

**GARMIN®**



# Varia™ eRTL615

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## Owner's Manual

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# 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.

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

## Getting Started

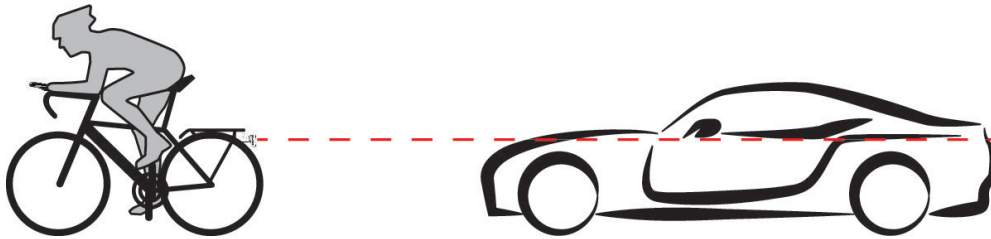
You can use the Varia eRTL615 with your compatible Garmin® device or a phone. This list provides an overview of the installation and setup tasks.

- Install the tail light mount ([Installing the Device on a Rear Rack, page 3](#)).
- If you are using an Edge® series bike computer, pair the devices ([The Varia eRTL615 and Your Edge 1040, page 6](#)).
- If you are using your phone, download the Garmin Varia app to your phone, and pair the devices ([Pairing the Varia eRTL615 with Your Phone, page 9](#)).
- If you are using another Garmin device, pair the devices ([Other Compatible Devices, page 16](#)).

## Tips for Installing the Device

The Varia eRTL615 includes a tail light and micro radar that can detect approaching vehicles up to 140 meters away.

- Select a secure location to mount the device where it does not interfere with the safe operation of your bike.
- Mount the device as high as possible for optimal light visibility and radar detection.  
**NOTE:** The mount surface should be vertical. The devices are designed to accommodate most bike rack angles.
- Mount the device 250 mm to 1200 mm above the road.
- Ensure the device faces backward and is perpendicular to the road.

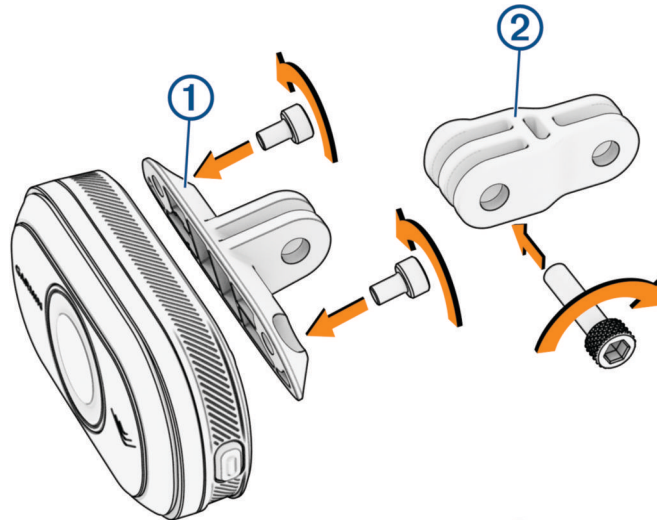


- Make sure there are no obstructions in front of the light.
- Go for a test ride during the day in a safe environment.

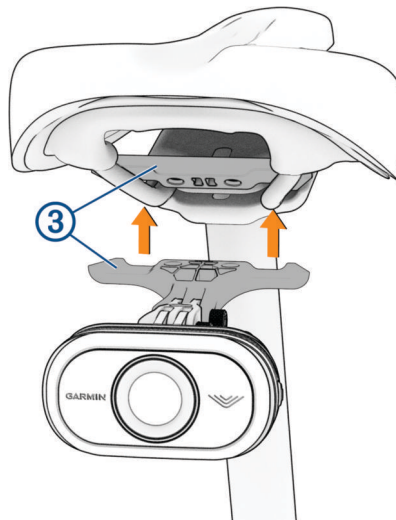
## Installing the Device on a Seat Mount

Before you can install the Varia eRTL615 tail light, you need 3 mm and 4 mm hex keys and a cable to connect your device.

- 1 Attach the friction flange adapter ① to your Varia eRTL615 tail light using two M4 screws.
- 2 Using a 3 mm hex key, tighten the two M4 screws to 1 N-m (9 lbf-in.).
- 3 If you have other attachments on the back of your seat, attach the extender ② to the friction flange adapter using an M5 screw.



- 4 Align the hole in the friction flange adapter or the extender with the hole in the center of the seat mount bracket.
- 5 Attach the device to the seat mount bracket loosely using an M5 screw.  
**NOTE:** The M5 screw will be fully tightened after positioning the device on your bike.
- 6 Attach the bracket ③ to the rails under the seat.



- 7 Using a 4 mm hex key, tighten the two M5 screws on the bracket to 2 N-m (18 lbf-in.).
- 8 Position the device ([Tips for Installing the Device, page 1](#)).

- 9 Using a 4 mm key, tighten the M5 screws on the friction flange adapter and extender to 3 N-m (27 lbf-in.).



