutes or until you press the device button.
- 6 Select **Pair**.
- 7 Select an option:
 - To store your videos with Vault, a secure online storage server, select **Get Started**, and follow the on-screen instructions.
NOTE: Vault features require a paid subscription ([Vault Storage, page 20](#)).
 - To store your videos on the microSD® card only, select **Not Now**.

When the Varia Vue is paired with your phone, the app displays the current light mode ([The Varia App, page 10](#)).

Pairing an Additional Varia Device

- 1 From the Varia app, select .
- 2 Select **Devices > Add Device**.
- 3 Follow the on-screen instructions to complete the pairing and setup process.

When both the Varia Vue and a Varia radar device are paired with your phone, the app displays both devices.



Viewing Videos and Photos on the Varia App

Before you can view videos and photos on the Varia app, you must download the app and pair it with your Varia Vue device ([Pairing the Varia Vue with Your Phone, page 11](#)).

NOTE: The device stops recording while you are viewing the gallery.

- 1 From the Varia app, select .
The app opens to the Downloaded folder ([Downloading Videos and Photos on the Varia App, page 12](#)).
- 2 To view other folders, select an option:
 - To view a saved video or photo, select **Locked**.
 - To view recent, unsaved video footage, select **Unlocked**.
- 3 Select **Join Varia Wi-Fi Network**.
- 4 Follow the on-screen instructions.

Downloading Videos and Photos on the Varia App

Before you can download videos and photos on the Varia app, you must download the app, and pair it with your Varia Vue device ([Pairing the Varia Vue with Your Phone, page 11](#)).

NOTE: The device stops recording while you are viewing the gallery.

- 1 From the Varia app, select the device icon at the top of the home screen.
- 2 Select **Gallery & Storage > Gallery**.
- 3 Follow the on-screen instructions.
- 4 Select the **Locked** or **Unlocked** folder.
- 5 Select a video or photo from the thumbnail gallery.
- 6 Select **...**, and select an option:
 - To download the video or photo and delete it from its current folder, select **Download & Delete**.
 - To download the video or photo and keep a copy in its current folder, select **Download**.
- 7 Select **Downloaded** to view the downloaded video or photo.

TIP: Select **Add to Vault** and following the on-screen instructions to upload your video or photo to your Garmin Vault account (optional) ([Vault Storage, page 20](#)).

Deleting a Video or Photo on the Varia App

Before you can delete a video or photo on the Varia app, you must download the app and pair it with your Varia Vue device ([Pairing the Varia Vue with Your Phone, page 11](#)).

NOTE: The device stops recording while you are viewing the gallery.

- 1 From the Varia app on your phone, select  > **Join Varia Wi-Fi Network**, and follow the on-screen instructions.
- 2 Select the **Locked** or **Unlocked** folder.
- 3 Select a video or photo from the thumbnail gallery.
- 4 Select **...** on the video or photo.
- 5 Select **Delete**.

Varia App Device Settings

On the Varia app, select the device icon at the top of the home screen ([Device Overview, page 6](#)).

Camera Configuration: Allows you to set up the camera, change recording mode, customize the video options, and enable incident recording ([Camera Settings, page 13](#)).

Gallery & Storage: Allows you to delete videos and photos in the gallery and format your memory card ([Deleting a Video or Photo on the Varia App, page 12](#)).

Software Updates: Displays the software version and device information.

Camera Settings

NOTICE

The accuracy of the speed overlay depends on a number of factors, including GPS accuracy of the connected display, rider speed, and wireless connectivity between the display and the device.

From the Varia app, select the device icon at the top of the home screen, and select **Camera Configuration**.

Recording Mode: Sets the recording mode for the video camera, or turns off video recording ([Changing Your Recording Mode, page 13](#)).

Video Quality & Audio: Allows you to select the video resolution ([Video Resolution Settings, page 13](#)). You can also enable electronic image stabilization (EIS) ([Turning Video Stabilization On, page 13](#)), and turn on and off audio recording ([Turning Audio Recording Off, page 14](#)).

Live Camera Preview: Allows you to see the camera view for optimal placement on your bike.

Incident Recording: Turns on and off incident recording ([About Incident Recording, page 8](#)).

Data Overlays: Sets the type of data that appears on videos and photos.

NOTE: GPS and speed overlays require an open connection between the Varia Vue and the display. An open connection between a sensor and display is not encrypted or authenticated.

Changing Your Recording Mode

- 1 From the Varia app, select the device icon at the top of the home screen.
- 2 Select **Camera Configuration > Recording Mode**.
- 3 Select an option:
 - Select **Continuous** to turn on camera recording when the device turns on.
 - Select **On Radar Activity** to record video only when a compatible radar device radar that is connected to the app detects a vehicle.

