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

Device Overview

[Image of a watch with buttons labeled: 1. LIGHT, 2. START/STOP, 3. BACK, 4. DOWN, 5. UP]

- **1. LIGHT**: Select to turn the device on. Select to turn the backlight on and off. Hold to view the controls menu.
- **2. START/STOP**: Select to start and stop the activity timer. Select to choose an option or to acknowledge a message.
- **3. BACK**: Select to return to the previous screen. Select to record a lap, rest, or transition during an activity.
- **4. DOWN**: Select to scroll through the widgets, data screens, options, and settings. Hold to open the music controls (Music, page 23).
- **5. UP**: Select to scroll through the widgets, data screens, options, and settings. Hold to view the menu.

GPS Status and Status Icons
The GPS status ring and icons temporarily overlay each data screen. For outdoor activities, the status ring turns green when GPS is ready. A flashing icon means the device is searching for a signal. A solid icon means the signal was found or the sensor is connected.

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Setting Up Your Watch
To take full advantage of the Forerunner features, complete these tasks.

- Pair your smartphone with the Garmin Connect™ app (Pairing Your Smartphone with Your Device, page 19).
- Set up safety features (Safety and Tracking Features, page 22).
- Set up music (Music, page 23).
- Set up Wi-Fi networks (Connecting to a Wi-Fi Network, page 22).
- Set up your Garmin Pay™ wallet (Setting Up Your Garmin Pay Wallet, page 24).

Activities and Apps
Your device can be used for indoor, outdoor, athletic, and fitness activities. When you start an activity, the device displays and records sensor data. You can save activities and share them with the Garmin Connect community.
You can also add Connect IQ™ activities and apps to your device using the Connect IQ app (Connect IQ Features, page 22).
For more information about activity tracking and fitness metric accuracy, go to garmin.com/ataccuracy.

Going for a Run
The first fitness activity you record on your device can be a run, ride, or any outdoor activity. You may need to charge the device before starting the activity (Charging the Device, page 36).

1. Select START, and select an activity.
2. Go outside, and wait while the device locates satellites.
3. Select START to start the activity timer.
4. Go for a run.

5. After you complete your run, select STOP to stop the activity timer.
6. Select an option:
   - Select Resume to restart the activity timer.
   - Select Save to save the run and reset the activity timer. You can select the run to view a summary.

   ![Image of a Garmin watch displaying running data]

   - Select Resume Later to suspend the run and continue recording later.
   - Select Lap to mark a lap.
   - Select Discard > Yes to delete the run.

Starting an Activity
When you start an activity, GPS turns on automatically (if required). If you have an optional wireless sensor, you can pair it to the Forerunner device (Pairing Your Wireless Sensors, page 29).
1 Press START.
2 Select an activity.
   NOTE: Activities set as favorites appear first in the list (Customizing Your Activity List, page 30).
3 Select an option:
   • Select an activity from your favorites.
   • Select 🌃, and select an activity from the extended activity list.
4 If the activity requires GPS signals, go outside to an area with a clear view of the sky.
5 Wait until GPS ✅ appears.
   The device is ready after it establishes your heart rate, acquires GPS signals (if required), and connects to your wireless sensors (if required).
6 Press START to start the activity timer.
   The device records activity data only while the activity timer is running.
   NOTE: You can hold DOWN while in an activity to open the music controls.
Tips for Recording Activities
• Charge the device before starting an activity (Charging the Device, page 36).
• Select ⌚️ to record laps.
• Select UP or DOWN to view additional data pages.
Stopping an Activity
1 Select STOP.
2 Select an option:
   • To resume your activity, select Resume.
   • To save the activity and return to watch mode, select Save > Done.
   • To suspend your activity and resume it at a later time, select Resume Later.
   • To mark a lap, select Lap.
   • To navigate back to the starting point of your activity along the path you traveled, select Back to Start > TracBack.
      NOTE: This feature is available only for activities that use GPS.
   • To navigate back to the starting point of your activity by the most direct path, select Back to Start > Route.
      NOTE: This feature is available only for activities that use GPS.
   • To discard the activity and return to watch mode, select Discard > Yes.
      NOTE: After stopping the activity, the device saves it automatically after 30 minutes.
Creating a Custom Activity
1 From the watch face, select START > Add.
2 Select an option:
   • Select Copy Activity to create your custom activity starting from one of your saved activities.
   • Select Other to create a new custom activity.
3 If necessary, select an activity type.
4 Select a name or enter a custom name.
   Duplicate activity names include a number, for example: Bike(2).
5 Select an option:
   • Select an option to customize specific activity settings. For example, you can customize the data screens or auto features.
   • Select Done to save and use the custom activity.
6 Select Yes to add the activity to your list of favorites.
Indoor Activities
The Forerunner device can be used for training indoors, such as running on an indoor track or using a stationary bike. GPS is turned off for indoor activities.
When running or walking with GPS turned off, speed, distance, and cadence are calculated using the accelerometer in the device. The accelerometer is self-calibrating. The accuracy of the speed, distance, and cadence data improves after a few outdoor runs or walks using GPS.
TIP: Holding the handrails of the treadmill reduces accuracy. You can use an optional foot pod to record pace, distance, and cadence.
When cycling with GPS turned off, speed and distance are not available unless you have an optional sensor that sends speed and distance data to the device (such as a speed or cadence sensor).
Calibrating the Treadmill Distance
To record more accurate distances for your treadmill runs, you can calibrate the treadmill distance after you run at least 1.5 km (1 mi.) on a treadmill. If you use different treadmills, you can manually calibrate the treadmill distance on each treadmill or after each run.
1 Start a treadmill activity (Starting an Activity, page 1), and run at least 1.5 km (1 mi.) on the treadmill.
2 After you complete your run, select STOP.
3 Select an option:
   • To calibrate the treadmill distance the first time, select Save.
     The device prompts you to complete the treadmill calibration.
   • To manually calibrate the treadmill distance after the first-time calibration, select Calibrate & Save > Yes.
4 Check the treadmill display for the distance traveled, and enter the distance on your device.
Outdoor Activities
The Forerunner device comes preloaded with outdoor activities, such as running and cycling. GPS is turned on for outdoor activities. You can add new activities based on default activities, such as walking or rowing. You can also add custom activities to your device (Creating a Custom Activity, page 2).
Multisport
Triathletes, duathletes, and other multisport competitors can take advantage of the multisport activities, such as Triathlon or Swimrun. During a multisport activity, you can transition between activities and continue to view your total time and distance. For example, you can switch from biking to running and view your total time and distance for biking and running throughout the multisport activity.
You can customize a multisport activity, or you can use the default triathlon activity set up for a standard triathlon.
Triathlon Training
When you participate in a triathlon, you can use the triathlon activity to quickly transition to each sport segment, to time each segment, and to save the activity.
1 Select START > Triathlon.
2 Select START to start the timer.
3 Select 🌃 at the beginning and end of each transition.
Creating a Multisport Activity

1. From the watch face, select START > Add > Multisport.
2. Select a multisport activity type, or enter a custom name. Duplicate activity names include a number. For example, Triathlon(2).
3. Select two or more activities.
4. Select an option:
   • Select an option to customize specific activity settings. For example, you can select whether to include transitions.
   • Select Done to save and use the multisport activity.
5. Select Yes to add the activity to your list of favorites.

Tips for Triathlon Training or Using Multisport Activities

• Select START to start your first activity.
• Select to transition to the next activity.
• If transitions are turned on, the transition time is recorded separately from the activity times.
• If necessary, select to start the next activity.
• Select UP or DOWN to view additional data pages.

Swimming

NOTICE
The device is intended for surface swimming. Scuba diving with the device may damage the product and will void the warranty.

NOTE: The device is compatible with the HRM-Tri™ accessory and the HRM-Swim™ accessory (Heart Rate While Swimming, page 11).

Distance Recording
The Forerunner device measures and records distance by completed pool lengths. The pool size must be correct to display accurate distance (Going for a Pool Swim, page 11).

TIP: For accurate results, swim the entire length, and use one stroke for the entire length. Pause the timer when resting.
TIP: To help the device count your lengths, use a strong push off the wall and glide before your first stroke.
TIP: When doing drills, you must either pause the timer or use the drill logging feature (Training with the Drill Log, page 3).

Swim Terminology
Length: One trip down the pool.
Interval: One or more consecutive lengths. A new interval starts after a rest.
Stroke: A stroke is counted every time your arm wearing the device completes a full cycle.
Swolf: Your swolf score is the sum of the time for one pool length and the number of strokes for that length. For example, 30 seconds plus 15 strokes equals a swolf score of 45. For open water swimming, swolf is calculated over 25 meters. Swolf is a measurement of swimming efficiency and, like golf, a lower score is better.
Critical swim speed (CSS): Your CSS is the theoretical speed that you can maintain continuously without exhaustion. You can use your CSS to guide your training pace and monitor your improvement.

Stroke Types
Stroke type identification is available only for pool swimming. Your stroke type is identified at the end of a length. Stroke types appear in your swimming history and in your Garmin Connect account. You can also select stroke type as a custom data field (Customizing the Data Screens, page 31).

Tips for Swimming Activities

• Before starting a pool swimming activity, follow the on-screen instructions to select your pool size or enter a custom size. The next time you start a pool swimming activity, the device uses this pool size. You can hold , select the activity settings, and select Pool Size to change the size.
• Select to record a rest during pool swimming. The device automatically records swim intervals and lengths for pool swimming.
• Select to record an interval during open water swimming.

Resting During Pool Swimming
The default rest screen displays two rest timers. It also displays time and distance for the last completed interval.

NOTE: Swim data is not recorded during a rest.
1. During your swim activity, select to start a rest.
   The display reverses to white text on a black background, and the rest screen appears.
2. During a rest, select UP or DOWN to view other data screens (optional).
3. Select , and continue swimming.
4. Repeat for additional rest intervals.

Auto Rest
The auto rest feature is available only for pool swimming. Your device automatically detects when you are resting, and the rest screen appears. If you rest for more than 15 seconds, the device automatically creates a rest interval. When you resume swimming, the device automatically starts a new swim interval. You can turn on the auto rest feature in the activity options (Activities and App Settings, page 30).

TIP: For best results using the auto rest feature, minimize your arm motions while resting.

If you do not want to use the auto rest feature, you can select to manually mark the beginning and end of each rest interval.

Training with the Drill Log
The drill log feature is available only for pool swimming. You can use the drill log feature to manually record kick sets, one-arm swimming, or any type of swimming that is not one of the four major strokes.
1. During your pool swim activity, select UP or DOWN to view the drill log screen.
2. Select to start the drill timer.
3. After you complete a drill interval, select .
   The drill timer stops, but the activity timer continues to record the entire swim session.
4. Select a distance for the completed drill.
   Distance increments are based on the pool size selected for the activity profile.
5. Select an option:
   • To start another drill interval, select .
   • To start a swim interval, select UP or DOWN to return to the swim training screens.
Viewing Your Ski Runs
Your device records the details of each downhill skiing or snowboarding run using the auto run feature. This feature is turned on by default for downhill skiing and snowboarding. It automatically records new ski runs based on your movement. The timer pauses when you stop moving downhill and when you are on a chairlift. The timer remains paused during the chairlift ride. You can start moving downhill to restart the timer. You can view run details from the paused screen or while the timer is running.

1. Start a skiing or snowboarding activity.
2. Hold START.
3. Select View Runs.
4. Select UP and DOWN to view details of your last run, your current run, and your total runs.

The run screens include time, distance traveled, maximum speed, average speed, and total descent.

Golfing
Playing Golf
Before you play golf, you should charge the device (Charging the Device, page 36).

1. From the watch face, select START > Golf.
2. Go outside, and wait while the device locates satellites.
3. Select a course from the list of available courses.
4. If necessary, set your driver distance.
5. Select Yes to keep score.
6. Select UP or DOWN to scroll through the holes.

The device automatically transitions when you move to the next hole.

7. After you complete your activity, select START > End Round > Yes.

Hole Information
The device calculates the distance to the front and back of the green, and to the selected pin location (Moving the Flag, page 4).

| ① | Current hole number |
| ② | Distance to the back of the green |
| ③ | Distance to the selected pin location |
| ④ | Distance to the front of the green |
| ⑤ | Par for the hole |
| ⑥ | Map of the green |

Moving the Flag
You can take a closer look at the green and move the pin location.

1. From the hole information screen, select START > Move Flag.
2. Select UP or DOWN to move the pin position.
3. Select START.

The distances on the hole information screen are updated to show the new pin location. The pin location is saved for only the current round.

Viewing Measured Shots
Before the device can automatically detect and measure shots, you must enable scoring.

Your device features automatic shot detection and recording. Each time you take a shot along the fairway, the device records your shot distance so you can view it later.

TIP: Automatic shot detection works best when you wear the device on your leading wrist and make good contact with the ball. Putts are not detected.

1. While playing golf, select START > Measure Shot.

Your last shot distance appears.

NOTE: The distance automatically resets when you hit the ball again, putt on the green, or move to the next hole.

2. Select DOWN to view all recorded shot distances.

Viewing Layup and Dogleg Distances
You can view a list of layup and dogleg distances for par 4 and 5 holes.

Select START > Layups.

Each layup and the distance until you reach each layup appear on the screen.

NOTE: Distances are removed from the list as you pass them.

Keeping Score
1. From the hole information screen, select START > Scorecard.

The scorecard appears when you are on the green.

2. Select UP or DOWN to scroll through the holes.
3. Select START to select a hole.
4. Select UP or DOWN to set the score.

Your total score is updated.

Updating a Score
1. From the hole information screen, select START > Scorecard.
2. Select UP or DOWN to scroll through the holes.
3. Select START to select a hole.
4. Select UP or DOWN to change the score for that hole.

Your total score is updated.

TruSwing™
The TruSwing feature allows you to view swing metrics recorded from your TruSwing device. Go to www.garmin.com/golf to purchase a TruSwing device.

Using the Golf Odometer
You can use the odometer to record the time, distance, and steps traveled. The odometer automatically starts and stops when you start or end a round.

1. Select START > Odometer.
2. If necessary, select Reset to reset the odometer to zero.

Tracking Statistics
The Stat Tracking feature enables detailed statistics tracking while playing golf.

1. From the hole information screen, hold START.
2. Select the activity settings.
3. Select Stat Tracking to enable tracking statistics.

Playing Audio Prompts During Your Activity
You can enable your Forerunner device to play motivational status announcements during a run or other activity. Audio
prompts play on your connected headphones using Bluetooth® technology, if available. Otherwise, audio prompts play on your smartphone paired through the Garmin Connect app. During an audio prompt, the device or smartphone mutes the primary audio to play the announcement.

NOTE: This feature is not available for all activities.
1 From the watch face, hold 
2 Select Settings > Audio Prompts.
3 Select an option:
   • To hear a prompt for each lap, select Lap Alert.
   • To customize prompts with your pace and speed data, select Pace/Speed Alert.
   • To customize prompts with your heart rate data, select Heart Rate Alert.
   • To customize prompts with power data, select Power Alert.
   • To hear prompts when you start and stop the timer, including the Auto Pause® feature, select Timer Events.
   • To hear activity alerts play as an audio prompt, select Activity Alerts.
   • To hear a sound play right before an audio alert or prompt, select Audio Tones.
   • To change the language or the dialect of the voice prompts, select Dialect.

Training

Workouts
You can create custom workouts that include goals for each workout step and for varied distances, times, and calories. Your device includes several preloaded workouts for multiple activities. You can create and find more workouts using Garmin Connect or select a training plan that has built-in workouts, and transfer them to your device.

You can schedule workouts using Garmin Connect. You can plan workouts in advance and store them on your device.

Following a Workout From Garmin Connect
Before you can download a workout from Garmin Connect, you must have a Garmin Connect account (Garmin Connect, page 25).
1 Select an option:
   • Open the Garmin Connect app.
   • Go to connect.garmin.com.
2 Select Training > Workouts.
3 Find a workout, or create and save a new workout.
4 Select + or Send to Device.
5 Follow the on-screen instructions.

Starting a Workout
Before you can start a workout, you must download a workout from your Garmin Connect account.
1 From the watch face, select START.
2 Select an activity.
3 Hold 
4 Select Training > My Workouts.
5 Select a workout.
   NOTE: Only workouts that are compatible with the selected activity appear in the list.
6 Select Do Workout.
7 Select START to start the timer.

After you begin a workout, the device displays each step of the workout, step notes (optional), the target (optional), and the current workout data.

Following a Pool Swim Workout
Your device can guide you through multiple steps in a swim workout. Creating and sending a pool swim workout is similar to Workouts, page 5 and Following a Workout From Garmin Connect, page 5.
1 From the watch face, select START > Pool Swim > Options > Training.
2 Select an option:
   • Select My Workouts to do workouts downloaded from Garmin Connect.
   • Select Training Calendar to do or view your scheduled workouts.
3 Follow the on-screen instructions.

About the Training Calendar
The training calendar on your device is an extension of the training calendar or schedule you set up in Garmin Connect. After you have added a few workouts to the Garmin Connect calendar, you can send them to your device. All scheduled workouts sent to the device appear in the calendar widget. When you select a day in the calendar, you can view or do the workout. The scheduled workout stays on your device whether you complete it or skip it. When you send scheduled workouts from Garmin Connect, they overwrite the existing training calendar.

Using Garmin Connect Training Plans
Before you can download and use a training plan, you must have a Garmin Connect account (Garmin Connect, page 25).
You can browse your Garmin Connect account to find a training plan, schedule workouts, and send them to your device.
1 Connect the device to your computer.
2 From your Garmin Connect account, select and schedule a training plan.
3 Review the training plan in your calendar.
4 Select ‥ > Send Workouts to Device, and follow the on-screen instructions.

Interval Workouts
You can create interval workouts based on distance or time. The device saves your custom interval workout until you create another interval workout. You can use open intervals for track workouts and when you are running a known distance.

Creating an Interval Workout
1 From the watch face, select START.
2 Select an activity.
3 Hold 
4 Select Training > Intervals > Edit > Interval > Type.
5 Select Distance, Time, or Open.
   TIP: You can create an open-ended interval by selecting the Open option.
6 If necessary, select Duration, enter a distance or time interval value for the workout, and select ✓.
7 Select BACK.
8 Select Rest > Type.
9 Select Distance, Time, or Open.
10 If necessary, enter a distance or time value for the rest interval, and select ✓.
11 Select BACK.
12 Select one or more options:
   • To set the number of repetitions, select Repeat.
• To add an open-ended warm up to your workout, select Warm Up > On.
• To add an open-ended cool down to your workout, select Cool Down > On.

Starting an Interval Workout
1 From the watch face, select START.
2 Select an activity.
3 Hold 
4 Select Training > Intervals > Do Workout.
5 Select START to start the timer.
6 When your interval workout has a warm up, select ☐️ to begin the first interval.
7 Follow the on-screen instructions. After you complete all of the intervals, a message appears.

Stopping an Interval Workout
• At any time, select ☐️ to stop the current interval or rest period and transition to the next interval or rest period.
• After all intervals and rest periods are complete, select ☐️ to end the interval workout and transition to a timer that can be used for cool down.
• At any time, select STOP to stop the activity timer. You can resume the timer or end the interval workout.

Using Virtual Partner
The Virtual Partner feature is a training tool designed to help you meet your goals. You can set a pace for the Virtual Partner and race against it.

NOTE: This feature is not available for all activities.
1 From the watch face, select START.
2 Select an activity.
3 Hold 
4 Select the activity settings.
5 Select Data Screens > Add New > Virtual Partner.
6 Enter a pace or speed value.
7 Start your activity (Starting an Activity, page 1).
8 Select UP or DOWN to scroll to the Virtual Partner screen and see who is leading.

Setting a Training Target
The training target feature works with the Virtual Partner feature so you can train toward a set distance, distance and time, distance and pace, or distance and speed goal. During your training activity, the device gives you real-time feedback about how close you are to achieving your training target.
1 From the watch face, select START.
2 Select an activity.
3 Hold 
4 Select Training > Set a Target.
5 Select an option:
   • Select Distance Only to select a preset distance or enter a custom distance.
   • Select Distance and Time to select a distance and time target.
   • Select Distance and Pace or Distance and Speed to select a distance and pace or speed target.

The training target screen appears and displays your estimated finish time. The estimated finish time is based on your current performance and the time remaining.
6 Select START to start the timer.

Cancelling a Training Target
1 During an activity, hold 
2 Select Cancel Target > Yes.

Racing a Previous Activity
You can race a previously recorded or downloaded activity. This feature works with the Virtual Partner feature so you can see how far ahead or behind you are during the activity.

NOTE: This feature is not available for all activities.
1 From the watch face, select START.
2 Select an activity.
3 Hold 
4 Select Training > Race an Activity.
5 Select an option:
   • Select From History to select a previously recorded activity from your device.
   • Select Downloaded to select an activity you downloaded from your Garmin Connect account.
6 Select the activity.
   The Virtual Partner screen appears indicating your estimated finish time.
7 Select START to start the timer.
8 After you complete your activity, select START > Save.