- 10 Connect the cable to your bike.

If necessary, consult the owner's manual for your bike for additional information on connecting devices.

- 11 Secure the cable so that it does not interfere with any moving parts of the bike.

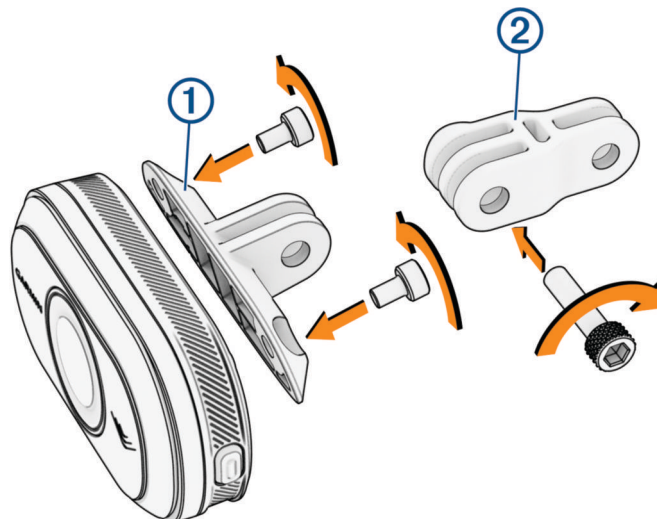
## Installing the Device on a Rear Rack

Before you can install the Varia eRTL615 tail light, you need 3 mm and 4 mm hex keys and a cable to connect your device.

- 1 Complete the required steps based on the configuration of your rear rack:
- If the rear rack can accommodate the friction flange adapter, complete steps 2 through 5.
  - If the device can be attached directly to the rear rack, complete steps 6 through 9.

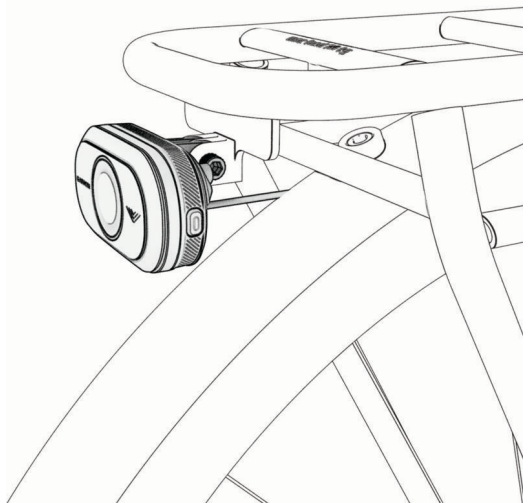
- 2 Attach the friction flange adapter ① to your Varia eRTL615 tail light using two M4 screws.

**TIP:** For longer bike racks or if you have other attachments on the back of your bike, attach the extender ② to the friction flange adapter.



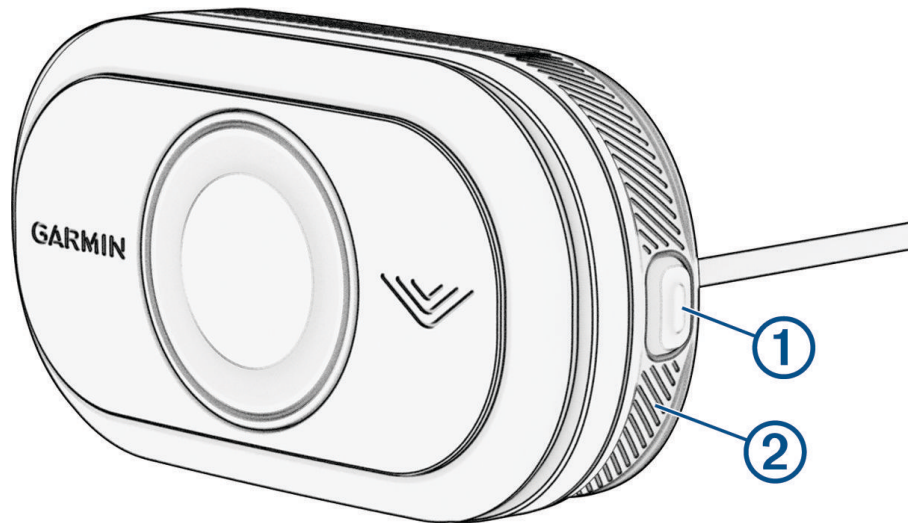
- 3 Using a 3 mm hex key, tighten the two M4 screws to 1 N-m (9 lbf-in.).
- 4 Align the hole in the friction flange adapter or extender with the hole in the rear rack of your bike.

5 Using a 4 mm hex key, tighten the M5 screw to 3 N-m (27 lbf-in.).



- 6 If you are not using a friction flange adapter, align the holes in the rear rack of your bike with the holes on the back of your Varia eRTL615 tail light.
- 7 Using a 3 mm hex key, tighten the two M4 screws to 1 N-m (9 lbf-in.).
- 8 Connect the cable to your bike.  
Consult the owner's manual for your bike for additional information on connecting devices.
- 9 Secure the cable so that it does not interfere with any moving parts of the bike.