NOTE: If no radar device is connected, your camera will continuously record in this mode.
 - Select **Off** to disable camera recording.

Video Resolution Settings

You can set the resolution of video recorded by the camera.

Resolution is the width and height of the video in pixels. FPS is the number of video frames captured each second. Settings with a higher resolution or FPS require more memory card space.

In the Varia app, select the device icon at the top of the home screen, and select **Camera Configuration > Video Quality & Audio**.

Setting	Resolution with Electronic Image Stabilization (EIS)
4K, 30 fps	2688 x 2160 px (3840 x 2160 px without EIS)
1440p, 30 fps	2560 × 1440 px
1080p, 30 fps	1920 × 1080 px
1080p, 60 fps	1920 × 1080 px

Turning Video Stabilization On

You can turn on electronic image stabilization (EIS) to reduce shaky video.

- 1 From the Varia app, select the device icon at the top of the home screen.
- 2 Select **Camera Configuration > Video Quality & Audio**.
- 3 Select the **Stabilize Video** toggle switch.

Turning Audio Recording Off

The device records audio using the integrated microphone while recording video. You can turn off audio recording at any time.

- 1 From the Varia app, select the device icon at the top of the home screen.
- 2 Select **Camera Configuration > Video Quality & Audio**.
- 3 Select the **Record Audio During Ride** toggle switch.

Customizing the Varia App Sounds and Alerts Settings

- 1 From the Varia app, select  > **Sounds & Alerts**.
- 2 Select an option.

Edge Bike Computer Settings

You can remotely control your Varia devices and customize settings using your compatible Edge bike computer.

Pairing the Varia Vue with a Compatible Edge Bike Computer

You can pair your Varia Vue with a compatible Edge bike computer through an open connection using ANT+ technology. After the initial pairing, the Edge bike computer automatically connects to the Varia device when you start your activity and the device is active and within range. When paired, the device controls appear on the compatible bike computer. You can also control the camera on the compatible bike computer.

TIP: To check if your bike computer is compatible, go to www.garmin.com/variavue, and select the **Compatible Devices** tab.

- 1 Bring the Edge bike computer within range (3 m) of the Varia Vue.
NOTE: Stay 10 m away from other sensors that use ANT+ technology while pairing.
- 2 Turn on the Edge bike computer.
- 3 Select  > **Sensors > Add Sensor > Search All**.
- 4 While the Varia Vue headlight is turned off, hold the device button for 2 seconds to enter pairing mode.
The status LED flashes , and the headlight turns on. The device is in pairing mode for 5 minutes or until you press the device button.
- 5 Select your sensor.

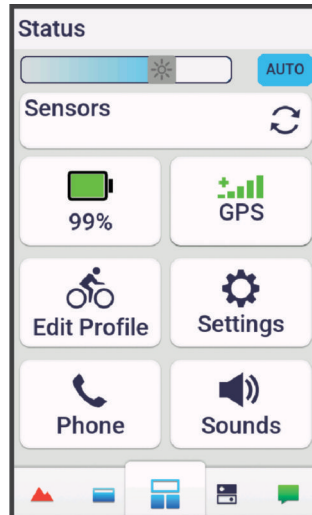
When the headlight device is paired with your Edge bike computer, the sensor status is Connected. The  (bike light) status icon appears solid on the top banner of the home screen.

Viewing the Status Widget

The status widget on your Edge bike computer displays the status of the GPS, sensors, and wireless connections. See your Edge owner's manual for more information.

Select an option:

- If your Edge bike computer uses a touchscreen, swipe down from the top of the home screen or a data screen.
- If your Edge bike computer uses device buttons, press  or  from the widgets screen.



The status widget appears. A flashing icon means the device is searching. A solid icon means the signal was found or the sensor is connected.

Customizing Headlight Settings with Your Edge Bike Computer

WARNING

The headlight can be programmed to emit light at varying degrees of brightness and flash at various intervals. Contact your healthcare provider if you have epilepsy or are sensitive to bright or flashing lights.

Before you can customize Varia device settings with your Edge bike computer, you must pair the devices ([Pairing the Varia Vue with a Compatible Edge Bike Computer, page 14](#)).

- 1 From the **Sensors** menu, select **Lights**.
- 2 Select an option:
 - Select **Enable** to enable the light network.
 - Select **Network Options** > **Light Mode** to set the light intensity mode for all lights in your network ([Light Mode Settings, page 16](#)).
 - Select **Network Options** > **Light Beam Activated** to turn on the headlight automatically when the timer starts or when the Edge bike computer turns on.
 - Select **Network Options** > **Test Lights** to check that each light in your network is set up correctly ([Testing the Light Network, page 16](#)).
 - Select **Network Options** > **Auto Beam Adjustment** to adjust the headlight intensity automatically based on the rate of speed. A high intensity is used at high speeds, and a low intensity is used at low speeds ([Automatic Beam Intensity, page 16](#)).
 - Select a light to view device information and customize each light in your network ([Light Network Settings, page 16](#)).