PacePro Training
Many runners like to wear a pace band during a race to help achieve their race goal. The PacePro feature allows you to create a custom pace band based on distance and pace or distance and time. You can also create a pace band for a known course to maximize your pace effort based on elevation changes.

You can create a PacePro plan using the Garmin Connect app. You can preview the splits and elevation plot before you run the course.

Creating a PacePro Plan on Your Watch
Before you can create a PacePro plan on your watch, you must create a course (Creating and Following a Course on Your Device, page 26).
1 From the watch face, press START.
2 Select an outdoor running activity.
3 Hold 
4 Select Training > PacePro Plans > Create New.
5 Select a course.
6 Select an option:
   • Select Goal Pace, and enter your target pace.
   • Select Goal Time, and enter your target time.
   The device displays your custom pace band.
   TIP: You can press DOWN and select View Splits to preview the splits.
7 Press START to start the plan.
8 Press START to start the activity timer.
Starting a PacePro Plan
1. From the watch face, select START.
2. Select an outdoor running activity.
3. Hold ⌋.
4. Select Training > PacePro Plans.
5. Select a plan.
   TIP: You can select DOWN > View Splits to preview the splits.
6. Select START to start the plan.
7. Select START to start the activity timer.

Stopping a PacePro Plan
1. Hold ⌋.
2. Select Stop PacePro > Yes.
   The device stops the PacePro plan. The activity timer continues running.

Personal Records
When you complete an activity, the device displays any new personal records you achieved during that activity. Personal records include your fastest time over several typical race distances and longest run, ride, or swim.

NOTE: For cycling, personal records also include most ascent and best power (power meter required).

Viewing Your Personal Records
1. From the watch face, hold ⌋.
2. Select History > Records.
3. Select a sport.
4. Select a record.
5. Select View Record.

Restoring a Personal Record
You can set each personal record back to the one previously recorded.
1. From the watch face, hold ⌋.
2. Select History > Records.
3. Select a sport.
4. Select a record to restore.
5. Select Previous > Yes.
   NOTE: This does not delete any saved activities.

Clearing a Personal Record
1. From the watch face, hold ⌋.
2. Select History > Records.
3. Select a sport.
4. Select a record to delete.
5. Select Clear Record > Yes.
   NOTE: This does not delete any saved activities.

Clearing All Personal Records
1. From the watch face, hold ⌋.
2. Select History > Records.
3. Select a sport.
4. Select Clear All Records > Yes.
   The records are deleted for that sport only.
   NOTE: This does not delete any saved activities.

Segments
You can send running or cycling segments from your Garmin Connect account to your device. After a segment is saved to your device, you can race a segment, trying to match or exceed your personal record or other participants who have raced the segment.

NOTE: When you download a course from your Garmin Connect account, you can download all of the available segments in the course.

Strava™ Segments
You can download Strava segments to your Forerunner device. Follow Strava segments to compare your performance with your past rides, friends, and pros who have ridden the same segment.

To sign up for a Strava membership, go to the segments widget in your Garmin Connect account. For more information, go to www.strava.com.

The information in this manual applies to both Garmin Connect segments and Strava segments.

Racing a Segment
Segments are virtual race courses. You can race a segment, and compare your performance to past activities, others' performance, connections in your Garmin Connect account, or other members of the running or cycling communities. You can upload your activity data to your Garmin Connect account to view your segment position.

NOTE: If your Garmin Connect account and Strava account are linked, your activity is automatically sent to your Strava account so you can review the segment position.

1. Select START.
2. Select an activity.
3. Go for a run or ride.
   When you approach a segment, a message appears, and you can race the segment.
4. Start racing the segment.
   A message appears when the segment is complete.

Viewing Segment Details
1. Select START.
2. Select an activity.
3. Hold ⌋.
4. Select Training > Segments.
5. Select a segment.
6. Select an option:
   • Select Race Times to view the time and average speed or pace for the segment leader.
   • Select Map to view the segment on the map.
   • Select Elevation Plot to view an elevation plot of the segment.
Using the Metronome
The metronome feature plays tones at a steady rhythm to help you improve your performance by training at a faster, slower, or more consistent cadence.

NOTE: This feature is not available for all activities.
1. From the watch face, select START.
2. Select an activity.
3. Hold \( \mathbb{E} \)
4. Select the activity settings.
5. Select Metronome > Status > On.
6. Select an option:
   - Select Beats Per Minute to enter a value based on the cadence you want to maintain.
   - Select Alert Frequency to customize the frequency of the beats.
   - Select Sounds to customize the metronome tone and vibration.
7. If necessary, select Preview to listen to the metronome feature before you run.
8. Go for a run (Going for a Run, page 1).
   The metronome starts automatically.
9. During your run, select UP or DOWN to view the metronome screen.
10. If necessary, hold \( \mathbb{E} \) to change the metronome settings.

Extended Display Mode
You can use Extended Display mode to display data screens from your Forerunner device on a compatible Edge® device during a ride or triathlon. See your Edge owner's manual for more information.

Setting Up Your User Profile
You can update your gender, birth year, height, weight, heart rate zone, and power zone settings. The device uses this information to calculate accurate training data.
1. Hold \( \mathbb{E} \).
2. Select User Profile.
3. Select an option.

Fitness Goals
Knowing your heart rate zones can help you measure and improve your fitness by understanding and applying these principles.
- Your heart rate is a good measure of exercise intensity.
- Training in certain heart rate zones can help you improve cardiovascular capacity and strength.

If you know your maximum heart rate, you can use the table (Heart Rate Zone Calculations, page 8) to determine the best heart rate zone for your fitness objectives.

If you do not know your maximum heart rate, use one of the calculators available on the Internet. Some gyms and health centers can provide a test that measures maximum heart rate. The default maximum heart rate is 220 minus your age.

About Heart Rate Zones
Many athletes use heart rate zones to measure and increase their cardiovascular strength and improve their level of fitness. A heart rate zone is a set range of heartbeats per minute. The five commonly accepted heart rate zones are numbered from 1 to 5 according to increasing intensity. Generally, heart rate zones are calculated based on percentages of your maximum heart rate.

Setting Your Heart Rate Zones
The device uses your user profile information from the initial setup to determine your default heart rate zones. You can set separate heart rate zones for sport profiles, such as running, cycling, and swimming. For the most accurate calorie data during your activity, set your maximum heart rate. You can also set each heart rate zone and enter your resting heart rate manually. You can manually adjust your zones on the device or using your Garmin Connect account.
1. Hold \( \mathbb{E} \).
2. Select User Profile > Heart Rate.
3. Select Max. HR, and enter your maximum heart rate.
   You can use the Auto Detect feature to automatically record your maximum heart rate during an activity (Detecting Performance Measurements Automatically, page 14).
4. Select LTHR > Enter Manually, and enter your lactate threshold heart rate.
   You can perform a guided test to estimate your lactate threshold (Lactate Threshold, page 16). You can use the Auto Detect feature to automatically record your lactate threshold during an activity (Detecting Performance Measurements Automatically, page 14).
5. Select Resting HR, and enter your resting heart rate.
   You can use the average resting heart rate measured by your device, or you can set a custom resting heart rate.
6. Select Zones > Based On.
7. Select an option:
   - Select BPM to view and edit the zones in beats per minute.
   - Select %Max. HR to view and edit the zones as a percentage of your maximum heart rate.
   - Select %HRR to view and edit the zones as a percentage of your heart rate reserve (maximum heart rate minus resting heart rate).
   - Select %LTHR to view and edit the zones as a percentage of your lactate threshold heart rate.
8. Select a zone, and enter a value for each zone.
9. Select Add Sport Heart Rate, and select a sport profile to add separate heart rate zones (optional).
10. Repeat the steps to add sport heart rate zones (optional).

Letting the Device Set Your Heart Rate Zones
The default settings allow the device to detect your maximum heart rate and set your heart rate zones as a percentage of your maximum heart rate.
- Verify that your user profile settings are accurate (Setting Up Your User Profile, page 8).
- Run often with the wrist or chest heart rate monitor.
- Try a few heart rate training plans, available from your Garmin Connect account.
- View your heart rate trends and time in zones using your Garmin Connect account.

Heart Rate Zone Calculations

<table>
<thead>
<tr>
<th>Zone</th>
<th>% of Maximum Heart Rate</th>
<th>Perceived Exertion</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50–60%</td>
<td>Relaxed, easy pace, rhythmic breathing</td>
<td>Beginning-level aerobic training, reduces stress</td>
</tr>
<tr>
<td>2</td>
<td>60–70%</td>
<td>Comfortable pace, slightly deeper breathing, conversation possible</td>
<td>Basic cardiovascular training, good recovery pace</td>
</tr>
<tr>
<td>3</td>
<td>70–80%</td>
<td>Moderate pace, more difficult to hold conversation</td>
<td>Improved aerobic capacity, optimal cardiovascular training</td>
</tr>
</tbody>
</table>
### Activity Tracking

The activity tracking feature records your daily step count, distance traveled, intensity minutes, floors climbed, calories burned, and sleep statistics for each recorded day. Your calories burned includes your base metabolism plus activity calories. The number of steps taken during the day appears on the steps widget. The step count is updated periodically.

For more information about activity tracking and fitness metric accuracy, go to garmin.com/ataccuracy.

#### Auto Goal

Your device creates a daily step goal automatically, based on your previous activity levels. As you move during the day, the device shows your progress toward your daily goal [1].

If you choose not to use the auto goal feature, you can set a personalized step goal on your Garmin Connect account.

#### Using the Move Alert

Sitting for prolonged periods of time can trigger undesirable metabolic state changes. The move alert reminds you to keep moving. After one hour of inactivity, Move! and the red bar appear. Additional segments appear after every 15 minutes of inactivity. The device also beeps or vibrates if audible tones are turned on (System Settings, page 34).

Go for a short walk (at least a couple of minutes) to reset the move alert.

### Sleep Tracking

While you are sleeping, the device automatically detects your sleep and monitors your movement during your normal sleep hours. You can set your normal sleep hours in the user settings on your Garmin Connect account. Sleep statistics include total hours of sleep, sleep levels, and sleep movement. You can view your sleep statistics on your Garmin Connect account.

**NOTE:** Naps are not added to your sleep statistics. You can use do not disturb mode to turn off notifications and alerts, with the exception of alarms (Using Do Not Disturb Mode, page 9).

#### Using Automated Sleep Tracking

1. Wear your device while sleeping.
2. Upload your sleep tracking data to the Garmin Connect site (Manually Syncing Data with Garmin Connect, page 20).
   
   You can view your sleep statistics on your Garmin Connect account.

#### Using Do Not Disturb Mode

You can use do not disturb mode to turn off the backlight, tone alerts, and vibration alerts. For example, you can use this mode while sleeping or watching a movie.

**NOTE:** You can set your normal sleep hours in the user settings on your Garmin Connect account. You can enable the Sleep Time option in the system settings to automatically enter do not disturb mode during your normal sleep hours (System Settings, page 34).

1. Hold LIGHT.
2. Select Do Not Disturb.

### Intensity Minutes

To improve your health, organizations such as the World Health Organization recommend at least 150 minutes per week of moderate intensity activity, such as brisk walking, or 75 minutes per week of vigorous intensity activity, such as running.

The device monitors your activity intensity and tracks your time spent participating in moderate to vigorous intensity activities (heart rate data is required to quantify vigorous intensity). You can work toward achieving your weekly intensity minutes goal by participating in at least 10 consecutive minutes of moderate to vigorous intensity activities. The device adds the amount of moderate activity minutes with the amount of vigorous activity minutes. Your total vigorous intensity minutes are doubled when added.

#### Earning Intensity Minutes

Your Forerunner device calculates intensity minutes by comparing your heart rate data to your average resting heart rate. If heart rate is turned off, the device calculates moderate intensity minutes by analyzing your steps per minute.

- Start a timed activity for the most accurate calculation of intensity minutes.
- Exercise for at least 10 consecutive minutes at a moderate or vigorous intensity level.
- Wear your device all day and night for the most accurate resting heart rate.

### Garmin Move IQ™ Events

The Move IQ feature automatically detects activity patterns, such as walking, running, biking, swimming, and elliptical training, for at least 10 minutes. You can view the event type and duration on your Garmin Connect timeline, but they do not appear in your activities list, snapshots, or newsfeed. For more detail and accuracy, you can record a timed activity on your device.
**Activity Tracking Settings**
From the watch face, hold ⌘, and select **Settings > Activity Tracking**.

**Status:** Turns off the activity tracking features.

**Move Alert:** Displays a message and the move bar on the digital watch face and steps screen. The device also beeps or vibrates if audible tones are turned on (System Settings, page 34).

**Goal Alerts:** Allows you to turn on and off goal alerts, or turn them off only during activities. Goal alerts appear for your daily steps goal, daily floors climbed goal, and weekly intensity minutes goal.

**Move IQ:** Allows your device to automatically start and save a timed walking or running activity when the Move IQ feature detects familiar movement patterns.

**Sleep Pulse Ox:** Allows your device to record up to four hours of pulse oximeter readings while you sleep.

**Turning Off Activity Tracking**
When you turn off activity tracking, your steps, floors climbed, recorded.

1. From the watch face, hold UP.
2. Select **Settings > Activity Tracking > Status > Off**.

**Hydration Tracking**
You can track your daily fluid intake, turn on goals and alerts, and enter the container sizes you use most often. If you enable automatic goals, your goal increases on the days when you record an activity. When you exercise, you need more fluid to replace the sweat lost.

**Using the Hydration Tracking Widget**
The hydration tracking widget displays your fluid intake and your daily hydration goal.

1. From the watch face, select UP or DOWN to view the hydration widget.
2. Select **START**.
3. Select an option:
   - Select ‡ for each serving of fluid you consume.
   - Select a container to increase your fluid intake by the volume of the container.

   **TIP:** You can customize your hydration settings, such as units of measure and daily goal, on your Garmin Connect account.

**Menstrual Cycle Tracking**
Your menstrual cycle is an important part of your health. You can learn more and set up this feature in the Health Stats settings of the Garmin Connect app.

- Menstrual cycle tracking and details
- Physical and emotional symptoms
- Period and fertility predictions
- Health and nutrition information

**NOTE:** If your Forerunner device doesn’t have the menstrual cycle tracking widget, you can download it from the Connect IQ app.

**Heart Rate Features**
The Forerunner device has a wrist-based heart rate monitor and is also compatible with chest heart rate monitors. You can view heart rate data on the heart rate widget. If both wrist-based heart rate and chest heart rate data are available, your device uses the chest heart rate data.

There are several heart rate-related features available in the default widget loop.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Rate</td>
<td>Your current heart rate in beats per minute (bpm). The widget also displays a graph of your heart rate for the last four hours, highlighting your highest and lowest heart rate.</td>
</tr>
<tr>
<td>Stress Level</td>
<td>Your current stress level. The device measures your heart rate variability while you are inactive to estimate your stress level. A lower number indicates a lower stress level.</td>
</tr>
<tr>
<td>Body Battery™</td>
<td>Your current Body Battery™ energy level. The device calculates your current energy reserves based on sleep, stress, and activity data. A higher number indicates a higher energy reserve.</td>
</tr>
<tr>
<td>Oxygen Saturation</td>
<td>The current saturation of oxygen in your blood. Knowing your oxygen saturation can help you determine how your body is adapting to exercise and stress.</td>
</tr>
</tbody>
</table>

**NOTE:** The pulse oximeter sensor is located on the back of the device.

**Wrist-based Heart Rate**

**Wearing the Device**
- Wear the device above your wrist bone.

**NOTE:** The device should be snug but comfortable. For more accurate heart rate readings, the device should not move while running or exercising. For pulse oximeter readings, you should remain motionless.

- Clean and dry your arm before putting on the device.
- Avoid wearing sunscreen, lotion, and insect repellent under the device.
- Avoid scratching the heart rate sensor on the back of the device.
- Wear the device above your wrist bone. The device should be snug but comfortable.
- Wait until the heart icon is solid before starting your activity.
- Warm up for 5 to 10 minutes and get a heart rate reading before starting your activity.

**NOTE:** In cold environments, warm up indoors.

**Tips for Erratic Heart Rate Data**
If the heart rate data is erratic or does not appear, you can try these tips.

- Clean and dry your arm before putting on the device.
- Avoid wearing sunscreen, lotion, and insect repellent under the device.
- Avoid scratching the heart rate sensor on the back of the device.
- Wear the device above your wrist bone. The device should be snug but comfortable.
- Wait until the heart icon is solid before starting your activity.
- Warm up for 5 to 10 minutes and get a heart rate reading before starting your activity.

**NOTE:** In cold environments, warm up indoors.

**Viewing the Heart Rate Widget**
The widget displays your current heart rate in beats per minute (bpm) and a graph of your heart rate for the last 4 hours.

1. From the watch face, select UP or DOWN to view the heart rate widget.

   **NOTE:** You may need to add the widget to your widget loop (Customizing the Widget Loop, page 30).

2. Select **START** to view your average resting heart rate values for the last 7 days.
Broadcasting Heart Rate Data to Garmin® Devices
You can broadcast your heart rate data from your Forerunner device and view it on paired Garmin devices.

NOTE: Broadcasting heart rate data decreases battery life.
1. From the heart rate widget, hold.
2. Select Options > Broadcast Heart Rate.
   The Forerunner device starts broadcasting your heart rate data, and appears.

   NOTE: You can view only the heart rate widget while broadcasting heart rate data from the heart rate widget.
3. Pair your Forerunner device with your Garmin ANT+® compatible device.
   NOTE: The pairing instructions differ for each Garmin compatible device. See your owner’s manual.
   TIP: To stop broadcasting your heart rate data, select any key, and select Yes.

Broadcasting Heart Rate Data During an Activity
You can set up your Forerunner device to broadcast your heart rate data automatically when you begin an activity. For example, you can broadcast your heart rate data to an Edge device while cycling, or to a VIRB action camera during an activity.

NOTE: Broadcasting heart rate data decreases battery life.
1. From the heart rate widget, hold.
2. Select Options > Broadcast During Activity.
3. Begin an activity (Starting an Activity, page 1).
   The Forerunner device starts broadcasting your heart rate data in the background.
   NOTE: There is no indication that the device is broadcasting your heart rate data during an activity.
4. Pair your Forerunner device with your Garmin ANT+® compatible device.
   NOTE: The pairing instructions differ for each Garmin compatible device. See your owner’s manual.
   TIP: To stop broadcasting your heart rate data, stop the activity (Stopping an Activity, page 2).

Setting an Abnormal Heart Rate Alert
You can set the device to alert you when your heart rate exceeds a certain number of beats per minute (bpm) after a period of inactivity.
1. From the heart rate widget, hold.
2. Select Options > Abnormal HR Alert > Status > On.
3. Select Alert Threshold.
4. Select a heart rate threshold value.
Each time you exceed the threshold value, a message appears and the device vibrates.

Turning Off the Wrist-based Heart Rate Monitor
The default value for the Wrist Heart Rate setting is Auto. The device automatically uses the wrist-based heart rate monitor unless you pair an ANT+® heart rate monitor to the device.

NOTE: Disabling the wrist-based heart rate monitor also disables the wrist-based pulse oximeter sensor. You can perform a manual reading from the pulse oximeter widget.
1. From the heart rate widget, hold.
2. Select Options > Status > Off.

HRM-Swim Accessory
Heart Rate While Swimming
NOTE: If both wrist-based heart rate and chest heart rate data are available, your device uses the chest heart rate data.
To view your heart rate data, you can add heart rate data fields (Customizing the Data Screens, page 31). Heart rate data is not visible while the heart rate accessory is underwater. The HRM-Tri accessory and the HRM-Swim accessory record and store your heart rate data while you are swimming. You must start a timed activity on your paired Forerunner device to view your stored heart rate data later. During rest intervals when you are out of the water, the heart rate accessory sends your heart rate data to your Forerunner device. Your Forerunner device automatically downloads stored heart rate data when you save your timed swim activity. Your heart rate accessory must be out of the water, active, and within range of the device (3 m) while the data downloads.

Going for a Pool Swim
1. Select START > Pool Swim.
2. Select your pool size, or enter a custom size.
3. Select START.
   The device records swim data only while the activity timer is running.
4. Start your activity.
   The device automatically records swim intervals and lengths.
5. Select UP or DOWN to view additional data pages (optional).
6. When resting, select to pause the activity timer.
7. Select to restart the activity timer.
8. After you finish the activity, select STOP > Save.

Swimming in Open Water
You can use the device for open water swimming. You can record swim data including distance, pace, and stroke rate. You can add data screens to the default open water swimming activity (Customizing the Data Screens, page 31).
1. Select START > Open Water.
2. Go outside and wait while the device locates satellites.
3. Select START to start the timer.
   History is recorded only while the timer is running.
4. After you finish the activity, select STOP > Save.