Device Overview



|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>①</div> <div>Device button</div>     | <div>Press to change the light mode while the device is in active mode.</div> <div>Hold for 4 seconds to enter pairing mode (<a href="#">Pairing the Varia eRTL615 with Your Phone</a>, page 9).</div> <div>When the device is in smart sleep mode, hold for 2 seconds to wake the device.</div> <div>When the device is in active mode, hold for 2 seconds to turn the tail light on or off. Radar remains turned on.</div> <div>Hold for 10 seconds to reset the device.</div> |
| <div>②</div> <div>Device status LED</div> | <div>Changes color based on the pairing status and device mode status (<a href="#">Varia eRTL615 Status LED</a>, page 5).</div>                                                                                                                                                                                                                                                                                                                                                  |

## Varia eRTL615 Status LED

| LED State                           | Status                                                                       |
|-------------------------------------|------------------------------------------------------------------------------|
| Flashing purple                     | The device is in active pairing mode.                                        |
| Single blue flash                   | The device is in smart sleep mode.                                           |
| Double blue flash                   | The device is in active mode.                                                |
| Flashing yellow                     | The device is in demo mode.                                                  |
| Flashing blue and green alternating | The device is applying a firmware update.                                    |
| Flashing green 10 times             | The device successfully applied a firmware update.                           |
| Flashing red 10 times               | The device was unable to apply a firmware update.                            |
| Single red flash                    | The device is in active mode and is connected to a battery that is low.      |
| Double red flash                    | The device is in smart sleep mode and is connected to a battery that is low. |
| Solid green                         | The device is in mass storage mode.                                          |
| Solid red                           | An error occurred. You may need to restart the device.                       |

## Tail Light Modes and Intensity

You can switch the Varia eRTL615 tail light modes by pressing the button ([Device Overview, page 4](#)).

**NOTE:** The selected light mode is maintained when you turn the device off and back on.

| Mode                 | Light Intensity | Default Flash Behavior | Behavior when Vehicle Approaches                                                                                        |
|----------------------|-----------------|------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Solid (default)      | High            | None                   | The tail light is on, and the device detects vehicles. The tail light flashes quickly when the device detects vehicles. |
| Peloton (group ride) | Moderate        | None                   | The tail light flashes softly when the device detects vehicles.                                                         |
| Night Flash          | High            | Slow                   | The tail light flashes quickly when the device detects vehicles.                                                        |
| Day Flash            | Maximum         | Occasional             | The tail light flashes quickly when the device detects vehicles.                                                        |
| Standby              | Off             | None                   | The tail light is off, and the device continues to detect vehicles.                                                     |
| Custom brightness    | Variable        | Variable               | The tail light is on and flashes quickly when the device detects vehicles.                                              |
| Custom flash         | Variable        | Variable               | The tail light flashes quickly when the device detects vehicles.                                                        |

## Turning Off the Varia eRTL615 Tail Light

Hold the device button for 2 seconds ([Device Overview, page 4](#)).

The radar continues to function while the tail light is off.

## The Varia eRTL615 and Your Edge 1040

You can remotely control your radar device and customize settings using your compatible Edge bike computer. This section contains instructions for the Edge 1040. Other compatible Edge bike computers contain similar settings and controls ([Other Compatible Devices, page 16](#)).

## Pairing the Varia eRTL615 with Your Edge 1040

The first time you connect the Varia eRTL615 tail light to your Edge 1040 bike computer, you must pair both devices using ANT+® technology. After the initial pairing, the Edge bike computer automatically connects to the radar device when you start your activity and the radar device is active and within range.

**NOTE:** The radar device is compatible with other Garmin devices ([Other Compatible Devices, page 16](#)).

- 1 Bring the Edge 1040 bike computer within range (3 m) of the Varia eRTL615.

**NOTE:** Stay 10 m away from other sensors that use ANT+ technology while pairing.

- 2 Turn on the Edge 1040 bike computer.

- 3 Select  > **Sensors** > **Add Sensor** > **Search All**.

- 4 While the Varia eRTL615 tail light is in active mode, hold the device button for 4 seconds to enter pairing mode.

The status LED flashes purple. The device is in pairing mode for 5 minutes or until you hold the device button for 2 seconds to exit pairing mode.

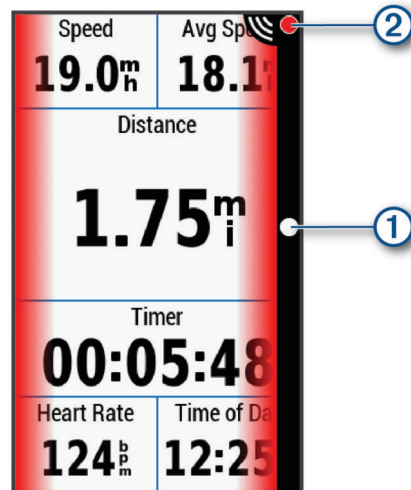
- 5 Select your sensor, and select **Add**.

When the sensor is paired with your Edge 1040 bike computer, the sensor status is Connected. The  (radar) and  (bike light) status icons appear solid on the top banner of the home screen.