Light Network Settings

From the **Sensors** menu, select **Lights**, and select a paired light.

NOTE: Not all settings are available for all Edge bike computers.

Sensor ID: Displays the sensor's identification number.

Connection Type: Displays the technology that is used to connect to the sensor.

About: Displays device and software information.

Camera Settings: Sets the video resolution and recording mode, turns off audio recording, turns on image stabilization, and more.

Light Mode: Sets the light intensity and pattern mode, or turns off the light.

NOTE: This setting is available when you select the Individual light mode setting ([Light Mode Settings, page 16](#)).

Remove: Allows you to delete a paired light from the network.

Light Mode Settings

From the **Sensors** menu, select **Lights > Network Options > Light Mode**.

Auto: Automatically adjusts the light intensity and light mode based on the ambient light and time of day. This mode is recommended for commuting or road rides.

High Visibility: Sets the light intensity to flash mode or the brightest setting available.

Trail: Automatically adjusts the light intensity and light mode based on the ambient light and time of day. This mode is recommended for trail riding.

Individual: Allows you to customize the light intensity and pattern mode for each light in your network ([Light Network Settings, page 16](#)).

Testing the Light Network

1 From the **Sensors** menu, select **Lights > Network Options > Test Lights**.

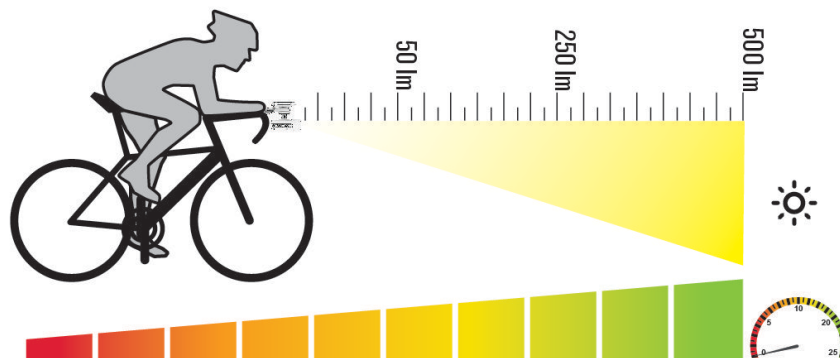
2 Select a light to test.

The light blinks when it is connected.

Automatic Beam Intensity

When paired with a compatible Edge bike computer, the headlight can adjust automatically based on the current lighting conditions, sunrise and sunset information, and speed.

As your speed increases, the headlight shines brighter. At lower speeds, the light intensity is reduced to maximize battery life.



Adjusting the Beam During a Ride

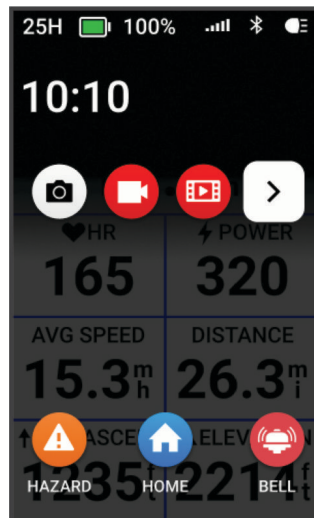
Before you can adjust the Varia light intensity with your Edge bike computer, you must pair the devices ([Pairing the Varia Vue with a Compatible Edge Bike Computer, page 14](#)).

- 1 On your Edge bike computer, disable the automatic beam setting ([Customizing Headlight Settings with Your Edge Bike Computer, page 15](#)).
- 2 Go for a ride.
- 3 Select an option:
 - If your bike computer uses a touchscreen, swipe the screen to view the bike lights widget.
 - If your bike computer uses device buttons, press , select **Widgets**, and press the  or  device buttons to view the bike lights widget.
- 4 Select **High** or **Low** to adjust the headlight beam.

Controlling the Camera with Your Edge Bike Computer

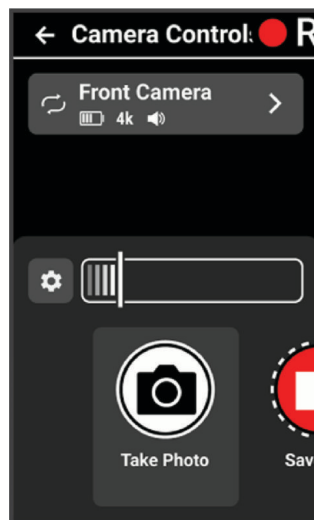
Before you can control the Varia camera with your Edge bike computer, you must pair the devices ([Pairing the Varia Vue with a Compatible Edge Bike Computer, page 14](#)).