Sizing the Heart Rate Monitor
Before your first swim, take some time sizing the heart rate monitor. It should be tight enough to stay in place when pushing off the pool wall.
• Select a strap extender, and attach it to the elastic end of the heart rate monitor.
   The heart rate monitor comes with three extender straps to fit different chest sizes.
   TIP: The medium strap extender works for most shirt sizes (from medium to extra-large).
• Put on the heart rate monitor backward to easily adjust the slider on the strap extender.
• Put on the heart rate monitor forward to easily adjust the slider on the heart rate monitor.

Putting On the Heart Rate Monitor
You should wear the heart rate monitor directly on your skin, just below your sternum.
1. Select a strap extender for the best fit.
2 Wear the heart rate monitor with the Garmin logo facing right-side up.
   The hook 1 and loop 2 connection should be on your right side.

3 Wrap the heart rate monitor around your chest, and connect the strap hook to the loop.

NOTE: Make sure the care tag does not fold over.

4 Tighten the heart rate monitor so it is snug around your chest, but not restrictive.

After you put on the heart rate monitor, it is active, storing, and sending data.

Tips for Using the HRM-Swim Accessory
- Adjust the tightness of the heart rate monitor and strap extender if the heart rate monitor slides down your chest when pushing off the pool wall.
- Stand up between intervals so that the heart rate monitor is out of the water to see your heart rate data.

Caring for the Heart Rate Monitor

NOTICE
A buildup of sweat and salt on the strap can decrease the ability of the heart rate monitor to report accurate data.

- Rinse the heart rate monitor after every use.
- Hand wash the heart rate monitor after every seven uses, using a tiny amount of mild detergent, such as dishwashing liquid.
  NOTE: Using too much detergent may damage the heart rate monitor.
- Do not put the heart rate monitor in a washing machine or dryer.
- When drying the heart rate monitor, hang it up or lay it flat.

HRM-Tri Accessory
The HRM-Swim section of this manual explains recording heart rate during your swim (Heart Rate While Swimming, page 11).

Pool Swimming

NOTICE
Hand wash the heart rate monitor after exposure to chlorine or other pool chemicals. Prolonged exposure to these substances can damage the heart rate monitor.

The HRM-Tri accessory is designed primarily for open water swimming, but it can be used occasionally for pool swimming. The heart rate monitor should be worn under a swim suit or triathlon top during pool swimming. Otherwise, it may slide down your chest when pushing off the pool wall.

Putting On the Heart Rate Monitor
You should wear the heart rate monitor directly on your skin, just below your sternum. It should be snug enough to stay in place during your activity.

1 If necessary, attach the strap extender to the heart rate monitor.
2 Wet the electrodes 1 on the back of the heart rate monitor to create a strong connection between your chest and the transmitter.

3 Wear the heart rate monitor with the Garmin logo facing right-side up.

The loop 2 and hook 3 connection should be on your right side.

4 Wrap the heart rate monitor around your chest, and connect the strap hook to the loop.
  NOTE: Make sure the care tag does not fold over.

After you put on the heart rate monitor, it is active and sending data.

Data Storage
The heart rate monitor can store up to 20 hours of data in a single activity. When the heart rate monitor memory is full, your oldest data is overwritten.

You can start a timed activity on your paired Forerunner device, and the heart rate monitor records your heart rate data even if you move away from your device. For example, you can record heart rate data during fitness activities or team sports where watches cannot be worn. Your heart rate monitor automatically sends your stored heart rate data to your Forerunner device when you save your activity. Your heart rate monitor must be active and within range (3 m) of the device while data is uploaded.

Caring for the Heart Rate Monitor

NOTICE
A buildup of sweat and salt on the strap can decrease the ability of the heart rate monitor to report accurate data.

- Rinse the heart rate monitor after every use.
- Hand wash the heart rate monitor after every seven uses or one pool swim, using a tiny amount of mild detergent, such as dishwashing liquid.
  NOTE: Using too much detergent may damage the heart rate monitor.
- Do not put the heart rate monitor in a washing machine or dryer.
- When drying the heart rate monitor, hang it up or lay it flat.

Tips for Erratic Heart Rate Data
If the heart rate data is erratic or does not appear, you can try these tips.
- Reapply water to the electrodes and contact patches (if applicable).
- Tighten the strap on your chest.
- Warm up for 5 to 10 minutes.
• Follow the care instructions (Caring for the Heart Rate Monitor, page 12).
• Wear a cotton shirt or thoroughly wet both sides of the strap. Synthetic fabrics that rub or flap against the heart rate monitor can create static electricity that interferes with heart rate signals.
• Move away from sources that can interfere with your heart rate monitor. Sources of interference may include strong electromagnetic fields, some 2.4 GHz wireless sensors, high-voltage power lines, electric motors, ovens, microwave ovens, 2.4 GHz cordless phones, and wireless LAN access points.

Running Dynamics
You can use your compatible Forerunner device paired with the HRM-Tri accessory or other running dynamics accessory to provide real-time feedback about your running form. If your Forerunner device was packaged with the HRM-Tri accessory, the devices are already paired.

The running dynamics accessory has an accelerometer that measures torso movement in order to calculate six running metrics.

Cadence: Cadence is the number of steps per minute. It displays the total steps (right and left combined).
Vertical oscillation: Vertical oscillation is your bounce while running. It displays the vertical motion of your torso, measured in centimeters.
Ground contact time: Ground contact time is the amount of time in each step that you spend on the ground while running. It is measured in milliseconds.

NOTE: Ground contact time and balance are not available while walking.
Ground contact time balance: Ground contact time balance displays the left/right balance of your ground contact time while running. It displays a percentage. For example, 53.2 with an arrow pointing left or right.
Stride length: Stride length is the length of your stride from one footfall to the next. It is measured in meters.

Color Gauges and Running Dynamics Data
The running dynamics screens display a color gauge for the primary metric. You can display cadence, vertical oscillation, ground contact time, ground contact time balance, or vertical ratio as the primary metric. The color gauge shows you how your running dynamics data compare to those of other runners. The color zones are based on percentiles.

Garmin has researched many runners of all different levels. The data values in the red or orange zones are typical for less experienced or slower runners. The data values in the green, blue, or purple zones are typical for more experienced or faster runners. More experienced runners tend to exhibit shorter ground contact times, lower vertical oscillation, lower vertical ratio, and higher cadence than less experienced runners. However, taller runners typically have slightly slower cadences, longer strides, and slightly higher vertical oscillation. Vertical ratio is your vertical oscillation divided by stride length. It is not correlated with height.

Go to www.garmin.com/performance-data/running/ for more information on running dynamics. For additional theories and interpretations of running dynamics data, you can search reputable running publications and websites.

<table>
<thead>
<tr>
<th>Color Zone</th>
<th>Percentile in Zone</th>
<th>Cadence Range</th>
<th>Ground Contact Time Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple</td>
<td>&gt;95</td>
<td>&gt;183 spm</td>
<td>&lt;218 ms</td>
</tr>
<tr>
<td>Blue</td>
<td>70–95</td>
<td>174–183 spm</td>
<td>218–248 ms</td>
</tr>
<tr>
<td>Green</td>
<td>30–69</td>
<td>164–173 spm</td>
<td>249–277 ms</td>
</tr>
<tr>
<td>Orange</td>
<td>5–29</td>
<td>153–163 spm</td>
<td>278–308 ms</td>
</tr>
<tr>
<td>Red</td>
<td>&lt;5</td>
<td>&lt;153 spm</td>
<td>&gt;308 ms</td>
</tr>
</tbody>
</table>

Ground Contact Time Balance Data
Ground contact time balance measures your running symmetry and appears as a percentage of your total ground contact time. For example, 51.3% with an arrow pointing left indicates the runner is spending more time on the ground when on the left foot. If your data screen displays both numbers, for example 48–52, 48% is the left foot and 52% is the right foot.

<table>
<thead>
<tr>
<th>Symmetry</th>
<th>Red</th>
<th>Orange</th>
<th>Green</th>
<th>Orange</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor</td>
<td>Fair</td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
</tr>
</tbody>
</table>
Performance Measurements

Performances. The measurements require a few activities using wrist-based heart rate or a compatible chest heart rate monitor. Cycling performance measurements require a heart rate monitor and a power meter. For more information, go to www.garmin.com/performance-data /running/.

NOTE: The estimates may seem inaccurate at first. The device requires you to complete a few activities to learn about your performance.

**Tips for Missing Running Dynamics Data**

If running dynamics data does not appear, you can try these tips.

- Make sure you have a running dynamics accessory, such as the HRM-Tri accessory. Accessories with running dynamics have 📊 on the front of the module.
- Pair the running dynamics accessory with your Forerunner device again, according to the instructions.
- If the running dynamics data display shows only zeros, make sure the accessory is worn right-side up.

**Performance Measurements**

These performance measurements are estimates that can help you track and understand your training activities and race performances. The measurements require a few activities using wrist-based heart rate or a compatible chest heart rate monitor. Cycling performance measurements require a heart rate monitor and a power meter. These estimates are provided and supported by Firstbeat. For more information, go to www.garmin.com/performance-data /running/.

NOTE: The estimates may seem inaccurate at first. The device requires you to complete a few activities to learn about your performance.

**Vo2 Max.** Vo2 max. is the maximum volume of oxygen (in milliliters) you can consume per minute per kilogram of body weight at your maximum performance.

**Predicted Race Times** Your device uses the Vo2 max. estimate and your training history to provide a target race time based on your current state of fitness.

**HRV Stress Test** The heart rate variability (HRV) stress test requires a Garmin chest heart rate monitor. The device records your heart rate variability while standing still for 3 minutes. It provides your overall stress level. The scale is 1 to 100, and a lower score indicates a lower stress level.

**Performance Condition** Your performance condition is a real-time assessment after 6 to 20 minutes of activity. It can be added as a data field so you can view your performance condition during the rest of your activity. It compares your real-time condition to your average fitness level.

While developing and testing running dynamics, the Garmin team found correlations between injuries and greater imbalances with certain runners. For many runners, ground contact time balance tends to deviate further from 50–50 when running up or down hills. Most running coaches agree that a symmetrical running form is good. Elite runners tend to have quick and balanced strides.

You can watch the color gauge or data field during your run or view the summary on your Garmin Connect account after your run. As with the other running dynamics data, ground contact time balance is a quantitative measurement to help you learn about your running form.

**vertical Oscillation and Vertical Ratio Data**

The data ranges for vertical oscillation and vertical ratio are slightly different depending on the sensor and whether it is positioned at the chest (HRM-Tri or HRM-Run accessories) or at the waist (Running Dynamics Pod accessory).

<table>
<thead>
<tr>
<th>Color Zone</th>
<th>Percentile in Zone</th>
<th>Vertical Oscillation Range at Chest</th>
<th>Vertical Oscillation Range at Waist</th>
<th>Vertical Ratio at Chest</th>
<th>Vertical Ratio at Waist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple</td>
<td>&gt;95</td>
<td>&lt;6.4 cm</td>
<td>&lt;6.8 cm</td>
<td>&lt;6.1%</td>
<td>&lt;6.5%</td>
</tr>
<tr>
<td>Blue</td>
<td>70–95</td>
<td>6.4–8.1 cm</td>
<td>6.8–8.9 cm</td>
<td>6.1–7.4%</td>
<td>6.5–8.3%</td>
</tr>
<tr>
<td>Green</td>
<td>30–69</td>
<td>8.2–9.7 cm</td>
<td>9.0–10.9 cm</td>
<td>7.5–8.6%</td>
<td>8.4–10.0%</td>
</tr>
<tr>
<td>Orange</td>
<td>5–29</td>
<td>9.8–11.5 cm</td>
<td>11.0–13.0 cm</td>
<td>8.7–10.1%</td>
<td>10.1–11.9%</td>
</tr>
<tr>
<td>Red</td>
<td>&lt;5</td>
<td>&gt;11.5 cm</td>
<td>&gt;13.0 cm</td>
<td>&gt;10.1%</td>
<td>&gt;11.9%</td>
</tr>
</tbody>
</table>

**Functional Threshold Power (FTP)**: The device uses your user profile information from the initial setup to estimate your FTP. For a more accurate rating, you can conduct a guided test.

**Lactate Threshold**: Lactate threshold requires a chest heart rate monitor. Lactate threshold is the point where your muscles start to rapidly fatigue. Your device measures your lactate threshold level using heart rate data and pace.

**Turning Off Performance Notifications**

Some performance notifications appear upon completion of your activity. Some performance notifications appear during an activity or when you achieve a new performance measurement, such as a new VO2 max. estimate. You can turn off the performance condition feature to avoid some of these notifications.

1. From the watch face, hold 📊.
2. Select Settings > Physiological Metrics > Performance Condition.

**Detecting Performance Measurements Automatically**

The Auto Detect feature is turned on by default. The device can automatically detect your maximum heart rate and lactate threshold during an activity. When paired with a compatible power meter, the device can automatically detect your functional threshold power (FTP) during an activity.

NOTE: The device detects a maximum heart rate only when your heart rate is higher than the value set in your user profile.

1. Hold 📊.
2. Select Physiological Metrics > Auto Detect.
3. Select an option.

**Syncing Activities and Performance Measurements**

You can sync activities, personal records, and performance measurements from other Garmin devices to your Forerunner device using your Garmin Connect account. This allows your device to more accurately reflect your training status and fitness. For example, you can record a ride with an Edge device, and view your activity details and overall training load on your Forerunner device.

1. From the watch face, hold 📊.

When you sync your device with your smartphone, recent activities, personal records, and performance measurements from your other Garmin devices appear on your Forerunner device.

---

<table>
<thead>
<tr>
<th>Percent of Other Runners</th>
<th>5%</th>
<th>25%</th>
<th>40%</th>
<th>25%</th>
<th>5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Contact Time Balance</td>
<td>&gt;52.2% L</td>
<td>50.8–52.2% L</td>
<td>50.7% L–50.7% R</td>
<td>50.8–52.2% R</td>
<td>&gt;52.2% R</td>
</tr>
</tbody>
</table>
About VO2 Max. Estimates
VO2 max. is the maximum volume of oxygen (in milliliters) you can consume per minute per kilogram of body weight at your maximum performance. In simple terms, VO2 max. is an indication of athletic performance and should increase as your level of fitness improves. The Forerunner device requires wrist-based heart rate or a compatible chest heart rate monitor to display your VO2 max. estimate. The device has separate VO2 max. estimates for running and cycling. You must run either outside with GPS or ride with a compatible power meter at a moderate level of intensity for several minutes to get an accurate VO2 max. estimate.

On the device, your VO2 max. estimate appears as a number, description, and position on the color gauge. On your Garmin Connect account, you can view additional details about your VO2 max. estimate, including your fitness age. Your fitness age gives you an idea of how your fitness compares with a person of the same gender and different age. As you exercise, your fitness age can decrease over time.

VO2 max. data is provided by FirstBeat. VO2 max. analysis is provided with permission from The Cooper Institute®. For more information, see the appendix (VO2 Max. Standard Ratings, page 44), and go to www.CooperInstitute.org.

Getting Your VO2 Max. Estimate for Running
This feature requires wrist-based heart rate or a compatible chest heart rate monitor. If you are using a chest heart rate monitor, you must put it on and pair it with your device (Pairing Your Wireless Sensors, page 29). If your Forerunner device was packaged with a heart rate monitor, the devices are already paired.

For the most accurate estimate, complete the user profile setup (Setting Up Your User Profile, page 8), and set your maximum heart rate (Setting Your Heart Rate Zones, page 8). The estimate may seem inaccurate at first. The device requires a few runs to learn about your running performance.

1 Run for at least 10 minutes outdoors.
2 After your run, select Save.
3 Select START to scroll through the performance measurements.

Getting Your VO2 Max. Estimate for Cycling
This feature requires a power meter and wrist-based heart rate or a compatible chest heart rate monitor. The power meter must be paired with your Forerunner device (Pairing Your Wireless Sensors, page 29). If you are using a chest heart rate monitor, you must put it on and pair it with your device. If your Forerunner device was packaged with a heart rate monitor, the devices are already paired.

For the most accurate estimate, complete the user profile setup (Setting Up Your User Profile, page 8) and set your maximum heart rate (Setting Your Heart Rate Zones, page 8). The estimate may seem inaccurate at first. The device requires a few rides to learn about your cycling performance.

1 Ride at a steady, high intensity for at least 20 minutes.
2 After your ride, select Save.
3 Select START to scroll through the performance measurements.

Heat and Altitude Performance Acclimation
Environmental factors such as high temperature and altitude impact your training and performance. For example, high altitude training can have a positive impact on your fitness, but you may notice a temporary VO2 max. decline while exposed to high altitudes. Your Forerunner device provides acclimation notifications and corrections to your VO2 max. estimate and training status when the temperature is above 22°C (72°F) and when the altitude is above 800 m (2625 ft.). You can keep track of your heat and altitude acclimation in the training status widget.

NOTE: The heat acclimation feature is available only for GPS activities and requires weather data from your connected smartphone. Full acclimation takes a minimum of 4 training days.

Viewing Your Predicted Race Times
For the most accurate estimate, complete the user profile setup (Setting Up Your User Profile, page 8), and set your maximum heart rate (Setting Your Heart Rate Zones, page 8). Your device uses the VO2 max. estimate (About VO2 Max. Estimates, page 15) and your training history to provide a target race time. The device analyzes several weeks of your training data to refine the race time estimates.

TIP: If you have more than one Garmin device, you can enable the Physio TrueUp™ feature, which allows your device to sync activities, history, and data from other devices (Syncing Activities and Performance Measurements, page 14).

1 From the watch face, select UP or DOWN to view the performance widget.
2 Select START to scroll through the performance measurements.
   - Your projected race times appear for 5K, 10K, half marathon, and marathon distances.
   - The projections may seem inaccurate at first. The device requires a few runs to learn about your running performance.

About Training Effect
Training Effect measures the impact of an activity on your aerobic and anaerobic fitness. Training Effect accumulates during the activity. As the activity progresses, the Training Effect value increases. Training Effect is determined by your user profile information and training history, and heart rate, duration, and intensity of your activity. There are seven different Training Effect labels to describe the primary benefit of your activity. Each label is color coded and corresponds to your training load focus (Training Load Focus, page 18). Each feedback phrase, for example, "Highly Impacting VO2 Max." has a corresponding description in your Garmin Connect activity details.

Aerobic Training Effect uses your heart rate to measure how the accumulated intensity of an exercise affects your aerobic fitness and indicates if the workout had a maintaining or improving effect on your fitness level. Your excess post-exercise oxygen consumption (EPOC) accumulated during exercise is mapped to a range of values that account for your fitness level and training habits. Steady workouts at moderate effort or workouts involving longer intervals (>180 sec) have a positive impact on your aerobic metabolism and result in an improved aerobic Training Effect.

Anaerobic Training Effect uses heart rate and speed (or power) to determine how a workout affects your ability to perform at

Heart Rate Features 15
very high intensity. You receive a value based on the anaerobic contribution to EPOC and the type of activity. Repeated high-intensity intervals of 10 to 120 seconds have a highly beneficial impact on your anaerobic capability and result in an improved anaerobic Training Effect.

You can add Aerobic Training Effect and Anaerobic Training Effect as data fields to one of your training screens to monitor your numbers throughout the activity.

<table>
<thead>
<tr>
<th>Training Effect</th>
<th>Aerobic Benefit</th>
<th>Anaerobic Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 0.0 to 0.9</td>
<td>No benefit.</td>
<td>No benefit.</td>
</tr>
<tr>
<td>From 1.0 to 1.9</td>
<td>Minor benefit.</td>
<td>Minor benefit.</td>
</tr>
<tr>
<td>From 2.0 to 2.9</td>
<td>Maintains your aerobic fitness.</td>
<td>Maintains your anaerobic fitness.</td>
</tr>
<tr>
<td>From 3.0 to 3.9</td>
<td>Impacts your aerobic fitness.</td>
<td>Impacts your anaerobic fitness.</td>
</tr>
<tr>
<td>From 4.0 to 4.9</td>
<td>Highly impacts your aerobic fitness.</td>
<td>Highly impacts your anaerobic fitness.</td>
</tr>
<tr>
<td>5.0</td>
<td>Overreaching and potentially harmful without enough recovery time.</td>
<td>Overreaching and potentially harmful without enough recovery time.</td>
</tr>
</tbody>
</table>

Training Effect technology is provided and supported by Firstbeat Technologies Ltd. For more information, go to www.firstbeat.com.

Performance Condition
As you complete your activity, such as running or cycling, the performance condition feature analyzes your pace, heart rate, and heart rate variability to make a real-time assessment of your ability to perform compared to your average fitness level. It is approximately your real-time percentage deviation from your baseline VO2 max. estimate.

Performance condition values range from -20 to +20. After the first 6 to 20 minutes of your activity, the device displays your performance condition score. For example, a score of +5 means that you are rested, fresh, and capable of a good run or ride. You can add performance condition as a data field to one of your training screens to monitor your ability throughout the activity. Performance condition can also be an indicator of fatigue level, especially at the end of a long training run or ride.