## Viewing Radar on Your Edge Bike Computer

Go for a ride.

The radar information appears on the active data screen.



The vehicle position LED ① moves up the column as a vehicle gets closer to your bike. The threat level LED ② changes color based on the potential level of threat. Green indicates no vehicle is detected. Amber indicates a vehicle is approaching. Red indicates a vehicle is advancing at a high rate of speed.

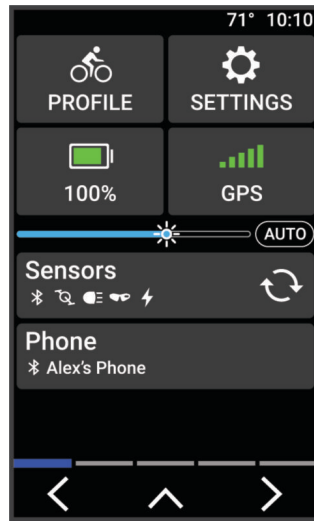
## Tone Alerts for Approaching Vehicles

The Edge device beeps if audible tones are turned on in the settings. Your device has alert tones for several features. The alert tone for approaching vehicles has a unique sound. The device beeps one time when the first vehicle is detected. After the threat is cleared, the device beeps again when another vehicle is detected.

## Viewing Widgets

Your device is preloaded with several widgets, and more are available when you pair your device with a phone or other compatible device.

- 1 From the home screen, swipe down from the top of the screen.



The settings widget appears. A flashing icon means the device is searching for a signal. A solid icon means the signal was found or the sensor is connected. You can select any icon to change the settings.

- 2 Swipe left or right to view more widgets.

The next time you swipe down to view the widgets, the last widget you viewed appears.

## Customizing the Varia Device Settings with Your Edge 1040

Before you can customize Varia eRTL615 settings with your Edge 1040, you must pair the devices.

- 1 Select  > **Sensors** > **Lights**.
- 2 Select an option:
  - Select **Enable** to enable the light network.
  - Select **Network Options** > **Test Lights** to verify that each light in your network is set up correctly ([Testing the Light Network, page 8](#)).
  - Select a light to view device information and customize each light in your network ([Light Network Settings, page 8](#)).

## 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.

## Light Network Settings

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

**Enable:** Turns on the light and allows you to control the light remotely with your Edge bike computer. You can disable a light to disconnect it from the light network.

**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 9](#)).

**About:** Displays device, software, and battery information.

**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.

**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 mountain biking.

**Individual:** Allows you to customize the light intensity and pattern mode for each light in your network ([Light Network Settings, page 8](#)).

## Customizing the Radar Alert Settings with Your Edge 1040

Before you can customize the radar alert settings with your Edge 1040, you must pair the devices.

You can customize how the radar alerts sound and display on your Edge 1040.

- 1 From your Edge 1040, select  > **Sensors**.
- 2 Select your Varia eRTL615.
- 3 Select **Sensor Details > Alert Settings**.
- 4 Select an option.

## The Varia eRTL615 and the Varia App

The Varia app connects to your Varia eRTL615 using Bluetooth® technology. The app displays radar information and settings.

- After pairing, the app displays a colored banner indicating the threat level posed by approaching vehicles.
- You can enable phone vibration alerts so you can monitor those alerts while your phone is in your pocket, instead of mounted on the handlebar.

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

## Pairing the Varia eRTL615 with Your Phone

The first time you connect the Varia eRTL615 to the Varia app on your phone, you must pair both devices. After the initial pairing, the Varia app automatically connects to the Varia eRTL615 when you open the app and the radar device is active and within range.

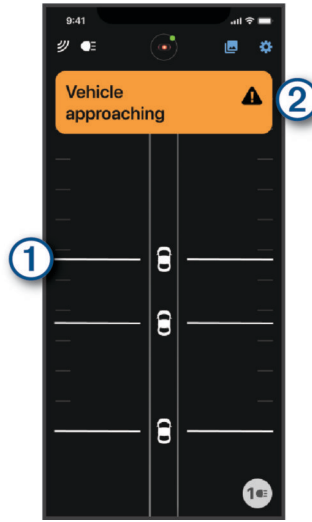
- 1 Bring your phone within range (0.5 m) of the Varia eRTL615.  
**NOTE:** Stay 10 m away from other Bluetooth sensors while pairing.
- 2 On your compatible phone, enable Bluetooth technology.
- 3 From the app store on your phone, install and open the Varia app.
- 4 Select **Pair Now**.
- 5 While the Varia eRTL615 is in active mode, hold the device button for 4 seconds to enter pairing mode.  
The device status LED flashes purple. The device is in pairing mode for 5 minutes or until you hold the device button for 2 seconds to exit pairing mode.
- 6 Select **That's Mine > Pair**.

When the Varia eRTL615 is paired with your phone, the app displays the current radar status.

## Viewing Radar on the Varia App

Go for a ride.

The radar information appears on the active data screen.



The vehicle position ① moves up the screen as a vehicle gets closer to your bike. The threat level banner ② changes color based on the potential level of threat. Green indicates no vehicle is detected. Amber indicates a vehicle is approaching. Red indicates a vehicle is advancing at a high rate of speed.