- 1 Go for a ride.
 - 2 Select an option:
 - If your bike computer uses a touchscreen, tap the screen to view the timer overlay, and select .
- TIP:** You can also control the camera using the quick action buttons on the timer overlay.



- If your bike computer uses device buttons, press , and select **Camera Controls**.

The bike computer displays the camera controls, as well as the recording mode, battery status, video resolution, and audio status of all connected cameras.

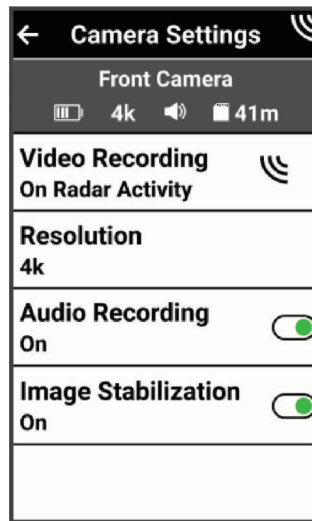


- 3 Select an option:
 - Select **Headlight Camera** to customize the camera settings ([Customizing Camera Settings with Your Edge Bike Computer, page 19](#)).
 - Select  to customize the quick action buttons that appear on the timer overlay.
 - Select **Take Photo**, **Save Clip**, or **Film Ride** ([Saving Videos and Photos Manually, page 8](#)).

Customizing Camera Settings with Your Edge Bike Computer

Before you can customize Varia camera settings with your Edge bike computer, you must pair the devices ([Pairing the Varia Vue with a Compatible Edge Bike Computer, page 14](#)).

- 1 Go for a ride.
- 2 Select an option:
 - If your bike computer uses a touchscreen, tap the screen to view the timer overlay, and select **>**.
 - If your bike computer uses device buttons, press **⋮**, and select **Camera Controls**.
- 3 Select **Headlight Camera**.



- 4 Select an option:
 - Select **Video Recording** to set the recording mode or turn off video recording ([Recording Modes, page 9](#)).
 - Select **Resolution** to set the video resolution recorded by the camera ([Video Resolution Settings, page 13](#)).
 - Select **Audio Recording** to turn on or off audio recording.
 - Select **Image Stabilization** to enable electronic image stabilization (EIS) and reduce shaky video.

Other Compatible Devices

Pairing the Device with a Compatible Garmin Watch

You can pair your Varia Vue with a compatible Garmin watch, such as a Forerunner® watch. When paired, the device controls appear on the compatible watch. You can also control the camera on the compatible device.

TIP: To check if your watch is compatible, go to www.garmin.com/variavue, and select the **Compatible Devices** tab.

NOTE: Not all Varia Vue features are available on all compatible watches. See the owner's manual for your watch.

- 1 Bring the watch within range (3 m) of the Varia Vue.
 - NOTE:** Stay 10 m away from other sensors that use ANT+ technology while pairing.
- 2 Turn on the Garmin watch.
- 3 From the **Settings** menu, select **Connectivity > Sensors & Accessories > Add New > Search All**.
- 4 While the Varia Vue headlight is in active mode, hold the device button for 2 seconds to enter pairing mode. The status LED flashes . The device is in pairing mode for 5 minutes or until you press the device button to exit pairing mode.
- 5 Select your sensor.

When the headlight device is paired with your Garmin watch, the  (bike light) status icon appears solid.

Vault Storage

NOTE: This feature requires an active Vault subscription. Vault features are not available for all countries.

You can upload, manage, and share videos on a secure, online storage drive using Garmin Vault. With a paid subscription, the Varia Vue uploads saved videos to the Vault automatically while it is connected to a Wi-Fi network.

You can purchase a Vault subscription from the Varia app on your phone ([Subscribing to Vault, page 20](#)).

NOTE: Your Varia device must be connected to a Wi-Fi network to use this feature ([Connecting to a Wi-Fi Network for Vault, page 20](#)).

Subscribing to Vault

You can purchase a Vault subscription to store your videos in a secure online storage server.

- 1 From the Varia app, select  > **Vault Settings** > **Vault Subscription**.
- 2 Follow the on-screen instructions.

Vault Transfer Options

NOTE: Vault features require a paid subscription ([Vault Storage, page 20](#)).

You can transfer videos from your Varia Vue to your Garmin Vault account.

- You can download videos from your device to your phone, and upload directly to the Vault from your phone ([Downloading Videos and Photos on the Varia App, page 12](#)).
- You can connect your device to a Wi-Fi network and a wall charger, and upload directly to the Vault from your device ([Connecting to a Wi-Fi Network for Vault, page 20](#)).