NOTE: The device requires a few runs or rides with a heart rate monitor to get an accurate VO2 max. estimate and learn about your running or riding ability (About VO2 Max. Estimates, page 15).

Viewing Your Performance Condition
This feature requires wrist-based heart rate or a compatible chest heart rate monitor.

1. Add Performance Condition to a data screen (Customizing the Data Screens, page 31).
2. Go for a run or ride.
   After 6 to 20 minutes, your performance condition appears.
3. Scroll to the data screen to view your performance condition throughout the run or ride.

Lactate Threshold
Lactate threshold is the exercise intensity at which lactate (lactic acid) starts to accumulate in the bloodstream. In running, it is the estimated level of effort or pace. When a runner exceeds the threshold, fatigue starts to increase at an accelerating rate. For experienced runners, the threshold occurs at approximately 90% of their maximum heart rate and between 10k and half-marathon race pace. For average runners, the lactate threshold often occurs well below 90% of maximum heart rate. Knowing your lactate threshold can help you determine how hard to train or when to push yourself during a race.

If you already know your lactate threshold heart rate value, you can enter it in your user profile settings (Setting Your Heart Rate Zones, page 8).

Performing a Guided Test to Determine Your Lactate Threshold
This feature requires a Garmin chest heart rate monitor. Before you can perform the guided test, you must put on a heart rate monitor and pair it with your device (Pairing Your Wireless Sensors, page 29).

The device uses your user profile information from the initial setup and your VO2 max. estimate to estimate your lactate threshold. The device will automatically detect your lactate threshold during runs at a steady, high intensity with heart rate.

TIP: The device requires a few runs with a chest heart rate monitor to get an accurate maximum heart rate value and VO2 max. estimate. If you are having trouble getting a lactate threshold estimate, try manually lowering your maximum heart rate value.

1. From the watch face, select START.
2. Select an outdoor running activity.
   GPS is required to complete the test.
3. Hold 🔍
4. Select Training > Lactate Threshold Guided Test.
5. Start the timer, and follow the on-screen instructions.

After you begin your run, the device displays each step duration, the target, and current heart rate data. A message appears when the test is complete.

6. After you complete the guided test, stop the timer and save the activity.

If this is your first lactate threshold estimate, the device prompts you to update your heart rate zones based on your lactate threshold heart rate. For each additional lactate threshold estimate, the device prompts you to accept or decline the estimate.

Getting Your FTP Estimate
Before you can get your functional threshold power (FTP) estimate, you must pair a chest heart rate monitor and power meter with your device (Pairing Your Wireless Sensors, page 29), and you must get your VO2 max. estimate (Getting Your VO2 Max. Estimate for Cycling, page 15).

The device uses your user profile information from the initial setup and your VO2 max. estimate to estimate your FTP. The device will automatically detect your FTP during rides at a steady, high intensity with heart rate.

1. Select UP or DOWN to view the performance widget.
2. Select START to scroll through the performance measurements.

Your FTP estimate appears as a value measured in watts per kilogram, your power output in watts, and a position on the color gauge.

<table>
<thead>
<tr>
<th>Color</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple</td>
<td>Superior</td>
</tr>
<tr>
<td>Blue</td>
<td>Excellent</td>
</tr>
<tr>
<td>Green</td>
<td>Good</td>
</tr>
<tr>
<td>Orange</td>
<td>Fair</td>
</tr>
<tr>
<td>Red</td>
<td>Untrained</td>
</tr>
</tbody>
</table>

For more information, see the appendix (FTP Ratings, page 44).

NOTE: When a performance notification alerts you to a new FTP, you can select Accept to save the new FTP, or Decline to keep your current FTP.

Conducting an FTP Test
Before you can conduct a test to determine your functional threshold power (FTP), you must pair a chest heart rate monitor and a power meter with your device (Pairing Your Wireless Sensors, page 29), and you must get your VO2 max. estimate (Getting Your VO2 Max. Estimate for Cycling, page 15).
The FTP test is a challenging workout that takes about 30 minutes to complete. Choose a practical and mostly flat route that allows you to ride at a steadily increasing effort, similar to a time trial.

1. From the watch face, select START.
2. Select a cycling activity.
3. Hold ⌘.
4. Select Training > FTP Guided Test.
5. Follow the on-screen instructions.

After you begin your ride, the device displays each step duration, the target, and current power data. A message appears when the test is complete.

After you complete the guided test, complete the cool down, stop the timer, and save the activity.

Your FTP appears as a value measured in watts per kilogram, your power output in watts, and a position on the color gauge.

Select an option:
- Select Accept to save the new FTP.
- Select Decline to keep your current FTP.

**Training Status**

These measurements are estimates that can help you track and understand your training activities. The measurements require a few activities using wrist-based heart rate or a compatible chest heart rate monitor. Cycling performance measurements require a heart rate monitor and a power meter. These estimates are provided and supported by Firstbeat. For more information, go to [www.garmin.com/performance-data/running](http://www.garmin.com/performance-data/running/).

**Training Status Levels**

Training status shows you how your training affects your fitness level and performance. Your training status is based on changes to your training load and VO2 max. over an extended time period. You can use your training status to help plan future training and continue improving your fitness level.

**Peaking:** Peaking means that you are in ideal race condition. Your recently reduced training load is allowing your body to recover and fully compensate for earlier training. You should plan ahead, since this peak state can only be maintained for a short time.

**Productive:** Your current training load is moving your fitness level and performance in the right direction. You should plan recovery periods into your training to maintain your fitness level.

**Maintaining:** Your current training load is enough to maintain your fitness level. To see improvement, try adding more variety to your workouts or increasing your training volume.

**Recovery:** Your lighter training load is allowing your body to recover, which is essential during extended periods of hard training. You can return to a higher training load when you feel ready.

**Unproductive:** Your training load is at a good level, but your fitness is decreasing. Your body may be struggling to recover, so you should pay attention to your overall health including stress, nutrition, and rest.

**Detraining:** Detraining occurs when you are training much less than usual for a week or more, and it is affecting your fitness level. You can try increasing your training load to see improvement.

**Overreaching:** Your training load is very high and counterproductive. Your body needs a rest. You should give yourself time to recover by adding lighter training to your schedule.

**No Status:** The device needs one or two weeks of training history, including activities with VO2 max. results from running or cycling, to determine your training status.

**Tips for Getting Your Training Status**

The training status feature depends on updated assessments of your fitness level, including at least two VO2 max. measurements per week. Your VO2 max. estimate is updated after outdoor runs or rides with power during which your heart rate reached at least 70% of your maximum heart rate for several minutes. The trail run and indoor run activities do not generate a VO2 max. estimate in order to preserve the accuracy of your fitness level trend.

To get the most out of the training status feature, you can try these tips.

- At least two times per week, run or ride outdoors with a power meter, and reach a heart rate higher than 70% of your maximum heart rate for at least 10 minutes.
- After using the device for one week, your training status should be available.
- Record all of your fitness activities on this device, or enable the Physio TrueUp feature, allowing your device to learn about your performance ([Syncing Activities and Performance Measurements, page 14](#)).

**Training Load**

Training load is a measurement of your training volume over the last seven days. It is the sum of your excess post-exercise oxygen consumption (EPOC) measurements for the last seven days. The gauge indicates whether your current load is low, high, or within the optimal range to maintain or improve your fitness level. The optimal range is determined based on your individual fitness level and training history. The range adjusts as your training time and intensity increase or decrease.
Training Load Focus
In order to maximize performance and fitness gains, training should be distributed across three categories: low aerobic, high aerobic, and anaerobic. Training load focus shows you how much of your training is currently in each category and provides training targets. Training load focus requires at least 7 days of training to determine if your training load is low, optimal, or high. After 4 weeks of training history, your training load estimate will have more detailed target information to help you balance your training activities.

Below targets: Your training load is lower than optimal in all intensity categories. Try increasing the duration or frequency of your workouts.

Low aerobic shortage: Try adding more low aerobic activities to provide recovery and balance for your higher intensity activities.

High aerobic shortage: Try adding more high aerobic activities to help improve your lactate threshold and VO2 max. over time.

Anaerobic shortage: Try adding a few more intense, anaerobic activities to improve your speed and anaerobic capacity over time.

Balanced: Your training load is balanced and provides all-around fitness benefits as you continue training.

Low aerobic focus: Your training load is mostly low aerobic activity. This provides a solid foundation and prepares you for adding more intense workouts.

High aerobic focus: Your training load is mostly high aerobic activity. These activities help to improve lactate threshold, VO2 max., and endurance.

Anaerobic focus: Your training load is mostly intense activity. This leads to rapid fitness gains, but should be balanced with low aerobic activities.

Above targets: Your training load is higher than optimal, and you should consider scaling back the duration and frequency of your workouts.

Recovery Time
You can use your Garmin device with wrist-based heart rate or a compatible chest heart rate monitor to display how much time remains before you are fully recovered and ready for the next hard workout.

NOTE: The recovery time recommendation uses your VO2 max. estimate and may seem inaccurate at first. The device requires you to complete a few activities to learn about your performance. The recovery time appears immediately following an activity. The time counts down until it is optimal for you to attempt another hard workout.

Viewing Your Recovery Time
For the most accurate estimate, complete the user profile setup (Setting Up Your User Profile, page 8), and set your maximum heart rate (Setting Your Heart Rate Zones, page 8).

1. Go for a run.
2. After your run, select Save.
   - The recovery time appears. The maximum time is 4 days.
   - NOTE: From the watch face, you can select UP or DOWN to view the training status widget, and select START to scroll through the metrics to view your recovery time.

Recovery Heart Rate
If you are training with wrist-based heart rate or a compatible chest heart rate monitor, you can check your recovery heart rate value after each activity. Recovery heart rate is the difference between your exercising heart rate and your heart rate two minutes after the exercise has stopped. For example, after a typical training run, you stop the timer. Your heart rate is 140 bpm. After two minutes of no activity or cool down, your heart rate is 90 bpm. Your recovery heart rate is 50 bpm (140 minus 90). Some studies have linked recovery heart rate to cardiac health. Higher numbers generally indicate healthier hearts.

TIP: For best results, you should stop moving for two minutes while the device calculates your recovery heart rate value. You can save or discard the activity after this value appears.

Pulse Oximeter
The Forerunner device has a wrist-based pulse oximeter to gauge the peripheral saturation of oxygen in your blood. Knowing your oxygen saturation can help you determine how your body is acclimating to high altitudes for alpine sport and expedition.

You can manually begin a pulse oximeter reading by viewing the pulse oximeter widget (Getting Pulse Oximeter Readings, page 18). You can also turn on all-day readings (Turning On All-Day Acclimation Mode, page 19). When you remain motionless, your device analyzes your oxygen saturation and your elevation. The elevation profile helps indicate how your pulse oximeter readings are changing, relative to your to elevation.

On the device, your pulse oximeter reading appears as an oxygen saturation percentage and color on the graph. On your Garmin Connect account, you can view additional details about your pulse oximeter readings, including trends over multiple days.

For more information about pulse oximeter accuracy, go to garmin.com/ataccuracy.
Turning On Pulse Oximeter Sleep Tracking

You can set your device to continuously measure your blood oxygen saturation while you sleep.

NOTE: Unusual sleep positions can cause abnormally low sleep-time SpO2 readings.

1. From the pulse oximeter widget, hold Down.
2. Select Options > Sleep Pulse Ox > Sleep Time.

Turning On All-Day Acclimation Mode

Before you can perform the heart rate variability (HRV) stress test, you must put on a chest heart rate monitor and pair it with your device (Pairing Your Wireless Sensors, page 29).

Your HRV stress score is the result of a three-minute test performed while standing still, where the device analyzes heart rate variability to determine your overall stress. Training, sleep, nutrition, and general life stress all impact how your Body Battery level updates when you sync your device with your Garmin Connect account.

The device automatically analyzes your oxygen saturation throughout the day, when you are not moving.

NOTE: Turning on all-day acclimation mode decreases battery life.

Tips for Erratic Pulse Oximeter Data

If the pulse oximeter data is erratic or does not appear, you can try these tips.

- Remain motionless while the device reads your blood oxygen saturation.
- Wear the device above your wrist bone. The device should be snug but comfortable.
- Hold the arm wearing the device at heart level while the device reads your blood oxygen saturation.
- Use a silicone band.
- Clean and dry your arm before putting on the device.
- Avoid wearing sunscreen, lotion, and insect repellent under the device.
- Avoid scratching the optical sensor on the back of the device.
- Rinse the device with fresh water after each workout.

Viewing Your Heart Rate Variability Stress Score

Before you can perform the heart rate variability (HRV) stress test, you must put on a Garmin chest heart rate monitor and pair it with your device (Pairing Your Wireless Sensors, page 29).

Your HRV stress score is the result of a three-minute test performed while standing still, where the Forerunner device analyzes heart rate variability to determine your overall stress. Training, sleep, nutrition, and general life stress all impact how you perform. The stress score range is 1 to 100, where 1 is a very low stress state, and 100 is a very high stress state.

Knowing your stress score can help you decide if your body is ready for a tough training run or yoga.

TIP: Garmin recommends that you measure your stress score before you exercise, at approximately the same time, and under the same conditions every day. You can view previous results on your Garmin Connect account.

1. Select START > DOWN > HRV Stress > START.
2. Follow the onscreen instructions.

Body Battery

Your device analyzes your heart rate variability, stress level, sleep quality, and activity data to determine your overall Body Battery level. Like a gas gauge on a car, it indicates your amount of available reserve energy. The Body Battery level range is from 0 to 100, where 0 to 25 is low reserve energy, 26 to 50 is medium reserve energy, 51 to 75 is high reserve energy, and 76 to 100 is very high reserve energy.

You can sync your device with your Garmin Connect account to view your most up-to-date Body Battery level, long-term trends, and additional details (Tips for Improved Body Battery Data, page 19).

Viewing the Body Battery Widget

The Body Battery widget displays your current Body Battery level and a graph of your Body Battery level for the last several hours.

1. Select UP or DOWN to view the Body Battery widget.

NOTE: You may need to add the widget to your widget loop (Customizing the Widget Loop, page 30).

2. Select START to view a combined graph of your Body Battery and stress level.

Blue bars indicate periods of rest. Orange bars indicate periods of stress. Gray bars indicate times that you were too active to determine your stress level.

3. Select DOWN to see your Body Battery data since midnight.

Tips for Improved Body Battery Data

- Your Body Battery level updates when you sync your device with your Garmin Connect account.
- For more accurate results, wear the device while sleeping.
- Rest and good sleep charge your Body Battery.
- Strenuous activity, high stress, and poor sleep can cause your Body Battery to drain.
- Food intake, as well as stimulants like caffeine, has no impact on your Body Battery.

Smart Features

Pairing Your Smartphone with Your Device

To use the connected features of the Forerunner device, it must be paired directly through the Garmin Connect app, instead of from the Bluetooth settings on your smartphone.

1. From the app store on your smartphone, install and open the Garmin Connect app.
2. Bring your smartphone within 10 m (33 ft.) of your device.
3. Select LIGHT to turn on the device.

The first time you turn on the device, it is in pairing mode.
Tips for Existing Garmin Connect Users
1. From the Garmin Connect app, select the menu, and select Add Device.
2. Select Garmin Devices > Add Device.

Enabling Bluetooth Notifications
Before you can enable notifications, you must pair the Forerunner device with a compatible mobile device (Pairing Your Smartphone with Your Device, page 19).
1. Hold the LIGHT to view the controls menu.
2. Select Settings > Phone > Smart Notifications > Status > On.
3. Select During Activity.
4. Select a notification preference.
5. Select a sound preference.
6. Select Not During Activity.
7. Select a notification preference.
8. Select a sound preference.
9. Select Privacy.
10. Select a privacy preference.
11. Select Timeout.
12. Select the amount of time the alert for a new notification appears on the screen.
13. Select Signature to add a signature to your text message replies.

Viewing Notifications
1. From the watch face, select UP or DOWN to view the notifications widget.
2. Select START.
3. Select a notification.
4. Select DOWN for more options.
5. Select BACK to return to the previous screen.

Playing Audio Prompts on Your Smartphone During Your Activity
Before you can set up audio prompts, you must have a smartphone with the Garmin Connect app paired to your Forerunner device.

You can set the Garmin Connect app to play motivational status announcements on your smartphone during a run or other activity. Audio prompts include the lap number and lap time, pace or speed, and heart rate data. During an audio prompt, the Garmin Connect app mutes the primary audio of the smartphone to play the announcement. You can customize the volume levels on the Garmin Connect app.

NOTE: If you have a Forerunner device, you can enable audio prompts on the device through your connected headphones, without using a connected smartphone (Playing Audio Prompts During Your Activity, page 4).

NOTE: The Lap Alert audio prompt is enabled by default.
1. From the Garmin Connect app, select the menu, and select Add Device.
2. Select Garmin Devices.
3. Select your device.

4. Select Activity Options > Audio Prompts.

Managing Notifications
You can use your compatible smartphone to manage notifications that appear on your Forerunner device.

Select an option:
- If you are using an iPhone device, go to the iOS notifications settings to select the items to show on the device.
- If you are using an Android smartphone, from the Garmin Connect app, select Settings > Notifications.

Turning Off the Bluetooth Smartphone Connection
1. Hold the LIGHT to view the controls menu.
2. Select the menu, and select Off.
3. Select the menu, and select to stop searching.

NOTE: Smartphone connection alerts are turned off by default.
1. Hold the LIGHT.
2. Select Phone > Alerts.

Bluetooth Connected Features
The Forerunner device has several Bluetooth connected features for your compatible smartphone using the Garmin Connect app.

- Activity uploads
- Assistance
- Connect IQ
- Find my phone
- Find my watch
- Incident detection
- GroupTrack
- LiveTrack
- Live Event Sharing
- Music controls
- Phone notifications
- Social media interactions
- Software updates
- Weather updates
- Workout and course downloads

Manually Syncing Data with Garmin Connect
1. Hold the LIGHT to view the controls menu.
2. Select the menu.

Locating a Lost Mobile Device
You can use this feature to help locate a lost mobile device that is paired using Bluetooth wireless technology and currently within range.
1. Hold the LIGHT to view the controls menu.
2. Select Find My Phone.

The Forerunner device begins searching for your paired mobile device. An audible alert sounds on your mobile device, and the Bluetooth signal strength displays on the Forerunner device screen. The Bluetooth signal strength increases as you move closer to your mobile device.
3. Select BACK to stop searching.
Widgets
Your device comes preloaded with widgets that provide at-a-glance information. Some widgets require a Bluetooth connection to a compatible smartphone.

Some widgets are not visible by default. You can add them to the widget loop manually (Customizing the Widget Loop, page 30).

ABC: Displays combined altimeter, barometer, and compass information.

Body Battery: Displays your current Body Battery level and a graph of your Body Battery levels for the last several hours.

Calendar: Displays upcoming meetings from your smartphone calendar.

Calories: Displays your calorie information for the current day.

Compass: Displays an electronic compass.

Dog tracking: Displays your dog's location information when you have a compatible dog tracking device paired with your Forerunner device.

Floors climbed: Tracks your floors climbed and progress toward your goal.

Garmin coach: Displays scheduled workouts when you select a Garmin coach training plan in your Garmin Connect account.

Golf: Displays golf information for your last round.

Health stats: Displays a dynamic summary of your current health statistics. The measurements include heart rate, Body Battery level, stress, and more.

Heart rate: Displays your current heart rate in beats per minute (bpm) and a graph of your heart rate.

History: Displays your activity history and a graph of your recorded activities.

Hydration: Allows you to track the amount of water you consume and the progress toward your daily goal.

Intensity minutes: Tracks your time spent participating in moderate to vigorous activities, your weekly intensity minutes goal, and progress toward your goal.

inReach® controls: Allows you to send messages on your paired inReach device.

Last activity: Displays a brief summary of your last recorded activity, such as your last run, last ride, or last swim.

Menstrual cycle tracking: Displays your current cycle. You can view and log your daily symptoms.

Music controls: Provides music player controls for your smartphone or on-device music.

My day: Displays a dynamic summary of your activity today. The metrics include timed activities, intensity minutes, floors climbed, steps, calories burned, and more.

Notifications: Alerts you to incoming calls, texts, social network updates, and more, based on your smartphone notification settings.

Performance: Displays performance measurements that help you track and understand your training activities and race performances.

Pulse oximeter: Displays your most recent blood oxygen saturation percentage and a graph of your readings.

Respiration: Your current respiration rate in breaths per minute and seven-day average. You can do a breathing activity to help you relax.

Steps: Tracks your daily step count, step goal, and data for previous days.

Stress: Displays your current stress level and a graph of your stress level. You can do a breathing activity to help you relax.

Sunrise and sunset: Displays sunrise, sunset, and civil twilight times.

Training status: Displays your current training status and training load, which shows you how your training affects your fitness level and performance.