**TIP:** The line next to the vehicle also indicates the threat level. A straight line changes to jagged with a red threat level.

## Customizing the Varia App Alert Settings

Before you can customize the radar alert settings with the Varia app, you must pair the devices.

You can enable vibration alerts on your phone so you can monitor those alerts while your phone is in your pocket, instead of mounted on the handlebar.

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

## Creating Custom Light Modes

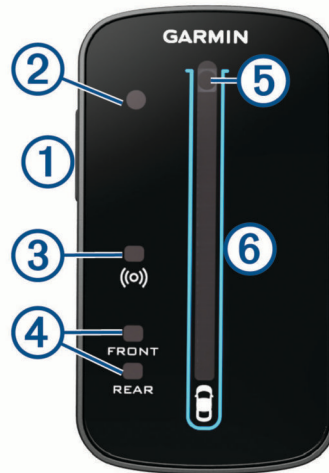
- 1 From the Varia app, select your device icon at the top of the screen.
- 2 Select **Light Modes**.
- 3 Select a mode.
- 4 Select an option:
  - Select **Create Custom Flash** > **Add Flash**, set the brightness and duration, select **Add**, and select .
  - Select **Create Custom Solid**, set the brightness level, and select **Save**.
- 5 Repeat steps 2 through 4 to add additional light modes.

**NOTE:** The Create Custom Flash and Create Custom Solid buttons are disabled when you have added the maximum number of custom light modes.

## The Varia eRTL615 and Your Radar Display Unit

You can display radar data using the compatible rear display unit (RDU).

## Varia RDU Overview



|                                        |                                                                                                                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ①<br>Device button                     | Turns the device on and off.                                                                                                                                                                          |
| ②<br>Ambient light sensor              | Detects available light and automatically adjusts the brightness of the display.                                                                                                                      |
| ③<br>Connection status LED             | Appears solid blue when the device is paired with the radar device. Flashes blue when the device is searching for the radar device.                                                                   |
| ④<br>FRONT and REAR device status LEDs | Appears solid red when there is a device error.                                                                                                                                                       |
| ⑤<br>Threat level LED                  | Changes color based on the potential level of threat. Green indicates no vehicle is detected. Amber indicates a vehicle is approaching. Red indicates a vehicle is advancing at a high rate of speed. |
| ⑥<br>Vehicle position LEDs             | Moves up the column as the vehicle gets closer to your bike.                                                                                                                                          |

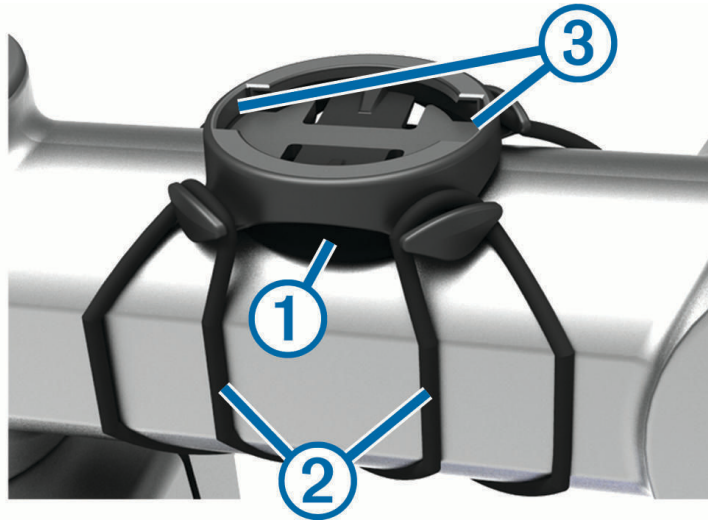
## Installing the Varia RDU

**NOTE:** If you do not have a Varia RDU, you can use a compatible Edge bike computer or the Varia app on your phone ([The Varia eRTL615 and the Varia App](#), page 9).

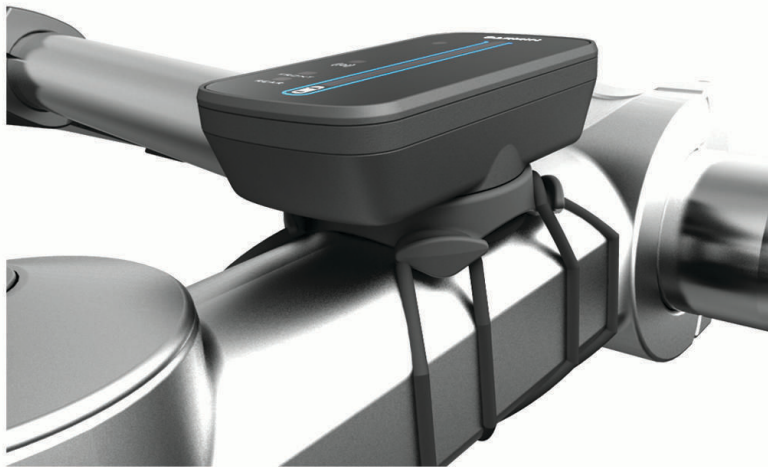
You can install the device on the stem or the handlebars.