Connecting to a Wi-Fi Network for Vault

NOTICE

Connecting to a public or unsecured network may expose your video and sensor data to others. Use caution when connecting to an unsecured network.

NOTE: Vault features require a paid subscription ([Vault Storage, page 20](#)).

From the Varia app, you can connect your Varia Vue to a Wi-Fi network. When plugged into a wall charger and connected to a Wi-Fi network, your Varia Vue automatically uploads images and videos from the device's memory card to your to your Vault account.

- 1 Connect your Varia Vue to the Varia app ([Pairing the Varia Vue with Your Phone, page 11](#)).
- 2 From the Varia app, select the device icon at the top of the home screen.
- 3 Select **Vault Settings** > **Connect to Wi-Fi** > **Add a New Network**.
- 4 Follow the on-screen instructions.

The next time you plug your Varia Vue into a wall charger within range of the saved Wi-Fi network, your device automatically reconnects to this network and uploads saved footage to your Vault account.

The device LED flashes   to indicate the device is uploading videos to the Vault.

Device Information

Charging the Device

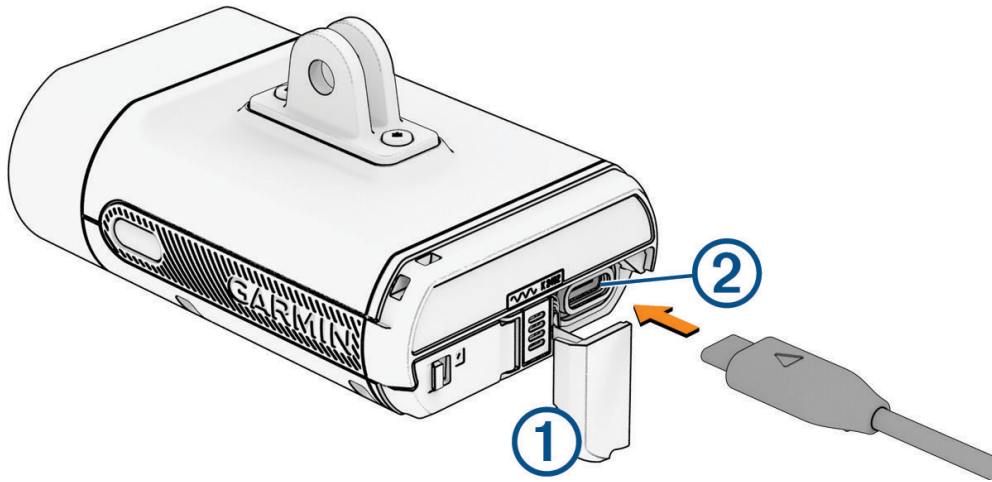
NOTICE

To prevent corrosion, thoroughly dry the USB port, the weather cap, and the surrounding area before charging or connecting to a computer.

The device is powered by a built-in lithium-ion battery that you can charge using a standard wall outlet.

NOTE: The device does not charge when outside the approved temperature range ([Specifications, page 25](#)).

- 1 Pull up the weather cap ① from the USB port ②.



- 2 Plug the USB cable into the charging port on the device.
- 3 Plug the other end of the cable large end of the USB cable into an AC adapter or USB charging port.
- 4 Plug the AC adapter into a standard wall outlet.
- 5 Charge the device completely.
The status LED flashes  while charging. The status LED is solid green when charging is complete.
- 6 Remove the USB cable, and close the weather cap.

Tips for Charging the Device

- Connect the charger securely to the Varia device.
You can charge the device by plugging the USB cable into a Garmin approved AC adapter with a standard wall outlet or a USB port on your computer. Garmin recommends charging the device using an AC power source.
- Remove the charger from the device when the status LED is solid green.
- View the remaining battery life  on the Edge bike computer status widget ([Viewing the Status Widget, page 15](#)) or Varia app ([The Varia App, page 10](#)).
- Charge the device at least once a year to ensure it remains operable ([Long-Term Storage, page 24](#)).