VIRB controls: Provides camera controls when you have a VIRB device paired with your Forerunner device.

Weather: Displays the current temperature and weather forecast.

Xero® device: Displays laser location information when you have a compatible Xero device paired with your Forerunner device.

Viewing the Widgets
Your device comes preloaded with widgets that provide at-a-glance information. Some widgets require a Bluetooth connection to a compatible smartphone.

- From the watch face, select UP or DOWN to view the widgets.

Available widgets include heart rate and activity tracking. The performance widget requires several activities with heart rate and outdoor runs with GPS.

- Select START to view additional options and functions for a widget.

About My Day
The My Day widget is a daily snapshot of your activity. This is a dynamic summary that updates throughout the day. As soon as you start a training activity, it appears in the widget. The metrics include recorded activities, intensity minutes for the week, floors climbed, steps, calories burned, and more. You can select START to view additional metrics.

Viewing the Controls Menu
The controls menu contains options, such as turning on do not disturb mode, locking the keys, and turning the device off. You can access this menu.

NOTE: You can add, reorder, and remove the options in the controls menu.

1 From any screen, hold LIGHT.

2 Select UP or DOWN to scroll through the options.

Customizing the Controls Menu
You can add, remove, and change the order of the shortcut menu options in the controls menu (Viewing the Controls Menu, page 21).

1 Hold LIGHT.

2 Select Controls.

3 Select a shortcut to customize.

4 Select an option:
   - Select Reorder to change the location of the shortcut in the controls menu.
   - Select Remove to remove the shortcut from the controls menu.

5 If necessary, select Add New to add an additional shortcut to the controls menu.

Viewing the Weather Widget
Weather requires a Bluetooth connection to a compatible smartphone.
The device connects to the network, and the network is added to the list of saved networks. The device reconnects to this network automatically when it is within range.

**Opening the Music Controls**
Music controls require a Bluetooth connection to a compatible smartphone.
1. From the watch face, select **LIGHT**.
2. Select 🎧.
3. Select **UP** or **DOWN** to use the music controls.

**Connect IQ Features**
You can add Connect IQ features to your watch from Garmin and other providers using the Connect IQ app. You can customize your device with watch faces, data fields, widgets, and apps.

- **Watch Faces**: Allow you to customize the appearance of the clock.
- **Data Fields**: Allow you to download new data fields that present sensor, activity, and history data in new ways. You can add Connect IQ data fields to built-in features and pages.
- **Widgets**: Provide information at a glance, including sensor data and notifications.
- **Apps**: Add interactive features to your watch, such as new outdoor and fitness activity types.

**Downloading Connect IQ Features Using Your Computer**
1. Connect the device to your computer using a USB cable.
2. Go to apps.garmin.com, and sign in.
3. Select a Connect IQ feature, and download it.
4. Follow the on-screen instructions.

**Wi-Fi Connected Features**
Activity uploads to your Garmin Connect account: Automatically sends your activity to your Garmin Connect account as soon as you finish recording the activity.

- **Audio content**: Allows you to sync audio content from third-party providers.
- **Software updates**: Your device downloads and installs the latest software update automatically when a Wi-Fi connection is available.
- **Workouts and training plans**: You can browse for and select workouts and training plans on the Garmin Connect site. The next time your device has a Wi-Fi connection, the files are wirelessly sent to your device.

**Connecting to a Wi-Fi Network**
You must connect your device to the Garmin Connect app on your smartphone or to the Garmin Express™ application on your computer before you can connect to a Wi-Fi network.
1. Hold 🍃.
2. Select **Settings > Wi-Fi > My Networks > Add Network**. The device displays a list of nearby Wi-Fi networks.
3. Select a network.
4. If necessary, enter the password for the network.

### Safety and Tracking Features

**CAUTION**
Incident detection and assistance are supplemental features and should not be relied on as a primary method to obtain emergency assistance. The Garmin Connect app does not contact emergency services on your behalf.

The Forerunner device has safety and tracking features that must be set up with the Garmin Connect app.

**NOTICE**
To use these features, you must be connected to the Garmin Connect app using Bluetooth technology. You can enter emergency contacts in your Garmin Connect account.

For more information about incident detection and assistance, go to [www.garmin.com/safety](http://www.garmin.com/safety).

**Assistance**
Allows you to send an automated message with your name, LiveTrack link, and GPS location to your emergency contacts.

**Incident detection**
When the Forerunner device detects an incident during an outdoor walk, run, or bike activity, the device sends an automated message, LiveTrack link, and GPS location to your emergency contacts.

**LiveTrack**
Allows friends and family to follow your races and training activities in real time. You can invite followers using email or social media, allowing them to view your live data on a Garmin Connect tracking page.

**Live Event Sharing**
Allows you to send messages to friends and family during an event, providing real-time updates.

**NOTE**: This feature is available only if your device is connected to an Android smartphone.

**Adding Emergency Contacts**
Emergency contact phone numbers are used for the incident detection and assistance features.
1. From the Garmin Connect app, select ☒ or •••.
2. Select **Safety & Tracking > Incident Detection & Assistance > Add Emergency Contact**.
3. Follow the on-screen instructions.

**Requesting Assistance**
Before you can request assistance, you must set up emergency contacts ([Adding Emergency Contacts, page 22]).
1. Hold the ◆ key.
2. When you feel three vibrations, release the key to activate the assistance feature.

The countdown screen appears.

**TIP**: You can select **Cancel** before the countdown is complete to cancel the message.

**Turning Incident Detection On and Off**
1. From the watch face, hold 🍃.
2. Select **Settings > Safety & Tracking > Incident Detection**.
3. Select an activity.

**NOTE**: Incident detection is available only for outdoor walk, run, and bike activities.

When an incident is detected by your Forerunner device with GPS enabled, the Garmin Connect app can send an automated text message and email with your name and GPS location to your emergency contacts. A message appears indicating your contacts will be informed after 30 seconds have elapsed. You can select **Cancel** before the countdown is complete to cancel the message.
Starting a GroupTrack Session
Before you can start a GroupTrack session, you must have a Garmin Connect account, a compatible smartphone, and the Garmin Connect app.

These instructions are for starting a GroupTrack session with Forerunner devices. If your connections have other compatible devices, you can see them on the map. The other devices may not be able to display GroupTrack riders on the map.

1 Go outside, and turn on the Forerunner device.
2 Pair your smartphone with the Forerunner device (Pairing Your Smartphone with Your Device, page 19).
3 On the Forerunner device, hold ⌘ and select Safety & Tracking > GroupTrack > Show on Map to enable viewing connections on the map screen.
4 In the Garmin Connect app, from the settings menu, select Safety & Tracking > LiveTrack > GroupTrack.
5 If you have more than one compatible device, select a device for the GroupTrack session.

6 Select Visible to > All Connections.
7 Select Start LiveTrack.
8 On the Forerunner device, start an activity.
9 Scroll to the map to view your connections.

TIP: From the map, you can hold ⌘ and select Nearby Connections to view distance, direction, and pace or speed information for other connections in the GroupTrack session.

Tips for GroupTrack Sessions
The GroupTrack feature allows you to keep track of other connections in your group using LiveTrack directly on the screen. All members of the group must be your connections in your Garmin Connect account.

• Start your activity outside using GPS.
• Pair your Forerunner device with your smartphone using Bluetooth technology.
• In the Garmin Connect app, from the settings menu, select Connections to update the list of connections for your GroupTrack session.
• Make sure all of your connections pair to their smartphones and start a LiveTrack session in the Garmin Connect app.
• Make sure all your connections are in range (40 km or 25 mi.).
• During a GroupTrack session, scroll to the map to view your connections (Adding a Map to an Activity, page 31).

Music
You can download audio content to your device from your computer or from a third-party provider, so you can listen when your smartphone is not nearby. To listen to audio content stored on your device, you must connect headphones with Bluetooth technology.

You can use the music controls to control music playback on your smartphone or to play music stored on your device.

Connecting to a Third-Party Provider
Before you can download music or other audio files to your compatible watch from a supported third-party provider, you must connect to the provider using the Garmin Connect app.

1 From the Garmin Connect app, select ⌘ or •••.
2 Select Garmin Devices, and select your device.
3 Select Music.
4 Select an option:
   • To connect to an installed provider, select a provider, and follow the on-screen instructions.
   • To connect to a new provider, select Get Music Apps, locate a provider, and follow the on-screen instructions.

Spotify
Spotify is a digital music service that gives you access to millions of songs.

TIP: Spotify integration requires the Spotify application be installed on your mobile phone. A compatible mobile digital device and premium subscription is required, where available. Go to www.garmin.com/.

This product incorporates Spotify software which is subject to third party licenses found here: https://developer.spotify.com/legal/third-party-licenses. Soundtrack every journey with Spotify. Play songs and artists you love, or let Spotify entertain you.

Downloading Audio Content from Spotify
Before you can download audio content from Spotify, you must connect to a Wi-Fi network (Connecting to a Wi-Fi Network, page 22).

1 Hold DOWN from any screen to open the music controls.
2 Hold UP.
3 Select Music Providers > Spotify.
4 Select Add music & podcasts.
5 Select a playlist or other item to download to the device.

NOTE: Downloading audio content can drain the battery. You may need to connect the device to an external power source if the remaining battery life is insufficient.

The selected playlists and other items are downloaded to the device.

Downloading Personal Audio Content
Before you can send your personal music to your device, you must install the Garmin Express application on your computer (www.garmin.com/express).

You can load your personal audio files, such as .mp3 and .aac files, to a Forerunner device from your computer.

1 Connect the device to your computer using the included USB cable.
2 On your computer, open the Garmin Express application, select your device, and select Music.
   TIP: For Windows® computers, you can select [ ] and browse to the folder with your audio files. For Apple® computers, the Garmin Express application uses your iTunes® library.
3 In the My Music or iTunes Library list, select an audio file category, such as songs or playlists.
4 Select the checkboxes for the audio files, and select Send to Device.
5 If necessary, in the Forerunner list, select a category, select the checkboxes, and select Remove From Device to remove audio files.

Listening to Music
1 Hold DOWN from any screen to open the music controls.
2 Connect your headphones with Bluetooth technology (Connecting Bluetooth Headphones, page 24).
3 Hold [ ]
4 Select Music Providers, and select an option:
   • To listen to music downloaded to the watch from your computer, select My Music (Downloading Personal Audio Content, page 23).
   • To control music playback on your smartphone, select Control Phone.

Music
• To listen to music from a third-party provider, select the name of the provider.

5 Select \( \text{ } \) to open the music playback controls.

Music Playback Controls

![Music Playback Controls](image)

- Select to manage content from some third-party providers.
- Select to browse the audio files and playlists for the selected source.
- Select to adjust the volume.
- Select to play and pause the current audio file.
- Select to skip to the next audio file in the playlist. Hold to fast forward through the current audio file.
- Select to restart the current audio file. Select twice to skip to the previous audio file in the playlist. Hold to rewind through the current audio file.
- Select to change the repeat mode.
- Select to change the shuffle mode.

Controlling Music Playback on a Connected Smartphone

1 On your smartphone, start playing a song or playlist.
2 On your Forerunner device, hold DOWN from any screen to open the music controls.
3 Select Music Providers > Control Phone.

Changing the Audio Mode

You can change the music playback mode from stereo to mono.

1 Hold \( \text{ } \).
2 Select Settings > Music > Audio.
3 Select an option.

Connecting Bluetooth Headphones

To listen to music loaded onto your Forerunner device, you must connect headphones using Bluetooth technology.

1 Bring the headphones within 2 m (6.6 ft.) of your device.
2 Enable pairing mode on the headphones.
3 Hold \( \text{ } \)
4 Select Settings > Music > Headphones > Add New.
5 Select your headphones to complete the pairing process.

Garmin Pay

The Garmin Pay feature allows you to use your watch to pay for purchases in participating stores using credit or debit cards from a participating financial institution.

Setting Up Your Garmin Pay Wallet

You can add one or more participating credit or debit cards to your Garmin Pay wallet. Go to garmin.com/garminpay/banks to find participating financial institutions.

1 From the Garmin Connect app, select \( \text{ } \) or \( \text{ } \)
2 Select Garmin Pay > Get Started.
3 Follow the on-screen instructions.

Paying for a Purchase Using Your Watch

Before you can use your watch to pay for purchases, you must set up at least one payment card.

You can use your watch to pay for purchases in a participating store.

1 Hold LIGHT.
2 Select Wallet.
3 Enter your four-digit passcode.

**NOTE:** If you enter your passcode incorrectly three times, your wallet locks, and you must reset your passcode in the Garmin Connect app.

Your most recently used payment card appears.

4 If you have added multiple cards to your Garmin Pay wallet, select DOWN to change to another card (optional).
5 Within 60 seconds, hold your watch near the payment reader, with the watch facing the reader.

The watch vibrates and displays a check mark when it is finished communicating with the reader.

6 If necessary, follow the instructions on the card reader to complete the transaction.

**TIP:** After you successfully enter your passcode, you can make payments without a passcode for 24 hours while you continue to wear your watch. If you remove the watch from your wrist or disable heart rate monitoring, you must enter the passcode again before making a payment.

Adding a Card to Your Garmin Pay Wallet

You can add up to 10 credit or debit cards to your Garmin Pay wallet.

1 From the Garmin Connect app, select \( \text{ } \) or \( \text{ } \).
2 Select Garmin Pay > \( \text{ } \) > Add Card.
3 Follow the on-screen instructions.

After the card is added, you can select the card on your watch when you make a payment.

Managing Your Garmin Pay Cards

You can temporarily suspend or delete a card.

**NOTE:** In some countries, participating financial institutions may restrict the Garmin Pay features.

1 From the Garmin Connect app, select \( \text{ } \) or \( \text{ } \).
2 Select Garmin Pay.
3 Select a card.
4 Select an option:
   • To temporarily suspend or unsuspend the card, select Suspend Card.
   • The card must be active to make purchases using your Forerunner device.
   • To delete the card, select \( \text{ } \).

Changing Your Garmin Pay Passcode

You must know your current passcode to change it. If you forget your passcode, you must reset the Garmin Pay feature for your Forerunner device, create a new passcode, and reenter your card information.
1 From the Forerunner device page in the Garmin Connect app, select Garmin Pay > Change Passcode.

2 Follow the on-screen instructions.

The next time you pay using your Forerunner device, you must enter the new passcode.

**History**

History includes time, distance, calories, average pace or speed, lap data, and optional sensor information.

**NOTE:** When the device memory is full, your oldest data is overwritten.

**Using History**

History contains previous activities you have saved on your device.

The device has a history widget for quick access to your activity data *(Widgets, page 21).*

1 From the watch face, hold 

2 Select History > Activities.

3 Select an activity.

4 Select an option:

   - **To view additional information about the activity,** select All Stats.
   - **To view the impact of the activity on your aerobic and anaerobic fitness,** select Training Effect *(About Training Effect, page 15.)*
   - **To view your time in each heart rate zone,** select Heart Rate *(Viewing Your Time in Each Heart Rate Zone, page 25.)*
   - **To select a lap and view additional information about each lap,** select Laps.
   - **To select an exercise set and view additional information about each set,** select Sets.
   - **To view the activity on a map,** select Map.
   - **To view an elevation plot for the activity,** select Elevation Plot.
   - **To delete the selected activity,** select Delete.

**Multisport History**

Your device stores the overall multisport summary of the activity, including overall distance, time, calories, and optional accessory data. Your device also separates the activity data for each sport segment and transition so you can compare similar training activities and track how quickly you move through the transitions. Transition history includes distance, time, average speed, and calories.

**Viewing Your Time in Each Heart Rate Zone**

Viewing your time in each heart rate zone can help you adjust your training intensity.

1 From the watch face, hold 

2 Select History > Activities.

3 Select an activity.

4 Select Heart Rate.

**Viewing Data Totals**

You can view the accumulated distance and time data saved to your device.

1 From the watch face, hold 

2 Select History > Totals.

3 If necessary, select an activity.

4 Select an option to view weekly or monthly totals.

**Using the Odometer**

The odometer automatically records the total distance traveled, elevation gained, and time in activities.

1 From the watch face, hold 

2 Select History > Totals > Odometer.

3 Select UP or DOWN to view odometer totals.

**Deleting History**

1 From the watch face, hold 

2 Select History > Options.

3 Select an option:

   - Select Delete All Activities to delete all activities from the history.
   - Select Reset Totals to reset all distance and time totals.

**Garmin Connect**

You can connect with your friends on Garmin Connect. Garmin Connect gives you the tools to track, analyze, share, and encourage each other. Record the events of your active lifestyle including runs, walks, rides, swims, hikes, triathlons, and more. To sign up for a free account, go to connect.garmin.com.

**Store your activities:** After you complete and save an activity with your device, you can upload that activity to your Garmin Connect account and keep it as long as you want.

**Analyze your data:** You can view more detailed information about your activity, including time, distance, elevation, heart rate, calories burned, cadence, running dynamics, an overhead map view, pace and speed charts, and customizable reports.

**NOTE:** Some data requires an optional accessory such as a heart rate monitor.

**Plan your training:** You can choose a fitness goal and load one of the day-by-day training plans.

**Track your progress:** You can track your daily steps, join a friendly competition with your connections, and meet your goals.

**Share your activities:** You can connect with friends to follow each other’s activities or post links to your activities on your favorite social networking sites.

**Manage your settings:** You can customize your device and user settings on your Garmin Connect account.

**Access the Connect IQ store:** You can download apps, watch faces, data fields, and widgets.

**Using Garmin Connect on Your Computer**

The Garmin Express application connects your device to your Garmin Connect account using a computer. You can use the Garmin Express application to upload your activity data to your Garmin Connect account and to send data, such as workouts or

**History**

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training plans, from the Garmin Connect website to your device. You can also install device software updates and manage your Connect IQ apps.

1. Connect the device to your computer using the USB cable.
2. Go to www.garmin.com/express.
3. Download and install the Garmin Express application.
4. Open the Garmin Express application, and select Add Device.
5. Follow the on-screen instructions.

Data Management

NOTE: The device is not compatible with Windows 95, 98, Me, Windows NT®, and Mac® OS 10.3 and earlier.

Deleting Files

NOTICE

If you do not know the purpose of a file, do not delete it. Your device memory contains important system files that should not be deleted.

1. Open the Garmin drive or volume.
2. If necessary, open a folder or volume.
4. Press the Delete key on your keyboard.

NOTE: Mac operating systems provide limited support for MTP file transfer mode. You must open the Garmin drive on a Windows operating system. You should use the Garmin Express application to remove music files from your device.

Navigation

You can use the GPS navigation features on your device to view your path on a map, save locations, and find your way home.

Courses

You can send a course from your Garmin Connect account to your device. After it is saved to your device, you can navigate the course on your device.

You can follow a saved course simply because it is a good route. For example, you can save and follow a bike friendly commute to work.

You can also follow a saved course, trying to match or exceed previously set performance goals. For example, if the original course was completed in 30 minutes, you can race against a Virtual Partner trying to complete the course in under 30 minutes.

Creating and Following a Course on Your Device

1. From the watch face, select START.
2. Select an activity.
3. Hold ☐.
4. Select Navigate > Courses > Create New.
5. Enter a name for the course, and select ✓.
6. Select Add Location.
7. Select an option.
8. If necessary, repeat steps 4 and 5.
10. Select START to begin navigation.

Creating a Round-Trip Course

The device can create a round-trip course based on a specified distance and direction of navigation.

1. From the watch face, select START.
2. Select Run or Bike.
3. Hold ☐.
5. Enter the total distance for the course.
6. Select a direction heading.

The device creates up to three courses. You can select DOWN to view the courses.
7. Select START to select a course.
8. Select an option:
   • To begin navigation, select Go.
   • To view the course on the map and pan or zoom the map, select Map.
   • To view a list of turns in the course, select Turn By Turn.
   • To view an elevation plot of the course, select Elevation Plot.
   • To save the course, select Save.
   • To view a list of ascents in the course, select View Climbs.

Creating a Course on Garmin Connect

Before you can create a course on the Garmin Connect app, you must have a Garmin Connect account (Garmin Connect, page 25).

1. From the Garmin Connect app, select ☐ or •••.
2. Select Training > Courses > Create Course.
3. Select a course type.
4. Follow the on-screen instructions.
5. Select Done.

NOTE: You can send this course to your device (Sending a Course to Your Device, page 26).

Sending a Course to Your Device

You can send a course you created using the Garmin Connect app to your device (Creating a Course on Garmin Connect, page 26).

1. From the Garmin Connect app, select ☐ or •••.
2. Select Training > Courses.
3. Select a course.
4. Select ☐ > Send to Device.
5. Select your compatible device.
6. Follow the on-screen instructions.

Viewing Course Details

1. Select START > Navigate > Courses.
2. Select a course.
3. Select an option:
   • Select Map to view the course on the map.
   • Select Elevation Plot to view an elevation plot of the course.
   • Select Name to view and edit the name of the course.