- 1 Select a secure location to mount the device where it does not interfere with the safe operation of your bike.
- 2 Place the rubber disk ① on the back of the bike mount.

The rubber tabs align with the back of the bike mount so it stays in place.



- 3 Place the bike mount on the bike stem.
- 4 Attach the bike mount securely using the two bands ②.
- 5 Align the tabs on the back of the device with the bike mount notches ③.
- 6 Press down slightly and turn the device clockwise until it locks into place.



## Pairing the Radar Device with the Varia RDU

The Varia RDU can be paired with one radar device at a time.

- 1 Hold the Varia RDU device button for 5 seconds.  
The threat level LED flashes purple.
- 2 Turn on the radar device.
- 3 Bring the devices within 1 cm of each other, and wait while the devices connect.  
The Varia RDU (📶) LED turns solid blue and the threat level LED turns solid green.

## Turning On the Varia RDU

Hold the device button for 1 second to turn on the radar device.

The LEDs fill the column to indicate the battery level.

The  LED flashes blue while it is searching for the radar device.

## Varia RDU Battery Status LED

When you turn on the device, the LED at the top of the column briefly indicates the battery status.

| LED Activity    | Status                         |
|-----------------|--------------------------------|
| Flashing green  | The device is charging.        |
| Solid green     | Charging is complete.          |
| Flashing yellow | The battery is low.            |
| Flashing red    | The battery is critically low. |

## Setting the Varia RDU Device Tones

- Press the device button to turn on tones.
- Press the device button again to turn off tones.

## Turning Off the Varia RDU and Radar Device

If the Varia RDU device is paired with the radar device, you can turn off the Varia RDU and the tail light on the Varia eRTL615 at the same time.

Hold the device button on the Varia RDU for 1 second.

## The Varia eRTL615 and Your Varia Core

### CAUTION

This feature allows you to control certain peripheral functions of your eBike and/or certain accessories using compatible third-party applications. Garmin is not responsible for the functionality or reliability of this feature or the third-party application. Any use or reliance on this feature is at your own risk.

You can power your Varia eRTL615 tail light with your Varia Core. When the devices are paired, hold the device button for 2 seconds to turn all connected lights on or off ([Device Overview, page 4](#)).

**NOTE:** For additional information, see the owner's manual at [www.cannondale.com](http://www.cannondale.com).

## Device Overview



### ① Device button

- Press the button to check the current battery level. Each fully illuminated LED represents 25% battery power, a dimmed LED represents 12.5% battery power, and a single flashing LED represents less than 10% remaining battery power.  
**NOTE:** The LED continues flashing until you charge the device above 10% battery power.
- When mounted, hold the button for two seconds to wake the device from sleep mode or put it into sleep mode.
- When mounted, hold the button for four seconds to turn the device on or off.

### ② System status LED

- When the LED flashes a blue single-blink every 10 seconds, the device is in sleep mode. You can wake the device from the app or by moving the wheel sensor.
- When the LED flashes a blue double-blink, the device radio is in active mode and available to connect using Bluetooth and ANT+ technology.
- When the LED is solid red, a system error has occurred.
- During a firmware update:
  - When the LED flashes blue continuously, a firmware update is in transfer.
  - When the LED is solid or flashes purple, a firmware update is in progress.
  - When the LED flashes blue 10 times, a firmware update was successfully applied.
  - When the LED flashes red 10 times, a firmware update failed.

### ③ Battery status LEDs

- While charging the battery, the LEDs light up green.
- When charging is complete, the LEDs turn off.
- When the battery is critically low, a single red LED flashes.

### ④ USB port

- Pull up the weather cap, and plug in the USB cable to charge the Varia Core battery.
- Pull up the weather cap, and plug in the USB cable to charge another device, such as a phone.  
**NOTE:** You cannot use the USB port while you are using the Varia Core device on a ride.
- Replace the weather cap when charging is complete.

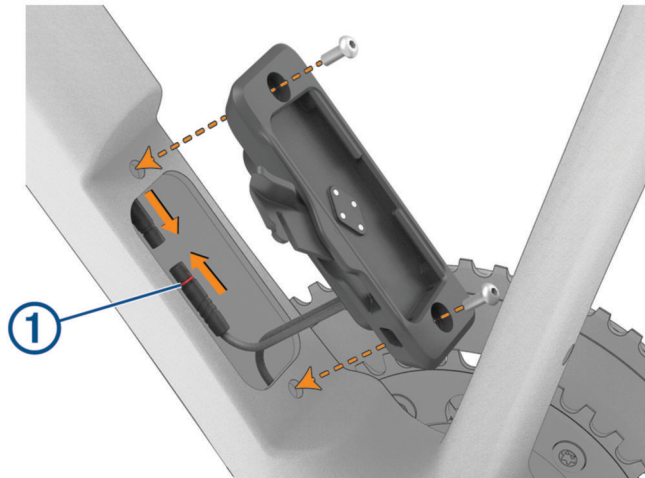
### ⑤ Battery lock lever

- Snap the lever to the open position to unlock the battery.
- Snap the lever to the closed position to lock the battery into the battery cradle.