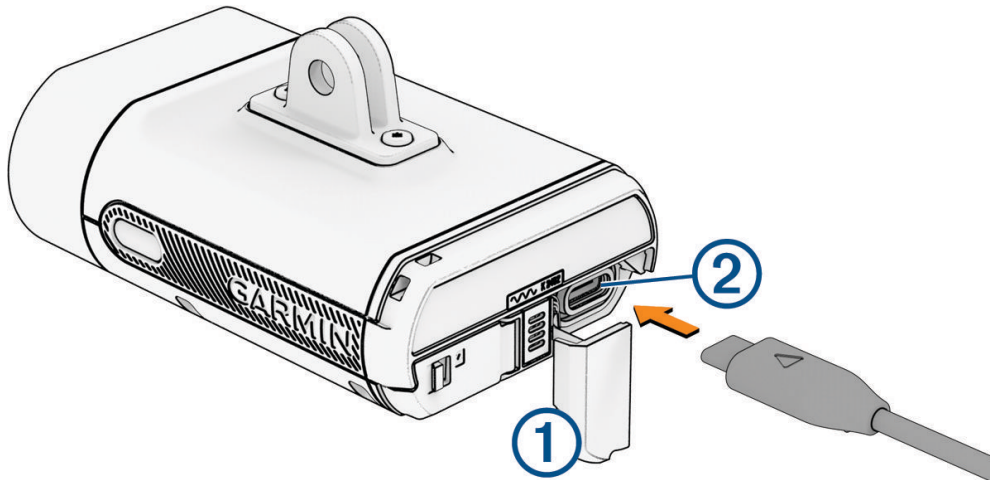
Connecting the Device to Your Computer

NOTICE

To prevent corrosion, thoroughly dry the USB port, the weather cap, and the surrounding area before charging or connecting to a computer.

You can connect the device to your computer to install software updates or transfer videos and photos to your computer.

- 1 Pull up the weather cap ① from the USB port ②.



- 2 Plug one end of the cable into the USB port on the device.
- 3 Plug the other end of the cable into a computer USB port.

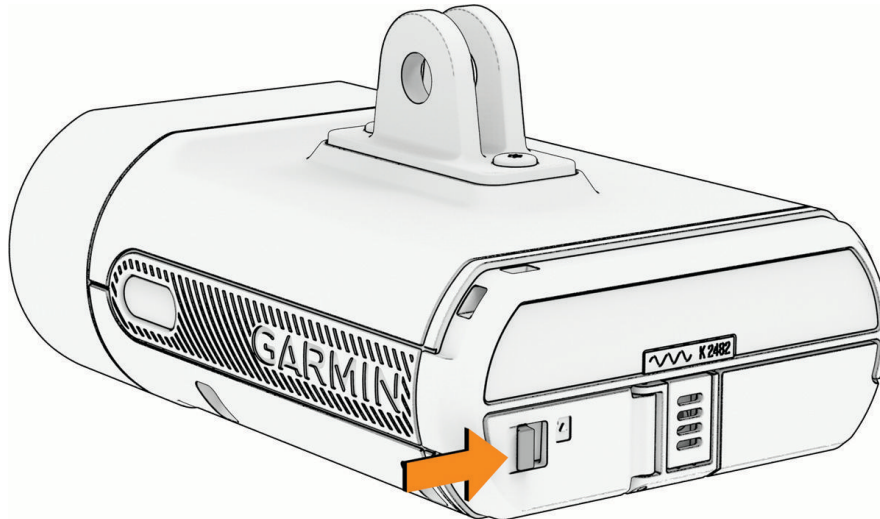
Depending on your computer operating system, the device appears as either a removable drive or a removable volume on your computer ([Video and Photo Format](#), page 9).

Installing or Replacing the Memory Card

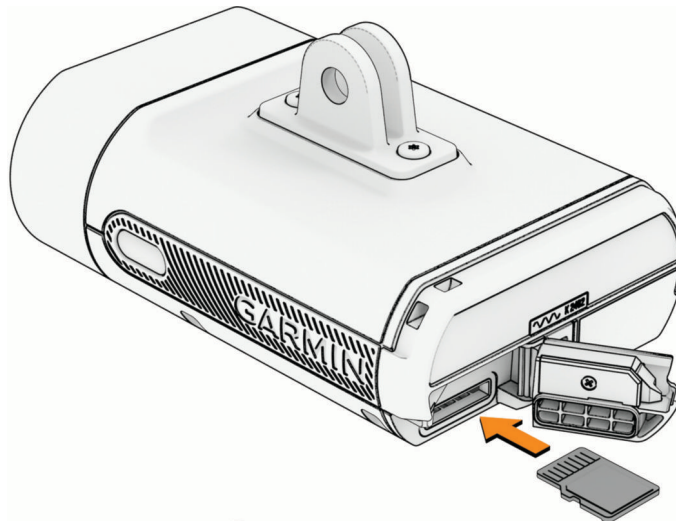
The device supports 8 to 512 GB microSD memory cards with a speed rating of Class 10 or higher. Garmin recommends using a 32 GB or higher microSD memory card. For information on recording mode capacity and more, go to garmin.com/variavuememorycard.

NOTE: You can replace a memory card to increase the storage capacity or when it has reached the end of its useful life. All memory cards have a limited life and must be replaced periodically.

- 1 On the back of the device, slide the tab to unlock the memory card cover.