Saving Your Location

You can save your current location to navigate back to it later.
Navigating to a Point of Interest
A point of interest is a place that you may find useful or interesting. Points of interest are organized by category and can include popular travel destinations such as gas stations, restaurants, hotels, and entertainment venues.

Navigating with Sight 'N Go
You can point the device at an object in the distance, such as a water tower, lock in the direction, and then navigate to the object.
1. From the watch face, select START > Navigate > Sight 'N Go.
2. Point the top of the watch at an object, and select START. Navigation information appears.
3. Select START to begin navigation.

Navigating to Your Starting Point During an Activity
You can navigate back to the starting point of your current activity in a straight line or along the path you traveled. This feature is available only for activities that use GPS.
1. During an activity, select STOP > Back to Start.
2. Select an option:
   • To navigate back to the starting point of your activity along the path you traveled, select TracBack.
   • If you do not have a supported map or are using direct routing, select Route to navigate back to the starting point of your activity in a straight line.
   • If you are not using direct routing, select Route to navigate back to the starting point of your activity using turn-by-turn directions.

Your current location ①, the track to follow ②, and your destination ③ appear on the map.

Navigating to the Starting Point of Your Last Saved Activity
You can navigate back to the starting point of your last saved activity in a straight line or along the path you traveled. This feature is available only for activities that use GPS.
1. Select START > Navigate > Activities.
2. Select your last saved activity.
3. Select Back to Start.
4. Select an option:
   • To navigate back to the starting point of your activity along the path you traveled, select TracBack.
   • To navigate back to the starting point of your activity in a straight line, select Route.
5. Select DOWN to view the compass (optional). The arrow points toward your starting point.

Marking and Starting Navigation to a Man Overboard Location
You can save a man overboard (MOB) location, and automatically start navigation back to it.
TIP: You can customize the hold function of the keys to access the MOB function (Customizing the Hot Keys, page 35).

From the watch face, select START > Navigate > Last MOB. Navigation information appears.

Stopping Navigation
1. During an activity, hold .
2. Select Stop Navigation.

Map

represents your location on the map. Location names and symbols appear on the map. When you are navigating to a destination, your route is marked with a line on the map.

- Map navigation (Panning and Zooming the Map, page 28)
- Map settings (Map Settings, page 28)

Viewing the Map
1. Start an outdoor activity.
2. Select UP or DOWN to scroll to the map screen.
3. Hold , and select an option:
   - To pan or zoom the map, select Pan/Zoom.
     TIP: You can select START to toggle between panning up and down, panning left and right, or zooming. You can hold START to select the point indicated by the crosshairs.
   - To see nearby points of interest and waypoints, select Around Me.

Saving or Navigating to a Location on the Map
You can select any location on the map. You can save the location or start navigating to it.
1. From the map, hold .
2. Select Pan/Zoom.
   Controls and crosshairs appear on the map.
3. Pan and zoom the map to center the location in the crosshairs.
4. Hold START to select the point indicated by the crosshairs.
5. If necessary, select a nearby point of interest.
6. Select an option:
   - To start navigating to the location, select Go.
   - To save the location, select Save Location.
   - To view information about the location, select Review.

Navigating with the Around Me Feature
You can use the around me feature to navigate to nearby points of interest and waypoints.

NOTE: The map data installed on your device must include points of interest to navigate to them.
1. From the map, hold .
2. Select Around Me.
   Icons indicating points of interest and waypoints appear on the map.
3. Select UP or DOWN to highlight a section of the map.
4. Select STOP.

A list of points of interest and waypoints in the highlighted map section appear.
5. Select a location.
6. Select an option:
   - To start navigating to the location, select Go.
   - To view the location on the map, select Map.
   - To save the location, select Save Location.
   - To view information about the location, select Review.

Panning and Zooming the Map
1. While navigating, select UP or DOWN to view the map.
2. Hold .
3. Select Pan/Zoom.
4. Select an option:
   - To toggle between panning up and down, panning left and right, or zooming, select START.
   - To pan or zoom the map, select UP and DOWN.
   - To quit, select BACK.

Map Settings
You can customize how the map appears in the map app and data screens. From the watch face, hold , and select Settings > Map.

Orientation: Sets the orientation of the map. The North Up option shows north at the top of the screen. The Track Up option shows your current direction of travel at the top of the screen.

User Locations: Shows or hides saved locations on the map.

Auto Zoom: Automatically selects the zoom level for optimal use of your map. When disabled, you must zoom in or out manually.

Lock on Road: Locks the position icon, which represents your position on the map, onto the nearest road.

Track Log: Shows or hides the track log, or the path you have traveled, as a colored line on the map.

Track Color: Changes the track log color.

Detail: Sets the amount of detail shown on the map. Showing more detail may cause the map to redraw more slowly.

Marine: Sets the map to display data in marine mode.

Draw Segments: Shows or hides segments, as a colored line on the map.

Draw Contours: Shows or hides contour lines on the map.

Altimeter and Barometer
The device contains an internal altimeter and barometer. The device collects elevation and pressure data continuously, even in low-power mode. The altimeter displays your approximate elevation based on pressure changes. The barometer displays environmental pressure data based on the fixed elevation where the altimeter was most recently calibrated (Altimeter Settings, page 34). You can press START from the altimeter or barometer widgets to open the altimeter or barometer settings quickly.

Compass
The device has a 3-axis compass with automatic calibration. The compass features and appearance change depending on your activity, whether GPS is enabled, and whether you are navigating to a destination. You can change the compass settings manually (Compass Settings, page 33). To open the compass settings quickly, you can select START from the compass widget.
Navigation Settings
You can customize the map features and appearance when navigating to a destination.

Customizing Map Features
1 Hold \text{Hold}.
2 Select Settings > Navigation > Data Screens.
3 Select an option:
   • Select Map to turn on or off the map.
   • Select Guide to turn on or off the guide screen that displays the compass bearing or course to follow while navigating.
   • Select Elevation Plot to turn on or off the elevation plot.
   • Select a screen to add, remove, or customize.

Setting Up a Heading Bug
You can set up a heading indicator to display on your data pages while navigating. The indicator points to your target heading.
1 Hold \text{Hold}.
2 Select Settings > Navigation > Heading Bug.

Setting Navigation Alerts
You can set alerts to help you navigate to your destination.
1 Hold \text{Hold}.
2 Select Settings > Navigation > Alerts.
3 Select an option:
   • To set an alert for a specified distance from your final destination, select Final Distance.
   • To set an alert for the estimated time remaining until you reach your final destination, select Final ETE.
   • To set an alert when you stray from the course, select Off Course.
   • To enable turn-by-turn navigation prompts, select Turn Prompts.
4 If necessary, select Status to turn on the alert.
5 If necessary, enter a distance or time value, and select \text{✓}.

Wireless Sensors
Your device can be used with wireless ANT+ or Bluetooth sensors. For more information about compatibility and purchasing optional sensors, go to buy.garmin.com.

Pairing Your Wireless Sensors
The first time you connect a wireless sensor to your device using ANT+ or Bluetooth technology, you must pair the device and sensor. After they are paired, the device connects to the sensor automatically when you start an activity and the sensor is active and within range.

NOTE: If a heart rate monitor was bundled with your device, the included heart rate monitor is already paired with your device.
1 If you are pairing a heart rate monitor, put on the heart rate monitor (Putting On the Heart Rate Monitor, page 11, Putting On the Heart Rate Monitor, page 12).
   The heart rate monitor does not send or receive data until you put it on.
2 Bring the device within 3 m (10 ft.) of the sensor.
   NOTE: Stay 10 m (33 ft.) away from other wireless sensors while pairing.
3 Hold \text{Hold}.
4 Select Settings > Sensors & Accessories > Add New.
5 Select an option:
   • Select Search All.
   • Select your sensor type.

After the sensor is paired with your device, the sensor status changes from Searching to Connected. Sensor data appears in the data screen loop or a custom data field.

Foot Pod
Your device is compatible with the foot pod. You can use the foot pod to record pace and distance instead of using GPS when you are training indoors or when your GPS signal is weak. The foot pod is on standby and ready to send data (like the heart rate monitor).

After 30 minutes of inactivity, the foot pod powers off to conserve the battery. When the battery is low, a message appears on your device. Approximately five hours of battery life remain.

Going for a Run Using a Foot Pod
Before you go for a run, you must pair the foot pod with your Forerunner device (Pairing Your Wireless Sensors, page 29).

You can run indoors using a foot pod to record pace, distance, and cadence. You can also run outdoors using a foot pod to record cadence data with your GPS pace and distance.
1 Install your foot pod according to the accessory instructions.
2 Select a running activity.
3 Go for a run.

Foot Pod Calibration
The foot pod is self-calibrating. The accuracy of the speed and distance data improves after a few outdoor runs using GPS.

Improving Foot Pod Calibration
Before you can calibrate your device, you must acquire GPS signals and pair your device with the foot pod (Pairing Your Wireless Sensors, page 29).

The foot pod is self-calibrating, but you can improve the accuracy of the speed and distance data with a few outdoor runs using GPS.
1 Stand outside for 5 minutes with a clear view of the sky.
2 Start a running activity.
3 Run on a track without stopping for 10 minutes.
4 Stop your activity, and save it.

Based on the recorded data, the foot pod calibration value changes, if necessary. You should not need to calibrate the foot pod again unless your running style changes.

Calibrating Your Foot Pod Manually
Before you can calibrate your device, you must pair your device with the foot pod sensor (Pairing Your Wireless Sensors, page 29).

Manual calibration is recommended if you know your calibration factor. If you have calibrated a foot pod with another Garmin product, you may know your calibration factor.
1 From the watch face, hold \text{Hold}.
2 Select Settings > Sensors & Accessories.
3 Select your foot pod.
4 Select Cal. Factor > Set Value.
5 Adjust the calibration factor:
   • Increase the calibration factor if your distance is too low.
   • Decrease the calibration factor if your distance is too high.

Setting Foot Pod Speed and Distance
Before you can customize the foot pod speed and distance, you must pair your device with the foot pod sensor (Pairing Your Wireless Sensors, page 29).
You can set your device to calculate speed and distance using your foot pod data instead of GPS data.

1 Hold \[\text{Menu} \].
2 Select Sensors & Accessories.
3 Select your foot pod.
4 Select Speed or Distance.
5 Select an option:
   - Select Indoor when you are training with GPS turned off, usually indoors.
   - Select Always to use your foot pod data regardless of the GPS setting.

Using an Electronic Shifter

You can use compatible electronic shifters, such as Shimano® Di2™ shifters, you must pair them with your device (Pairing Your Wireless Sensors, page 29).

NOTE: You may need to update the Forerunner software before pairing Varia devices (Updating the Software Using the Garmin Connect App, page 39).

You can set your device to calculate speed and distance using your foot pod data instead of GPS data.

1 Hold \[\text{Menu} \].
2 Select Sensors & Accessories.
3 Select your foot pod.
4 Select Speed or Distance.
5 Select an option:
   - Select Indoor when you are training with GPS turned off, usually indoors.
   - Select Always to use your foot pod data regardless of the GPS setting.

Using an Optional Bike Speed or Cadence Sensor

You can use a compatible bike speed or cadence sensor to send data to your device.

- Pair the sensor with your device (Pairing Your Wireless Sensors, page 29).
- Set your wheel size (Wheel Size and Circumference, page 44).
- Go for a ride (Starting an Activity, page 1).

Training with Power Meters

- Go to buy.garmin.com for a list of ANT+ sensors that are compatible with your device (such as Vector™).
- For more information, see the owner's manual for your power meter.
- Adjust your power zones to match your goals and abilities (Setting Your Cycling Power Zones, page 9).
- Use range alerts to be notified when you reach a specified power zone (Setting an Alert, page 31).
- Customize the power data fields (Customizing the Data Screens, page 31).

Using Electronic Shifters

Before you can use compatible electronic shifters, such as Shimano® Di2™ shifters, you must pair them with your device (Pairing Your Wireless Sensors, page 29). You can customize the optional data fields (Customizing the Data Screens, page 31). The Forerunner device displays current adjustment values when the sensor is in adjustment mode.

Situational Awareness

Your Forerunner device can be used with the Varia Vision™ device, Varia™ smart bike lights, and rearview radar to improve situational awareness. See the owner's manual for your Varia device for more information.

NOTE: You may need to update the Forerunner software before pairing Varia devices (Updating the Software Using the Garmin Connect App, page 39).

tempe

The tempe is an ANT+ wireless temperature sensor. You can attach the sensor to a secure strap or loop where it is exposed to ambient air, and therefore, provides a consistent source of accurate temperature data. You must pair the tempe with your device to display temperature data from the tempe.

Customizing Your Device

Customizing Your Activity List

1 From the watch face, hold \[\text{Menu} \].
2 Select Settings > Activities & Apps.
3 Select an option:
   - Select an activity to customize the settings, set the activity as a favorite, change the order of appearance, and more.
   - Select Add to add more activities or create custom activities.

Customizing the Widget Loop

You can change the order of widgets in the widget loop, remove widgets, and add new widgets.

1 From the watch face, hold \[\text{Menu} \].
2 Select Settings > Widgets.
3 Select a widget.
4 Select an option:
   - Select Reorder to change the location of the widget in the widget loop.
   - Select Remove to remove the widget from the widget loop.
5 Select Add Widgets.
6 Select a widget.
The widget is added to the widget loop.

Activities and App Settings

These settings allow you to customize each preloaded activity app based on your needs. For example, you can customize data pages and enable alerts and training features. Not all settings are available for all activity types.

Hold \[\text{Menu} \], select Activities & Apps, select an activity, and select the activity settings.

3D Distance: Calculates your distance traveled using your elevation change and your horizontal movement over ground.

3D Speed: Calculates your speed using your elevation change and your horizontal movement over ground (3D Speed and Distance, page 33).

Accent Color: Sets the accent color of each activity to help identify which activity is active.

Alerts: Sets the training or navigation alerts for the activity.

Auto Climb: Enables the device to detect elevation changes automatically using the built-in altimeter.

Auto Lap: Sets the options for the Auto Lap™ feature (Auto Lap, page 32).

Auto Pause: Sets the device to stop recording data when you stop moving or when you drop below a specified speed (Enabling Auto Pause, page 32).

Auto Run: Enables the device to detect ski runs automatically using the built-in accelerometer.

Auto Scroll: Enables you to move through all of the activity data screens automatically while the timer is running (Using Auto Scroll, page 33).

Auto Set: Enables the device to start and stop exercise sets automatically during a strength training activity.

Background Color: Sets the background color of each activity to black or white.

ClimbPro: Displays ascent planning and monitoring screens while navigating.

Countdown Start: Enables a countdown timer for pool swimming intervals.

Data Screens: Enables you to customize data screens and add new data screens for the activity (Customizing the Data Screens, page 31).

Edit Weight: Allows you to add the weight used for an exercise set during a strength training or cardio activity.

Golf Distance: Set the unit of measure used while playing golf.
GPS: Sets the mode for the GPS antenna (Changing the GPS Setting, page 33).

Lap Key: Enables you to record a lap or a rest during the activity.

Lock Keys: Locks the keys during multisport activities to prevent accidental key presses.

Map: Sets the display preferences for the map data screen for the activity (Activity Map Settings, page 32).

Metronome: Plays tones at a steady rhythm to help you improve your performance by training at a faster, slower, or more consistent cadence (Using the Metronome, page 8).

Pool Size: Sets the pool length for pool swimming.

Power Save Timeout: Sets the power-save timeout options for the activity (Power Save Timeout Settings, page 33).

Rename: Sets the activity name.

Repeat: Enables the Repeat option for multisport activities. For example, you can use this option for activities that include multiple transitions, such as a swimrun.

Restore Defaults: Allows you to reset the activity settings.

Routing: Sets the preferences for calculating routes for the activity (Routing Settings, page 32).

Scoring: Enables or disables scorekeeping automatically when you start a round of golf. The Always Ask option prompts you when you begin a round.

Segment Alerts: Enables prompts that alert you to approaching segments.

Stat Tracking: Enables statistics tracking while playing golf.

Stroke Detect.: Enables stroke detection for pool swimming.

Transitions: Enables transitions for multisport activities.

Vibration Alerts: Enables alerts that notify you to inhale or exhale during a breathwork activity.

Customizing the Data Screens
You can show, hide, and change the layout and content of data screens for each activity.

1 Hold 
2 Select Settings > Activities & Apps.
3 Select the activity to customize.
4 Select the activity settings.
5 Select Data Screens.
6 Select a data screen to customize.

7 Select an option:
   • Select Layout to adjust the number of data fields on the data screen.
   • Select a field to change the data that appears in the field.
   • Select Reorder to change the location of the data screen in the loop.
   • Select Remove to remove the data screen from the loop.

8 If necessary, select Add New to add a data screen to the loop.

You can add a custom data screen, or select one of the predefined data screens.

Adding a Map to an Activity
You can add the map to the data screens loop for an activity.

1 From the watch face, hold 
2 Select Settings > Activities & Apps.
3 Select the activity to customize.
4 Select the activity settings.
5 Select Data Screens > Add New > Map.

Alerts
You can set alerts for each activity, which can help you to train toward specific goals, to increase your awareness of your environment, and to navigate to your destination. Some alerts are available only for specific activities. There are three types of alerts: event alerts, range alerts, and recurring alerts.

Event alert: An event alert notifies you once. The event is a specific value. For example, you can set the device to alert you when you reach a specified elevation.

Range alert: A range alert notifies you each time the device is above or below a specified range of values. For example, you can set the device to alert you when your heart rate is below 60 beats per minute (bpm) and over 210 bpm.

Recurring alert: A recurring alert notifies you each time the device records a specified value or interval. For example, you can set the device to alert you every 30 minutes.

<table>
<thead>
<tr>
<th>Alert Name</th>
<th>Alert Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadence</td>
<td>Range</td>
<td>You can set minimum and maximum cadence values.</td>
</tr>
<tr>
<td>Calories</td>
<td>Event, recurring</td>
<td>You can set the number of calories.</td>
</tr>
<tr>
<td>Custom</td>
<td>Event, recurring</td>
<td>You can select an existing message or create a custom message and select an alert type.</td>
</tr>
<tr>
<td>Distance</td>
<td>Recurring</td>
<td>You can set a distance interval.</td>
</tr>
<tr>
<td>Elevation</td>
<td>Range</td>
<td>You can set minimum and maximum elevation values.</td>
</tr>
<tr>
<td>Heart Rate</td>
<td>Range</td>
<td>You can set minimum and maximum heart rate values or select zone changes. See About Heart Rate Zones, page 8 and Heart Rate Zone Calculations, page 8.</td>
</tr>
<tr>
<td>Pace</td>
<td>Range</td>
<td>You can set minimum and maximum pace values.</td>
</tr>
<tr>
<td>Power</td>
<td>Range</td>
<td>You can set the high or low power level.</td>
</tr>
<tr>
<td>Proximity</td>
<td>Event</td>
<td>You can set a radius from a saved location.</td>
</tr>
<tr>
<td>Run/Walk</td>
<td>Recurring</td>
<td>You can set timed walking breaks at regular intervals.</td>
</tr>
<tr>
<td>Speed</td>
<td>Range</td>
<td>You can set minimum and maximum speed values.</td>
</tr>
<tr>
<td>Stroke Rate</td>
<td>Range</td>
<td>You can set high or low strokes per minute.</td>
</tr>
<tr>
<td>Time</td>
<td>Event, recurring</td>
<td>You can set a time interval.</td>
</tr>
</tbody>
</table>

Setting an Alert
1 Hold 
2 Select Settings > Activities & Apps.
3 Select an activity.
   NOTE: This feature is not available for all activities.
4 Select the activity settings.
5 Select Alerts.
6 Select an option:
   • Select Add New to add a new alert for the activity.
   • Select the alert name to edit an existing alert.
7 If necessary, select the type of alert.
8 Select a zone, enter the minimum and maximum values, or enter a custom value for the alert.
9 If necessary, turn on the alert.

For event and recurring alerts, a message appears each time you reach the alert value. For range alerts, a message appears each time you exceed or drop below the specified range (minimum and maximum values).
Activity Map Settings
You can customize the appearance of the map data screen for each activity.

Hold ☰, select Settings > Activities & Apps, select an activity, select the activity settings, and select Map.

Configure Maps: Shows or hides data from installed map products.

Use Sys. Settings: Enables the device to use the preferences from the system map settings.

Orientation: Sets the orientation of the map. The North Up option shows north at the top of the screen. The Track Up option shows your current direction of travel at the top of the screen.

User Locations: Shows or hides saved locations on the map.

Auto Zoom: Automatically selects the zoom level for optimal use of your map. When disabled, you must zoom in or out manually.

Lock on Road: Locks the position icon, which represents your position on the map, onto the nearest road.

Track Log: Shows or hides the track log, or the path you have traveled, as a colored line on the map.

Track Color: Changes the track log color.

Detail: Sets the amount of detail shown on the map. Showing more detail may cause the map to redraw more slowly.