## Installing the Device

Before you can install the Varia Core device, you need a 3 mm hex key and cables to connect the battery cradle to your other devices. Go to [www.cannondale.com](http://www.cannondale.com) to purchase the required cables.

- 1 Use a 3 mm hex key to remove the M4 x 10 mm screws and cover on the downtube.
- 2 Route the cables to the opening in the downtube.  
**NOTE:** Go to [www.cannondale.com](http://www.cannondale.com) for information about routing cables for your bike.
- 3 Connect the cables in the downtube to the battery cradle.



**NOTE:** Avoid touching or moving the O-ring ① to ensure the cables connect and seal correctly.

- 4 With the open lock lever on the non-drive side of the bike, align the battery cradle with the holes in the downtube.
- 5 Use a 3 mm hex key to tighten the M4 x 10 mm screws to 2 N-m (17.7 lbf-in.).
- 6 Insert the battery into the battery cradle.



- 7 Snap the lock lever to the closed position to lock the battery into the battery cradle.

## Pairing the Varia Core with a Garmin Device

- 1 Insert the Varia Core battery into the battery cradle.
- 2 Hold the device button for two seconds to enter active mode.  
The system status LED flashes a blue double-blink.
- 3 Bring the compatible Garmin device within range (3 m) of the Varia Core device.  
**NOTE:** Stay 10 m away from other ANT+ devices while pairing.
- 4 On the compatible Garmin device, open the menu, and select **Sensors > Add > Search All**.
- 5 Select your Varia Core device.

## Other Compatible Devices

### Pairing the Varia eRTL615 with a Compatible Edge Bike Computer

This task is for the Edge bike computers. If your Edge series is not listed, go to [buy.garmin.com](https://buy.garmin.com).

- 1 Bring the Edge bike computer within range (3 m) of the Varia eRTL615.  
**NOTE:** Stay 10 m away from other sensors that use ANT+ technology while pairing.
- 2 Turn on the Edge bike computer.
- 3 From the **Sensors** menu, select **Add Sensor > Search All**.
- 4 While the Varia eRTL615 is in active mode, hold the device button for 4 seconds to enter pairing mode.  
The status LED flashes purple. The radar tail light is in pairing mode for 5 minutes or until you hold the device button for 2 seconds to exit pairing mode.
- 5 Select your sensor.

When the radar device is paired with your Edge bike computer, the sensor status is Connected. The  (radar) and  (bike light) status icons appear solid on the top banner of the home screen.

### Pairing the Radar Device with a Compatible Garmin Watch

This task is for the Forerunner® 965 series, fēnix® 7 series, and Venu® 2 series watches. If your watch is not listed, go to [buy.garmin.com](https://buy.garmin.com).

**NOTE:** Not all Varia eRTL615 features are available on all compatible watches. See your watch owner's manual.

- 1 Bring the watch within range (3 m) of the Varia eRTL615.  
**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 **Sensors & Accessories > Add New > Search All**.
- 4 While the Varia eRTL615 tail light is in active mode, hold the device button for 4 seconds to enter pairing mode.  
The status LED flashes purple. The device is in pairing mode for 5 minutes or until you hold the device button for 2 seconds to exit pairing mode.
- 5 Select your sensor.

When the radar device is paired with your Garmin watch, the radar and bike light status icons appear solid.

# Device Information

## 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.

## Cleaning the Device

### NOTICE

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 radar 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.

## Radar Detection

### ⚠ 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.

- The radar detects approaching vehicles up to 140 m away.
- The radar detects approaching vehicle speed from 10 to 160 km/h (from 6 to 99 mph).  
**NOTE:** The radar does not detect vehicles traveling at the same speed as your bike.
- The radar beam width is 40 degrees. It provides radar coverage for typical bends in the road.
- The radar can detect up to eight approaching vehicles.

## Specifications

### Varia eRTL615 Specifications

|                             |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| Operating temperature range | From -20° to 60°C (from -4° to 140°F)                                                           |
| Wireless frequencies        | 2.4 GHz @ 8 dBm maximum; 24 GHz @ 10 dBm maximum                                                |
| Water rating                | IEC 60529 IPX7 <sup>1</sup>                                                                     |
| eRTL615 LED luminous flux   | 20 lm (solid mode)<br>8 lm (peloton mode)<br>29 lm (night flash mode)<br>65 lm (day flash mode) |
| Nominal power rating        | DC <sup>2</sup> 1.6W @ 12V                                                                      |
| Power input                 | Power from the eBike or an external power source using a compatible eBike cable.                |

<sup>1</sup> 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](http://www.garmin.com/waterrating).

<sup>2</sup> The device will not work with AC power cables.

## Varia RDU Specifications

|                             |                                            |
|-----------------------------|--------------------------------------------|
| Battery type                | Rechargeable, built-in lithium-ion battery |
| Battery life                | Up to 10 hr., typical usage                |
| Operating temperature range | From -20° to 60°C (from -4° to 140°F)      |
| Charging temperature range  | From 0° to 45°C (from 32° to 113°F)        |
| Wireless frequency          | 2.4 GHz ANT+ @ 0 dBm nominal               |
| Water rating                | IEC 60529 IPX7 <sup>3</sup>                |

## Troubleshooting

### Resetting the Device

You can reset the device if it stops responding.