- 2 Press the existing memory card in until it clicks, and release the card.
The existing memory card ejects from the slot.
- 3 Remove the existing memory card from the slot.
- 4 With the gold contacts facing upward, insert the new memory card into the slot.



- 5 Press the memory card in until it clicks.
- 6 Close and latch the cover.
- 7 Go to the Varia app to format the memory card ([Formatting Your Memory Card, page 24](#)).

Formatting Your Memory Card

NOTICE

Formatting the memory card deletes all data on the card. Erased data cannot be restored.

You can reformat the memory card installed in your camera to erase all photos, videos, and other data. You may also need to format the memory card the first time you use it in your camera.

- 1 Turn on the headlight, and connect it to the Varia app.
- 2 Select the device icon at the top of the home screen ([Device Overview](#), page 6).
- 3 Select **Gallery & Storage > Erase & Reformat Card > Erase & Format**.

Device Care

NOTICE

Do not store the device where prolonged exposure to extreme temperatures can occur, because it can cause permanent damage.

Avoid chemical cleaners, solvents, sunscreen, and insect repellents that can damage plastic components and finishes.

Secure the weather cap tightly to prevent damage to the USB port.

Avoid extreme shock and harsh treatment, because it can degrade the life of the product.

Keep the memory card cover in the latched position to prevent water ingress.

NOTE: Do not store the device in smart mode to prevent the battery from draining and to prevent accidentally turning on the headlight.

Cleaning the Device

NOTICE

Avoid chemical cleaners and solvents that can damage plastic components.

Do not use a cloth or any material that can scratch the optical lens on the front of the device. Scratching the optical lens may cause poor performance.

- Clear mud and dirt from the weather cap area.
- While the weather cap is closed, hold the device under running water.

After cleaning, allow the device to dry completely.

Cleaning the USB Port

- 1 Turn off the device and disconnect the device from power.
- 2 Clean the USB port using a soft, clean, lint-free cloth or cotton swab.
NOTE: If necessary, you can lightly dampen the cloth or cotton swab with isopropyl alcohol.
- 3 Allow the device to dry completely before you connect it to power.

Long-Term Storage

When you do not plan to use the Varia Vue device for several months, you should charge the battery to at least 50% before you store the device. You should store the device in a cool, dry place with temperatures around the typical household level. After storage, you should fully recharge the device before using it.

Specifications

Battery type	Rechargeable lithium-ion battery
Battery storage	Up to 5 mo. in smart mode Up to 10 mo. powered off
Operating temperature range	From -15° to 45°C (from 5° to 113°F)
Charging temperature range	From 0° to 10°C (from 32° to 50°F) - Slow charging to full capacity From 10° to 30°C (from 50° to 86°F) - Full speed charging to full capacity From 30° to 45°C (from 86° to 113°F) - Full speed charging to reduced capacity (about 85% capacity)
Wireless frequencies	2.4 GHz @ 18.4 dBm maximum 5 GHz @ 17.9 dBm maximum
LED luminous flux	140 to 600 lm (day flash) (<i>Headlight Light Intensity Modes, page 26</i>)
Water rating	IEC 60529 IPX7 ¹
EU SAR	0.81 W/kg simultaneous

Battery Life Information

The actual battery life depends on the features enabled on your headlight, such as light intensity mode, video resolution setting, and electronic image stabilization (EIS).

Headlight Intensity Mode	Video Resolution Setting with EIS	Battery Life Estimates
High	1080p, 30 fps 4K, 30 fps	1.5 hr. 1.25 hr.
Medium	1080p, 30 fps 4K, 30 fps	2.5 hr. 2 hr.
Low	1080p, 30 fps 4K, 30 fps	4.5 hr. 3.5 hr.
Night Flash	1080p, 30 fps 4K, 30 fps	2.5 hr. 2 hr.
Day Flash	1080p, 30 fps 4K, 30 fps	7 hr. 5 hr.
Off	1080p, 30 fps 4K, 30 fps	9 hr. 6 hr.

¹ The device withstands incidental exposure to water of up to 1 m for up to 30 min. For more information, go to www.garmin.com/waterrating.

Headlight Light Intensity Modes

Intensity Mode	LED Luminous Flux
High	550 lm
Medium	300 lm
Low	140 lm
Night Flash	400 lm
Day Flash	600 lm

Symbol Definitions

These symbols may appear on the device or accessory labels.

	WEEE disposal and recycling symbol. The WEEE symbol is attached to the product in compliance with the EU directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE). It is intended to deter the improper disposal of this product and to promote reuse and recycling.
	Hot surface. The surface indicated by this mark may become hot during device operation.

Troubleshooting

Resetting the Device

You can reset the device if it stops responding.

NOTE: Resetting the device deletes the pairing connections from the device, and clears all personal data stored on the device. It does not remove any data stored on the memory card. To protect your data on the memory card, you should format or remove the memory card from the device ([Formatting Your Memory Card, page 24](#)).