Marine: Sets the map to display data in marine mode.

Draw Segments: Shows or hides segments, as a colored line on the map.

Draw Contours: Shows or hides contour lines on the map.

Routing Settings
You can change the routing settings to customize the way the device calculates routes for each activity.

Hold ☰, select Settings > Activities & Apps, select an activity, select the activity settings, and select Routing.

Activity: Sets an activity for routing. The device calculates routes optimized for the type of activity you are doing.

Popularity Routing: Calculates routes based on the most popular runs and rides from Garmin Connect.

Courses: Sets how you navigate courses using the device. Use the Follow Course option to navigate a course exactly as it appears, without recalculating. Use the Use Map option to navigate a course using routable maps, and recalculate the route if you stray from the course.

Calculation Method: Sets the calculation method to minimize the time, distance, or ascent in routes.

Avoidances: Sets the road or transportation types to avoid in routes.

Type: Sets the behavior of the pointer that appears during direct routing.

Auto Lap

Marking Laps by Distance
You can use Auto Lap to mark a lap at a specific distance automatically. This feature is helpful for comparing your performance over different parts of an activity (for example, every 1 mile or 5 kilometers).

1 Hold ☰.
2 Select Settings > Activities & Apps.
3 Select an activity.

NOTE: This feature is not available for all activities.
4 Select the activity settings.
5 Select Auto Lap.
6 Select an option:
   • Select Auto Lap to turn Auto Lap on or off.
   • Select Auto Distance to adjust the distance between laps.

Each time you complete a lap, a message appears that displays the time for that lap. The device also beeps or vibrates if audible tones are turned on (System Settings, page 34).

If necessary, you can customize the data pages to display additional lap data (Customizing the Data Screens, page 31).

Customizing the Lap Alert Message
You can customize one or two data fields that appear in the lap alert message.

1 Hold ☰.
2 Select Activities & Apps.
3 Select an activity.

NOTE: This feature is not available for all activities.
4 Select the activity settings.
5 Select Auto Lap > Lap Alert.
6 Select a data field to change it.
7 Select Preview (optional).

Enabling Auto Pause
You can use the Auto Pause feature to pause the timer automatically when you stop moving. This feature is helpful if your activity includes stop lights or other places where you must stop.

NOTE: History is not recorded while the timer is stopped or paused.
1 Hold ☰.
2 Select Settings > Activities & Apps.
3 Select an activity.

NOTE: This feature is not available for all activities.
4 Select the activity settings.
5 Select Auto Pause.
6 Select an option:
   • To pause the timer automatically when you stop moving, select When Stopped.
   • To pause the timer automatically when your pace or speed drops below a specified level, select Custom.

Enabling Auto Climb
You can use the auto climb feature to detect elevation changes automatically. You can use it during activities such as climbing, hiking, running, or biking.

1 Hold ☰.
2 Select Settings > Activities & Apps.
3 Select an activity.

NOTE: This feature is not available for all activities.
4 Select the activity settings.
5 Select Auto Climb > Status.
6 Select Always or When Not Navigating.
7 Select an option:
   • Select Run Screen to identify which data screen appears while running.
   • Select Climb Screen to identify which data screen appears while climbing.
   • Select Invert Colors to reverse the display colors when changing modes.
   • Select Vertical Speed to set the rate of ascent over time.
   • Select Mode Switch to set how quickly the device changes modes.
3D Speed and Distance
You can set 3D speed and distance to calculate your speed or distance using both your elevation change and your horizontal movement over ground. You can use it during activities such as skiing, climbing, navigating, hiking, running, or biking.

Using Auto Scroll
You can use the auto scroll feature to cycle through all of the activity data screens automatically while the timer is running.
1. Hold 
2. Select Settings > Activities & Apps.
3. Select an activity.
   NOTE: This feature is not available for all activities.
4. Select the activity settings.
5. Select Auto Scroll.
6. Select a display speed.

Changing the GPS Setting
For more information about GPS, go to www.garmin.com/aboutGPS.
1. Hold 
2. Select Settings > Activities & Apps.
3. Select the activity to customize.
4. Select the activity settings.
5. Select GPS.
6. Select an option:
   • Select GPS Only to enable the GPS satellite system.
   • Select GPS + GLONASS (Russian satellite system) for more accurate position information in situations with poor sky visibility.
   • Select GPS + GALILEO (European Union satellite system) for more accurate position information in situations with poor sky visibility.
   • Select UltraTrac to record track points and sensor data less frequently (UltraTrac, page 33)
   NOTE: Using GPS and another satellite together can reduce battery life more quickly than using GPS only (GPS and Other Satellite Systems, page 33).

GPS and Other Satellite Systems
The GPS + GLONASS or GPS + GALILEO options offer increased performance in challenging environments and faster position acquisition than using GPS only. However, using GPS and another satellite system together can reduce battery life more quickly than using GPS only.

UltraTrac
The UltraTrac feature is a GPS setting that records track points and sensor data less frequently. Enabling the UltraTrac feature increases battery life but decreases the quality of recorded activities. You should use the UltraTrac feature for activities that demand longer battery life and for which frequent sensor data updates are less important.

Power Save Timeout Settings
The timeout settings affect how long your device stays in training mode, for example, when you are waiting for a race to start. Hold , select Settings > Activities & Apps, select an activity, and select the activity settings. Select Power Save Timeout to adjust the timeout settings for the activity.
Normal: Sets the device to enter low-power watch mode after 5 minutes of inactivity.
Extended: Sets the device to enter low-power watch mode after 25 minutes of inactivity. The extended mode can result in shorter battery life between charges.

Removing an Activity or App
1. From the watch face, hold 
2. Select Settings > Activities & Apps.
3. Select an activity.
4. Select an option:
   • To remove an activity from your list of favorites, select Remove from Favorites.
   • To delete the activity from the apps list, select Remove.

GroupTrack Settings
Hold and select Settings > Safety & Tracking > GroupTrack.
Show on Map: Enables you to view connections on the map screen during a GroupTrack session.
Activity Types: Allows you to select which activity types appear on the map screen during a GroupTrack session.

Watch Face Settings
You can customize the appearance of the watch face by selecting the layout, colors, and additional data. You can also download custom watch faces from the Connect IQ store.

Customizing the Watch Face
Before you can activate a Connect IQ watch face, you must install a watch face from the Connect IQ store (Connect IQ Features, page 22).
You can customize the watch face information and appearance, or activate an installed Connect IQ watch face.
1. From the watch face, hold 
2. Select Watch Face.
3. Select UP or DOWN to preview the watch face options.
4. Select Add New to scroll through additional pre-loaded watch faces.
5. Select START > Apply to activate a pre-loaded watch face or an installed Connect IQ watch face.
6. If using a pre-loaded watch face, select START > Customize.
7. Select an option:
   • To change the style of the numbers for the analog watch face, select Dial.
   • To change the style of the hands for the analog watch face, select Hands.
   • To change the style of the numbers for the digital watch face, select Layout.
   • To change the style of the seconds for the digital watch face, select Seconds.
   • To change the data that appears on the watch face, select Data.
   • To add or change an accent color for the watch face, select Accent Color.
   • To change the background color, select Bkgd. Color.
   • To save the changes, select Done.

Sensors Settings
Compass Settings
Hold and select Settings > Sensors & Accessories > Compass.
Calibrate: Allows you to manually calibrate the compass sensor (Calibrating the Compass Manually, page 34).

Display: Sets the directional heading on the compass to degrees or milliradians.

North Ref.: Sets the north reference of the compass (Setting the North Reference, page 34).

Mode: Sets the compass to use electronic-sensor data only (On), a combination of GPS and electronic-sensor data when moving (Auto), or GPS data only (Off).

**Calibrating the Compass Manually**

### NOTICE

Calibrate the electronic compass outdoors. To improve heading accuracy, do not stand near objects that influence magnetic fields, such as vehicles, buildings, and overhead power lines.

Your device was already calibrated at the factory, and the device uses automatic calibration by default. If you experience irregular compass behavior, for example, after moving long distances or after extreme temperature changes, you can manually calibrate the compass.

1. Hold .
2. Select Sensors & Accessories > Compass > Calibrate > Start.
3. Follow the on-screen instructions.

**TIP:** Move your wrist in a small figure eight motion until a message appears.

### Setting the North Reference

You can set the directional reference used in calculating heading information.

1. Hold .
2. Select Settings > Sensors & Accessories > Compass > North Ref.
3. Select an option:
   - To set geographic north as the heading reference, select True.
   - To set the magnetic declination for your location automatically, select Magnetic.
   - To set grid north (000º) as the heading reference, select Grid.
   - To set the magnetic variation value manually, select User, enter the magnetic variance, and select Done.

### Altimeter Settings

Hold , and select Settings > Sensors & Accessories > Altimeter.

**Calibrate:** Allows you to manually calibrate the altimeter sensor.

**Elevation:** Sets the units of measure for elevation.

### Calibrating the Barometric Altimeter

Your device was already calibrated at the factory, and the device uses automatic calibration at your GPS starting point by default. You can manually calibrate the barometric altimeter if you know the correct elevation.

1. Hold .
2. Select Sensors & Accessories > Altimeter.
3. Select an option:
   - To calibrate automatically from your GPS starting point, select Auto Cal., and select an option.
   - To enter the current elevation, select Calibrate.

### Barometer Settings

Hold , and select Settings > Sensors & Accessories > Barometer.

**Calibrate:** Allows you to manually calibrate the barometer sensor.

**Plot:** Sets the time scale for the chart in the barometer widget.

**Watch Mode:** Sets the sensor used in watch mode. The Auto option uses both the altimeter and barometer according to your movement. You can use the Altimeter option when your activity involves changes in altitude, or the Barometer option when your activity does not involve changes in altitude.

### Calibrating the Barometer

Your device was already calibrated at the factory, and the device uses automatic calibration at your GPS starting point by default. You can manually calibrate the barometer if you know the correct elevation or the correct sea level pressure.

1. Hold .
2. Select Sensors & Accessories > Barometer > Calibrate.
3. Select an option:
   - To enter the current elevation or sea level pressure, select Yes.
   - To calibrate automatically from the digital elevation model, select Use DEM.
   - To calibrate automatically from your GPS starting point, select Use GPS.

### Xero Laser Location Settings

Before you can customize laser location settings, you must pair a compatible Xero device (Pairing Your Wireless Sensors, page 29).

Hold , and select Sensors & Accessories > XERO Locations > Laser Locations.

**During Activity:** Enables the display of laser location information from a compatible, paired Xero device during an activity.

**Share Mode:** Allows you to share laser location information publicly or broadcast it privately.

### System Settings

Hold , and select Settings > System.

**Language:** Sets the language displayed on the device.

**Time:** Adjusts the time settings (Time Settings, page 35).

**Backlight:** Adjusts the backlight settings (Changing the Backlight Settings, page 35).

**Sounds:** Sets the device sounds, such as key tones, alerts, and vibrations.

**Do Not Disturb:** Turns on or off do not disturb mode. Use the Sleep Time option to turn on do not disturb mode automatically during your normal sleep hours. You can set your normal sleep hours on your Garmin Connect account.

**Hot Keys:** Allows you to assign shortcuts to device keys (Customizing the Hot Keys, page 35).

**Auto Lock:** Allows you to lock the keys automatically to prevent accidental key presses. Use the During Activity option to lock the keys during a timed activity. Use the Not During Activity option to lock the keys when you are not recording a timed activity.

**Units:** Sets the units of measure used on the device (Changing the Units of Measure, page 35).

**Format:** Sets general format preferences, such as the pace and speed shown during activities, the start of the week, and geographical position format and datum options.

**Data Recording:** Sets how the device records activity data. The Smart recording option (default) allows for longer activity recordings. The Every Second recording option provides more detailed activity recordings, but may not record entire activities that last for longer periods of time.
USB Mode: Sets the device to use MTP (media transfer protocol) or Garmin mode when connected to a computer.

Reset: Allows you to reset user data and settings (Resetting All Default Settings, page 39).

Software Update: Allows you to install software updates downloaded using Garmin Express.

Time Settings
Hold ⌘ and select Settings > System > Time.

Time Format: Sets the device to show time in a 12-hour, 24-hour, or military format.

Set Time: Sets the time zone for the device. The Auto option sets the time zone automatically based on your GPS position.

Time: Allows you to adjust the time if it is set to the Manual option.

Alerts: Allows you to set hourly alerts, as well as sunrise and sunset alerts that sound a specific number of minutes or hours before the actual sunrise or sunset occurs.

Sync With GPS: Allows you to manually sync the time with GPS when you change time zones, and to update for daylight saving time.

Changing the Backlight Settings
1. From the watch face, hold ⌘.
2. Select Settings > System > Backlight.
3. Select During Activity or Not During Activity.
4. Select an option:
   - Select Keys and Alerts to turn on the backlight for key presses and alerts.
   - Select Gesture to turn on the backlight by raising and turning your arm to look at your wrist.
   - Select Timeout to set the length of time before the backlight turns off.
   - Select Brightness to set the brightness level of the backlight.

Customizing the Hot Keys
You can customize the hold function of individual keys and combinations of keys.
1. From the watch face, hold ⌘.
2. Select Settings > System > Hot Keys.
3. Select a key or combination of keys to customize.
4. Select a function.

Changing the Units of Measure
You can customize units of measure for distance, pace and speed, elevation, weight, height, and temperature.
1. From the watch face, hold ⌘.
2. Select Settings > System > Units.
3. Select a measurement type.
4. Select a unit of measure.

Clocks

Setting an Alarm
You can set multiple alarms. You can set each alarm to sound once or to repeat regularly.
1. From the watch face, hold ⌘.
2. Select Alarm Clock > Add Alarm.
3. Select Time, and enter the alarm time.
4. Select Repeat, and select when the alarm should repeat (optional).
5. Select Sounds, and select a type of notification (optional).
6. Select Backlight > On to turn on the backlight with the alarm.
7. Select Label, and select a description for the alarm (optional).

Deleting an Alarm
1. From the watch face, hold ⌘.
2. Select Alarm Clock.
3. Select an alarm.
4. Select Delete.

Starting the Countdown Timer
1. From any screen, hold LIGHT.
2. Select Timer.

NOTE: You may need to add this item to the controls menu.

3. Enter the time.
4. If necessary, select Restart > On to automatically restart the timer after it expires.
5. If necessary, select Sounds, and select a type of notification.

Using the Stopwatch
1. From any screen, hold LIGHT.
2. Select Stopwatch.

NOTE: You may need to add this item to the controls menu.

3. Select START to start the timer.
4. Select LAP to restart the lap timer 🟢.

The total stopwatch time 🟢 continues running.
5. Select START to stop both timers.
6. Select OPTIONS.
7. Save the recorded time as an activity in your history (optional).

Syncing the Time with GPS
Each time you turn on the device and acquire satellites, the device automatically detects your time zones and the current time of day. You can also manually sync the time with GPS when you change time zones, and to update for daylight saving time.
1. From the watch face, hold ⌘.
2. Select Settings > System > Time > Sync With GPS.
3. Wait while the device locates satellites (Acquiring Satellite Signals, page 38).

Setting the Time Manually
1. From the watch face, hold ⌘.
3. Select Time, and enter the time of day.

VIRB Remote
The VIRB remote function allows you to control your VIRB action camera using your device. Go to www.garmin.com/VIRB to purchase a VIRB action camera.

Controlling a VIRB Action Camera
Before you can use the VIRB remote function, you must enable the remote setting on your VIRB camera. See the VIRB Series Owner's Manual for more information. You must also set the
Viewing Device Information

You can view device information, such as the unit ID, software version, regulatory information, and license agreement.

1. From the watch face, hold 🔄.

Controlling a VIRB Action Camera During an Activity

Before you can use the VIRB remote function, you must enable the remote setting on your VIRB camera. See the VIRB Series Owner’s Manual for more information. You must also set the VIRB widget to be shown in the widget loop (Customizing the Widget Loop, page 30).

1. Turn on your VIRB camera.
2. On your Forerunner watch, select UP or DOWN to view the VIRB widget.
3. If necessary, select START to pair your Forerunner watch with your VIRB camera.
4. Wait while your watch connects to your camera.
5. Select an option:
   - To record video, select Start Recording. The video counter appears on the Forerunner screen.
   - To take a photo while recording video, select DOWN.
   - To stop recording video, select STOP.
   - To take a photo, select Take Photo.
   - To take multiple photos in burst mode, select Take Burst.
   - To send the camera to sleep mode, select Sleep Camera.
   - To wake the camera from sleep mode, select Wake Camera.
   - To change video and photo settings, select Settings.

2. Select Settings > System > About.

Viewing E-label Regulatory and Compliance Information

The label for this device is provided electronically. The e-label may provide regulatory information, such as identification numbers provided by the FCC or regional compliance markings, as well as applicable product and licensing information.

1. From the watch face, hold 🔄.
2. Select Settings > System > About.

Charging the Device

This device contains a lithium-ion battery. See the Important Safety and Product Information guide in the product box for product warnings and other important information.

1. Plug the small end of the USB cable into the charging port on your device.
2. Plug the large end of the USB cable into a USB charging port.
3. Charge the device completely.

Tips for Charging the Device

1. Connect the charger securely to the device to charge it using the USB cable (Charging the Device, page 36).

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. Charging a fully depleted battery takes up to two hours.

2. Remove the charger from the device after the battery charge level reaches 100%.

Specifications

<table>
<thead>
<tr>
<th>Forerunner Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery type</td>
<td>Rechargeable, built-in lithium-ion battery</td>
</tr>
<tr>
<td>Battery life, watch mode</td>
<td>Up to 2 wk. with activity tracking, smartphone notifications, and wrist-based heart rate</td>
</tr>
<tr>
<td>Battery life, watch mode with music</td>
<td>Up to 14 hr. with activity tracking, smartphone notifications, wrist-based heart rate, and music playback</td>
</tr>
<tr>
<td>Battery life, activity mode</td>
<td>Up to 36 hr. in GPS mode with wrist-based heart rate</td>
</tr>
<tr>
<td>Battery life, activity mode with music</td>
<td>Up to 10 hr. in GPS mode with wrist-based heart rate and music playback</td>
</tr>
</tbody>
</table>
Battery life, UltraTrac mode, no music playback | Up to 60 hr. | Up to 50 hr. with wrist-based heart rate
Media storage | Up to 1,000 songs
Water rating | Swim, 5 ATM
Operating temperature range | From -20º to 45ºC (from -4º to 113ºF)
Charging temperature range | From 0º to 45ºC (from 32º to 113ºF)
Wireless frequency | 2.4 GHz @ +9 dBm nominal

HRM-Swim Specifications and HRM-Tri Specifications

| Battery type | User-replaceable CR2032 (3 V) |
| HRM-Swim battery life | Up to 18 mo. (approximately 3 hr./wk.) |
| HRM-Tri battery life | Up to 10 mo. for triathlon training (approximately 1 hr./day) |
| Operating temperature range | From -10° to 50°C (from 14° to 122°F) |
| Wireless frequency/protocol | 2.4 GHz @ +1 dBm nominal |
| Water rating | Swim, 5 ATM

Device Care

**NOTICE**
Avoid extreme shock and harsh treatment, because it can degrade the life of the product.
Avoid pressing the keys under water.
Do not use a sharp object to clean the device.
Avoid chemical cleaners, solvents, and insect repellents that can damage plastic components and finishes.
Thoroughly rinse the device with fresh water after exposure to chlorine, salt water, sunscreen, cosmetics, alcohol, or other harsh chemicals. Prolonged exposure to these substances can damage the case.
Do not store the device where prolonged exposure to extreme temperatures can occur, because it can cause permanent damage.

Cleaning the Device

1. Wipe the device using a cloth dampened with a mild detergent solution.
2. Wipe it dry.

After cleaning, allow the device to dry completely.

**TIP:** For more information, go to www.garmin.com/fitandcare.

Replacing the HRM-Swim Battery and the HRM-Tri Battery

1. Remove the sleeve from the heart rate monitor module.
2. Use a small Phillips (00) screwdriver to remove the four screws on the front of the module.
3. Remove the cover and battery.

4. Wait 30 seconds.
5. Insert the new battery under the two plastic tabs with the positive side facing up.

**NOTE:** Do not damage or lose the O-ring gasket. The O-ring gasket should remain around the outside of the raised plastic ring.
6. Replace the front cover and the four screws.

Observe the orientation of the front cover. The raised screw should fit in the matching raised screw hole on the front cover.

**NOTE:** Do not overtighten.
7. Replace the sleeve.

After you replace the heart rate monitor battery, you may need to pair it with the device again.

Changing the Bands

You can replace the bands with new Forerunner bands or compatible QuickFit® bands.

1. Use the two screwdrivers to loosen the pins.
2. Remove the pins.
3. Select an option:
   - To install Forerunner bands, align the new bands, and replace the pins using the two screwdrivers.
   - To install QuickFit bands, replace the pins, and press the new bands into place.