- 1 Hold the device button for 10 seconds.  
Resetting deletes the pairing connections from the device.
- 2 Remove the Varia eRTL615 tail light from the Bluetooth settings on your phone.  
The Varia app prompts you to pair your Varia eRTL615 tail light again.

### Product Updates

On your computer, install Garmin Express™ ([www.garmin.com/express](http://www.garmin.com/express)).

This provides easy access to these services for Garmin devices:

- Software updates
- Product registration

### Updating the Device Software With the Varia App

Before you can update the Varia device software, you must pair the device with the Varia app on your phone ([Pairing the Varia eRTL615 with Your Phone, page 9](#)).

- 1 Bring your phone within range (3 m) of the Varia radar device.
- 2 Sync your Varia device with the Varia app.  
When new software is available, your device alerts you to update the software.
- 3 Follow the on-screen instructions.

The device LED flashes blue and green to indicate the device is updating. When the update is complete, the tail light goes into active mode and the LED flashes green 10 times.

### Device Status LED for Software Updates

| LED Activity                       | Status                                          |
|------------------------------------|-------------------------------------------------|
| Alternating blue and green flashes | The device is uploading software.               |
| Flashing green                     | The software update is complete and successful. |
| Flashing red                       | The software update failed.                     |

<sup>3</sup> 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](http://www.garmin.com/waterrating).

## 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 radar 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 connect it to your eBike or a USB power source.  
The radar LED flashes blue and green to indicate the device is updating and may pause during the update. When the update is complete, the LED flashes green 10 times.

## The radar device is not responding

During a ride, if the radar device status LED is solid red, the device is in an error state.

- Make sure the device is within the approved operating temperature range ([Varia eRTL615 Specifications, page 17](#)).
- Turn the device off, and turn it back on.
- Avoid multiple sources of radar interference.

## My phone will not connect to the device

- Bring the device within range of your phone.
- If your devices are already paired, turn Bluetooth off on both devices, and turn it back on.
- If your devices are already paired, remove the Varia eRTL615 from the Bluetooth settings on your phone, and pair the devices again.
- If your devices are not paired, enable Bluetooth technology on your phone.
- On your phone, open the Varia app, select **+** to enter pairing mode.

## Radar detection does not work indoors

The device is tuned to detect vehicles in an outdoor setting. If you turn on the device indoors, a saturation alert can occur. When you take the device outdoors, the device resumes normal operation.

## The status LED is flashing yellow

If the device status LED flashes yellow while the tail light is on, the device is in demo mode. When the device is in demo mode, artificial data is generated for demonstration only.

To exit demo mode, select an option:

- Hold the device button for 2 seconds.
- Remove the device from the power source, and reconnect it.

## The status LED turns red while updating the software

- Check the USB cable, connectors, and ports for damage.
- Turn both devices off, and turn them back on.
- Make sure the device is within the approved operating temperature range ([Varia eRTL615 Specifications, page 17](#)).

## The status LED turns red while plugged into a power source

- Make sure the device is plugged into the power source using the eBike cable instead of the USB cable.
- Check the USB cable, connectors, and ports for damage.
- Make sure the power source is generating power.  
You can check this several ways. For example, you can check whether other devices powered by the source are functioning.
- Make sure the device is within the approved operating temperature range ([Varia eRTL615 Specifications, page 17](#)).

## The radar device disconnects from the Edge bike computer

### WARNING

If the radar device is not connected or sending radar data, Garmin recommends that you stop riding and check the devices in a safe location. Failure to do so could result in serious injury or death.

- Turn both devices off, and turn them back on.
- Pair the devices ([Pairing the Varia eRTL615 with Your Edge 1040, page 7](#)).  
The Varia eRTL615 sends light and radar data to the Edge bike computer. The Edge bike computer displays  and  when connected.

## The radar device disconnects from the Varia app

### WARNING

If the radar device is not connected or sending radar data, Garmin recommends that you stop riding and check the devices in a safe location. Failure to do so could result in serious injury or death.

- Turn off Bluetooth technology from your phone settings, and turn it back on.
- Turn off both devices, and turn them back on.  
The Varia eRTL615 sends light and radar data to the Varia app. The Varia app displays  when connected.

## The radar device disconnects from the Varia RDU device

### WARNING

If the radar device is not connected or sending radar data, Garmin recommends that you stop riding and check the devices in a safe location. Failure to do so could result in serious injury or death.

If the threat level LED is solid red and the REAR LED is off, the radar device is not connected to the Varia RDU device.

- Turn both devices off, and turn them back on.  
You can check the battery level when you turn the devices back on.
- Pair the devices ([Pairing the Radar Device with the Varia RDU, page 12](#)).

## Getting More Information

- Go to [support.garmin.com](https://support.garmin.com) for additional manuals, articles, and software updates.
- Go to [buy.garmin.com](https://buy.garmin.com), or contact your Garmin dealer for information about optional accessories and replacement parts.