- 1 Turn the device on ([Turning On and Off the Device, page 6](#)).
- 2 Hold both buttons for 10 seconds.
The LED flashes    continuously, until the reset is complete.

Locking and Unlocking the Device

If the device is turned off, you can lock the device, preventing it from turning on.

- 1 Hold both buttons for 4 seconds to lock the device.
If you press any button, the status LED flashes  three times.
- 2 Hold both buttons for 4 seconds to unlock the device.
The device turns on, and the status LED double flashes . The device is in active mode, and the camera is on ([Device Status LED, page 7](#)).

Thermal Safety Shutdown

To prevent overheating, the Varia device may turn off when operated at a high intensity in warm, stagnant air. The status LED flashes  until the device cools down. You should use the device outdoors.

The status LED flashes red while charging

- Check the USB cable, connectors, and ports for damage.
- Make sure the AC adapter or computer USB port is generating power.
You can check this several ways. For example, you can check whether other devices powered by the source are functioning.
- Charge the device within the approved charging temperature range ([Specifications, page 25](#)).

The headlight disconnects from the Varia app

WARNING

The device can improve situational awareness. It is not a replacement for cyclist attentiveness and good judgement. Always maintain awareness of your surroundings, and operate the bicycle in a safe manner. Failure to do so could result in serious injury or death.

If the headlight is not connected, Garmin recommends that you stop riding and check the devices in a safe location.

- Turn off Bluetooth technology from your phone settings, and turn it back on.
- Close and reopen the Varia app.
- Turn off both devices, and turn them back on.

The Varia Vue sends light data to the Varia app. When connected, the Varia app plays an audio tone and displays a green dot at the device icon at the top of the home screen.

The headlight disconnects from the Edge bike computer

WARNING

The device can improve situational awareness. It is not a replacement for cyclist attentiveness and good judgement. Always maintain awareness of your surroundings, and operate the bicycle in a safe manner. Failure to do so could result in serious injury or death.

If the headlight is not connected, Garmin recommends that you stop riding and check the devices in a safe location.

- Turn both devices off, and turn them back on.
- Pair the devices ([Pairing the Varia Vue with a Compatible Edge Bike Computer, page 14](#)).

The Varia Vue sends light data to the Edge bike computer. The Edge bike computer displays  when connected.

How do I check the battery level?

There are three different ways to check the battery level.

- On the Varia Vue, press the device button to turn it on ([Device Overview, page 6](#)).
 - The battery level is OK .
 - The battery level is low .
- On your connected Edge bike computer or Garmin watch, open the sensors menu, and select the headlight camera.
- On the Varia app, select the device icon at the top of the home screen ([The Varia App, page 10](#)).
The battery status is displayed at the top left of the screen.

TIP: When the battery is low, the app displays a low battery notification at the top of the screen.

Updating the Device Software With the Varia App

Before you can update the device software, you must pair the device with the Varia app on your phone ([Pairing the Varia Vue with Your Phone, page 11](#)).

- 1 Bring your phone within range (3 m) of the device.
- 2 Sync your device with the Varia app.

When new software is available, the app alerts you to update the software.

TIP: You can check for software updates in the app by selecting the device icon at the top of the home screen, and selecting Software Updates.

- 3 Follow the on-screen instructions.

The device LED flashes   to indicate the device is updating. When the update is complete, the LED flashes green 20 times.

Device Status LED for Software Updates

LED Activity	Status
Alternating  	The device is uploading software.
Flashing 	The software update is complete and successful.
Flashing 	The software update failed.

Product Updates

For the best experience, you should keep the software on your Varia Vue up to date. Software updates provide changes and improvements to the device features and operation. Your Varia device automatically checks for updates when connected using Bluetooth technology. On your computer, you can install Garmin Express™ (garmin.com/express). On your phone, you can install the Varia app.

This provides easy access to these services for Garmin devices:

- Software updates
- Data uploads to the Varia app
- Product registration
- Vault subscription setup

Updating the Software Using the Garmin Express Application

Before you can update your device software, you must download the Garmin Express application.

- 1 Connect the device to your computer using the USB cable.

Garmin Express looks for software updates automatically and sends them to your device.

- 2 Follow the on-screen instructions.

- 3 Disconnect the device, and turn it on.

The device LED flashes   to indicate the device is updating. When the update is complete, the LED flashes green 20 times.

Replacement Parts

Replacement parts are available for this device. Contact your Garmin dealer or go to garmin.com for more information.

Getting More Information

- Go to support.garmin.com for additional manuals, articles, and software updates.
- Go to buy.garmin.com, or contact your Garmin dealer for information about optional accessories and replacement parts.