The device withstands pressure equivalent to a depth of 50 m. For more information, go to www.garmin.com/waterrating.
Troubleshooting

Product Updates
On your computer, install Garmin Express (www.garmin.com/express). On your smartphone, install the Garmin Connect app. This provides easy access to these services for Garmin devices:

• Software updates
• Map updates
• Course updates
• Data uploads to Garmin Connect
• Product registration

Setting Up Garmin Express
1 Connect the device to your computer using a USB cable.
2 Go to www.garmin.com/express.
3 Follow the on-screen instructions.

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.
• Go to www.garmin.com/ataccuracy.
This is not a medical device. The pulse oximeter feature is not available in all countries.

Activity Tracking
For more information about activity tracking accuracy, go to garmin.com/ataccuracy.

My daily step count does not appear
The daily step count is reset every night at midnight.

If dashes appear instead of your step count, allow the device to acquire satellite signals and set the time automatically.

My step count does not seem accurate
If your step count does not seem accurate, you can try these tips.

• Wear the device on your non-dominant wrist.
• Carry the device in your pocket when pushing a stroller or lawn mower.
• Carry the device in your pocket when actively using your hands or arms only.

NOTE: The device may interpret some repetitive motions, such as washing dishes, folding laundry, or clapping your hands, as steps.

The step counts on my device and my Garmin Connect account don't match
The step count on your Garmin Connect account updates when you sync your device.

1 Select an option:
   • Sync your step count with the Garmin Connect application (Using Garmin Connect on Your Computer, page 25).
   • Sync your step count with the Garmin Connect app (Manually Syncing Data with Garmin Connect, page 20).

2 Wait while the device syncs your data.
Syncing can take several minutes.
NOTE: Refreshing the Garmin Connect app or the Garmin Connect application does not sync your data or update your step count.

The floors climbed amount does not seem accurate
Your device uses an internal barometer to measure elevation changes as you climb floors. A floor climbed is equal to 3 m (10 ft.).

• Locate the small barometer holes on the back of the device, near the charging contacts, and clean the area around the charging contacts.
• The barometer performance may be affected if the barometer holes are obstructed. You can rinse the device with water to clean the area.
• After cleaning, allow the device to dry completely.
• Avoid holding handrails or skipping steps while climbing stairs.
• In windy environments, cover the device with your sleeve or jacket as strong gusts can cause erratic readings.

My intensity minutes are flashing
When you exercise at an intensity level that qualifies toward your intensity minutes goal, the intensity minutes flash.

Exercise for at least 10 consecutive minutes at a moderate or vigorous intensity level.

Acquiring Satellite Signals
The device may need a clear view of the sky to acquire satellite signals. The time and date are set automatically based on the GPS position.

TIP: For more information about GPS, go to www.garmin.com/aboutGPS.

1 Go outdoors to an open area.
   The front of the device should be oriented toward the sky.
2 Wait while the device locates satellites.
It may take 30–60 seconds to locate satellite signals.

Improving GPS Satellite Reception
• Frequently sync the device to your Garmin Connect account:
   ◦ Connect your device to a computer using the USB cable and the Garmin Express application.
   ◦ Sync your device to the Garmin Connect app using your Bluetooth enabled smartphone.
   ◦ Connect your device to your Garmin Connect account using a Wi-Fi wireless network.

While connected to your Garmin Connect account, the device downloads several days of satellite data, allowing it to quickly locate satellite signals.
• Take your device outside to an open area away from tall buildings and trees.
• Remain stationary for a few minutes.

**Restarting the Device**
If the device stops responding, you may need to restart it.
**NOTE:** Restarting the device may erase your data or settings.
1. Hold \( \hat{\text{S}} \) for 15 seconds.
   The device turns off.
2. Hold \( \hat{\text{S}} \) for one second to turn on the device.

**Resetting All Default Settings**
Before you reset all default settings, you should sync the device with the Garmin Connect app to upload your activity data.
**NOTE:** This deletes all user-entered information and activity history. If you have set up a Garmin Pay wallet, restoring default settings also deletes the wallet from your device.
You can reset all of the device settings to the factory default values.
1. From the watch face, hold \( \hat{\text{S}} \).
2. Select **Settings > System > Reset**.
3. Select an option:
   • To reset all of the device settings to the factory default values and save all activity information and stored music, select **Reset Default Settings**.
   • To delete all activities from your history, select **Delete All Activities**.
   • To reset all distance and time totals, select **Reset Totals**.
   • To reset all of the device settings to the factory default values and delete all activity information and stored music, select **Delete Data and Reset Settings**.

**Updating the Software Using the Garmin Connect App**
Before you can update your device software using the Garmin Connect app, you must have a Garmin Connect account, and you must pair the device with a compatible smartphone (**Pairing Your Smartphone with Your Device**, page 19).
Sync your device with the Garmin Connect app (**Manually Syncing Data with Garmin Connect**, page 20).
When new software is available, the Garmin Connect app automatically sends the update to your device.

**Updating the Software Using Garmin Express**
Before you can update your device software, you must have a Garmin Connect account, and you must download the Garmin Express application.
1. Connect the device to your computer using the USB cable.
   When new software is available, Garmin Express sends it to your device.
2. Follow the on-screen instructions.
3. Do not disconnect your device from the computer during the update process.
**NOTE:** If you have already set up your device with Wi-Fi connectivity, Garmin Connect can automatically download available software updates to your device when it connects using Wi-Fi.

**My Device is in the Wrong Language**
1. Hold \( \hat{\text{S}} \).
2. Scroll down to the last item in the list, and select it.
3. Select the first item in the list.
4. Use **UP** and **DOWN** to select your language.

**Is my smartphone compatible with my device?**
The Forerunner device is compatible with smartphones using Bluetooth wireless technology.
Go to [www.garmin.com/ble](http://www.garmin.com/ble) for compatibility information.

**My phone will not connect to the device**
If your phone will not connect to the device, you can try these tips.
• Turn off your smartphone and your device, and turn them back on again.
• Enable Bluetooth technology on your smartphone.
• Update the Garmin Connect app to the latest version.
• Remove your device from the Garmin Connect app and the Bluetooth settings on your smartphone to retry the pairing process.
• If you bought a new smartphone, remove your device from the Garmin Connect app on the smartphone you intend to stop using.
• Bring your smartphone within 10 m (33 ft.) of the device.
• On your smartphone, open the Garmin Connect app, select \( \hat{\text{S}} \) or \( \hat{\text{s}} \), and select **Garmin Devices > Add Device** to enter pairing mode.
• From the watch face, hold \( \hat{\text{S}} \) and select **Settings > Phone > Pair Phone**.

**Maximizing Battery Life**
You can do several things to extend the life of the battery.
• Reduce the backlight timeout (**Changing the Backlight Settings**, page 35).
• Reduce the backlight brightness.
• Turn off Bluetooth wireless technology when you are not using connected features (**Bluetooth Connected Features**, page 20).
• When pausing your activity for a longer period of time, use the **Resume Later** option (**Stopping an Activity**, page 2).
• Turn off activity tracking (**Turning Off Activity Tracking**, page 10).
• Use a watch face that is not updated every second.
For example, use a watch face without a second hand (**Customizing the Watch Face**, page 33).
• Limit the smartphone notifications the device displays (**Managing Notifications**, page 20).
• Stop broadcasting heart rate data to paired Garmin devices (**Broadcasting Heart Rate Data to Garmin Devices**, page 11).
• Turn off wrist-based heart rate monitoring (**Turning Off the Wrist-based Heart Rate Monitor**, page 11).
**NOTE:** Wrist-based heart rate monitoring is used to calculate vigorous intensity minutes and calories burned.
• Turn off the pulse oximeter feature (**Turning Off the Wrist-based Heart Rate Monitor**, page 11).
• Use UltraTrac GPS mode for your activity (**UltraTrac**, page 33).
• Select the **Smart** recording interval (**System Settings**, page 34).

**The temperature reading is not accurate**
Your body temperature affects the temperature reading for the internal temperature sensor. To get the most accurate temperature reading, you should remove the watch from your wrist and wait 20 to 30 minutes.
How can I manually pair ANT+ sensors?
You can use the device settings to manually pair ANT+ sensors. The first time you connect a sensor to your device using ANT+ wireless technology, you must pair the device and sensor. After they are paired, the device connects to the sensor automatically when you start an activity and the sensor is active and within range.

1. Stay 10 m (33 ft.) away from other ANT+ sensors while pairing.
2. If you are pairing a heart rate monitor, put on the heart rate monitor.
   The heart rate monitor does not send or receive data until you put it on.
3. Hold %.
5. Select an option:
   • Select Search All.
   • Select your sensor type.
   After the sensor is paired with your device, a message appears. Sensor data appears in the data page loop or a custom data field.

Can I use my Bluetooth sensor with my watch?
The device is compatible with some Bluetooth sensors. The first time you connect a sensor to your Garmin device, you must pair the device and sensor. After they are paired, the device connects to the sensor automatically when you start an activity and the sensor is active and within range.

1. Hold %.
3. Select an option:
   • Select Search All.
   • Select your sensor type.
   You can customize the optional data fields (Customizing the Data Screens, page 31).

My music cuts out or my headphones do not stay connected
When using a Forerunner device connected to headphones using Bluetooth technology, the signal is strongest when there is a direct line of sight between the device and the antenna on the headphones.

- If the signal passes through your body, you may experience signal loss or your headphones may become disconnected.
- It is recommended to wear your headphones with the antenna on the same side of your body as your Forerunner device.
- Since headphones vary by model, you can try moving the watch to your other wrist.

Appendix

Data Fields
NOTE: Some data fields require ANT+ or Bluetooth accessories to display data.
%FTP: The current power output as a percentage of functional threshold power.
% Heart Rate Reserve: The percentage of heart rate reserve (maximum heart rate minus resting heart rate).
10s Balance: The 10-second moving average of the left/right power balance.
10s Power: The 10-second moving average of power output.
24-Hour Maximum: The maximum temperature recorded in the last 24 hours from a compatible temperature sensor.
24-Hour Minimum: The minimum temperature recorded in the last 24 hours from a compatible temperature sensor.
30s Balance: The 30-second moving average of the left/right power balance.
30s Power: The 30-second moving average of power output.
3s Balance: The three-second moving average of the left/right power balance.
3s Power: The 3-second moving average of power output.
500m Pace: The current rowing pace per 500 meters.
Aerobic Training Effect: The impact of the current activity on your aerobic fitness level.
Ambient Pressure: The uncalibrated environmental pressure.
Anaerobic Training Effect: The impact of the current activity on your anaerobic fitness level.
Average % Heart Rate Reserve: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current activity.
Average 500m Pace: The average rowing pace per 500 meters for the current activity.
Average Ascent: The average vertical distance of ascent since the last reset.
Average Balance: The average left/right power balance for the current activity.
Average Cadence: Cycling. The average cadence for the current activity.
Average Cadence: Running. The average cadence for the current activity.
Average Descent: The average vertical distance of descent since the last reset.
Average Distance Per Stroke: Swimming. The average distance traveled per stroke during the current activity.
Average Distance Per Stroke: Paddle sports. The average distance traveled per stroke during the current activity.
Average GCT Balance: The average ground contact time balance for the current session.
Average Ground Contact Time: The average amount of ground contact time for the current activity.
Average Heart Rate: The average heart rate for the current activity.
Average Heart Rate %Max.: The average percentage of maximum heart rate for the current activity.
Average Lap Time: The average lap time for the current activity.
Average Left Power Phase: The average power phase angle for the left leg for the current activity.
Average Nautical Speed: The average speed in knots for the current activity.
Average Overall Speed: The average speed for the current activity, including both moving and stopped speeds.
Average Pace: The average pace for the current activity.
Average Power: The average power output for the current activity.
Average Right Power Phase: The average power phase angle for the right leg for the current activity.
Average Speed: The average speed for the current activity.
Average Stride Length: The average stride length for the current session.

Average Stroke Rate: Paddle sports. The average number of strokes per minute (spm) during the current activity.

Average Strokes Per Length: The average number of strokes per pool length during the current activity.

Average Swolf: The average swolf score for the current activity. Your swolf score is the sum of the time for one length plus the number of strokes for that length (Swim Terminology, page 3). In open water swimming, 25 meters is used to calculate your swolf score.

Average Vertical Oscillation: The average amount of vertical oscillation for the current activity.

Average Vertical Ratio: The average ratio of vertical oscillation to stride length for the current session.

Avg. Left Peak Power Phase: The average power phase peak angle for the left leg for the current activity.

Avg. Moving Speed: The average speed when moving for the current activity.

Avg. Platform Center Offset: The average platform center offset for the current activity.

Avg. Right Peak Power Phase: The average power phase peak angle for the right leg for the current activity.

Balance: The current left/right power balance.

Barometric Pressure: The current calibrated environmental pressure.

Battery Level: The remaining battery power.

Bearing: The direction from your current location to a destination. You must be navigating for this data to appear.

Cadence: Cycling. The number of revolutions of the crank arm. Your device must be connected to a cadence accessory for this data to appear.

Cadence: Running. The steps per minute (right and left).

Cadence Gauge: Running. A color gauge showing your current cadence range.

Calories: The amount of total calories burned.

Compass Gauge: The direction you are moving based on the compass.

Compass Heading: The direction you are moving based on the compass.

Course: The direction from your starting location to a destination. Course can be viewed as a planned or set route. You must be navigating for this data to appear.

Destination Location: The position of your final destination.

Destination Waypoint: The last point on the route to the destination. You must be navigating for this data to appear.

Di2 Battery: The remaining battery power of a Di2 sensor.

Distance: The distance traveled for the current track or activity.

Distance Per Stroke: Paddle sports. The distance traveled per stroke.

Distance Remaining: The remaining distance to the final destination. You must be navigating for this data to appear.

Distance To Next: The remaining distance to the next waypoint on the route. You must be navigating for this data to appear.

Elapsed Time: The total time recorded. For example, if you start the timer and run for 10 minutes, then stop the timer for 5 minutes, then start the timer and run for 20 minutes, your elapsed time is 35 minutes.

Elevation: The altitude of your current location above or below sea level.

Estimated Total Distance: The estimated distance from the start to the final destination. You must be navigating for this data to appear.

ETA: The estimated time of day when you will reach the final destination (adjusted to the local time of the destination). You must be navigating for this data to appear.

ETA at Next: The estimated time of day when you will reach the next waypoint on the route (adjusted to the local time of the waypoint). You must be navigating for this data to appear.

ETE: The estimated time remaining until you reach the final destination. You must be navigating for this data to appear.

Floors Climbed: The total number of floors climbed up for the day.

Floors Descended: The total number of floors climbed down for the day.

Floors per Minute: The number of floors climbed up per minute.

Front: The front bike gear from a gear position sensor.

GCT Balance: The left/right balance of ground contact time while running.

GCT Balance Gauge: A color gauge showing the left/right balance of ground contact time while running.

Gear Battery: The battery status of a gear position sensor.

Gear Combo: The current gear combination from a gear position sensor.

Gear Ratio: The number of teeth on the front and rear bike gears, as detected by a gear position sensor.

Gears: The front and rear bike gears from a gear position sensor.

Glide Ratio: The ratio of horizontal distance traveled to the change in vertical distance.

Glide Ratio to Destination: The glide ratio required to descend from your current position to the destination elevation. You must be navigating for this data to appear.

GPS: The strength of the GPS satellite signal.

GPS Elevation: The altitude of your current location using GPS.

GPS Heading: The direction you are moving based on GPS.

Grade: The calculation of rise (elevation) over run (distance). For example, if for every 3 m (10 ft.) you climb you travel 60 m (200 ft.), the grade is 5%.

Ground Contact Time: The amount of time in each step that you spend on the ground while running, measured in milliseconds. Ground contact time is not calculated while walking.

Ground Contact Time Gauge: A color gauge showing the amount of time in each step that you spend on the ground while running, measured in milliseconds.

Heading: The direction you are moving.

Heart Rate: Your heart rate in beats per minute (bpm). Your device must have wrist-based heart rate or be connected to a compatible heart rate monitor.

Heart Rate %Max.: The percentage of maximum heart rate.

Heart Rate Gauge: A color gauge showing your current heart rate zone.

Heart Rate Zone: The current range of your heart rate (1 to 5). The default zones are based on your user profile and maximum heart rate (220 minus your age).

Intensity Factor: The Intensity Factor™ for the current activity.

Interval Average %HRR: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current swim interval.

Interval Average %Max.: The average percentage of maximum heart rate for the current swim interval.

Interval Average Heart Rate: The average heart rate for the current swim interval.

Interval Distance: The distance traveled for the current interval.
Interval Lengths: The number of pool lengths completed during the current interval.
Interval Maximum %HRR: The maximum percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current swim interval.
Interval Maximum %Max.: The maximum percentage of maximum heart rate for the current swim interval.
Interval Maximum Heart Rate: The maximum heart rate for the current swim interval.
Interval Stroke Rate: The average number of strokes per minute (spm) during the current interval.
Interval Strokes Per Length: The average number of strokes per pool length during the current interval.
Interval Stroke Type: The current stroke type for the interval.
Interval Swolf: The average swolf score for the current interval.
Interval Time: The stopwatch time for the current interval.

Lap Stroke Rate: Swimming. The average number of strokes per minute (spm) during the current lap.
Lap Stroke Rate: Paddle sports. The average number of strokes per minute (spm) during the current lap.
Lap Strokes: Swimming. The total number of strokes for the current lap.
Lap Strokes: Paddle sports. The total number of strokes for the current lap.
Lap Swolf: The swolf score for the current lap.
Lap Time: The stopwatch time for the current lap.

Lap % Heart Rate Reserve: The average percentage of heart rate reserve (maximum heart rate minus resting heart rate) for the current lap.
Lap 500m Pace: The average rowing pace per 500 meters for the current lap.
Lap Ascent: The vertical distance of ascent for the current lap.
Lap Balance: The average left/right power balance for the current lap.
Lap Cadence: Cycling. The average cadence for the current lap.
Lap Cadence: Running. The average cadence for the current lap.
Lap Cadence: Paddle sports. The average cadence for the current lap.
Lap Cadence: Swimming. The average cadence for the current lap.
Lap Cadence: Paddle sports. The average cadence for the last completed lap.
Lap Cadence: Cycling. The average cadence for the last completed lap.
Lap Cadence: Running. The average cadence for the last completed lap.
Lap Cadence: Paddle sports. The average cadence for the last completed lap.
Lap Cadence: Swimming. The average cadence for the last completed lap.

Lap Distance Per Stroke: Swimming. The average distance traveled per stroke during the current lap.
Lap Distance Per Stroke: Paddle sports. The average distance traveled per stroke during the current lap.
Lap Distance Per Stroke: Cycling. The average distance traveled per stroke during the current lap.

Lap GCT Balance: The average ground contact time balance for the current lap.
Lap Ground Contact Time: The average amount of ground contact time for the current lap.
Lap Heart Rate: The average heart rate for the current lap.
Lap Heart Rate %Max.: The average percentage of maximum heart rate for the current lap.
Lap Left Peak Power Phase: The average power phase peak angle for the left leg for the current lap.
Lap Left Power Phase: The average power phase angle for the left leg for the current lap.

Lap Normalized Power: The average Normalized Power for the current lap.
Lap Pace: The average pace for the current lap.
Lap Platform Center Offset: The average platform center offset for the current lap.
Lap Power: The average power output for the current lap.
Lap Right Peak Power Phase: The average power phase peak angle for the right leg for the current lap.
Lap Right Power Phase: The average power phase angle for the right leg for the current lap.

Laps: The number of laps completed for the current activity.
Lap Speed: The average speed for the current lap.
Lap Stride Length: The average stride length for the current lap.

Lap Speed: The average speed for your last completed pool length.
Lap Strokes: Swimming. The total number of strokes for the last completed pool length.
Lap Strokes: Paddle sports. The total number of strokes for the last completed pool length.
Lap Strokes: Cycling. The total number of strokes for the last completed pool length.
Lap Strokes: Paddle sports. The total number of strokes for the last completed pool length.
Lap Strokes: Swimming. The total number of strokes for the last completed pool length.
**Last Length Swolf**: The swolf score for the last completed pool length.

**Lat/Lon**: The current position in latitude and longitude regardless of the selected position format setting.

**Left Peak Power Phase**: The current power phase peak angle for the left leg. Power phase peak is the angle range over which the rider produces the peak portion of the driving force.

**Left Power Phase**: The current power phase angle for the left leg. Power phase is the pedal stroke region where positive power is produced.

**Lengths**: The number of pool lengths completed during the current activity.

**Load**: The training load for the current activity. Training load is the amount of excess post-exercise oxygen consumption (EPOC), which indicates the strenuousness of your workout.

**Location**: The current position using the selected position format setting.

**Maximum Ascent**: The maximum rate of ascent in feet per minute or meters per minute since the last reset.

**Maximum Descent**: The maximum rate of descent in meters per minute or feet per minute since the last reset.

**Maximum Elevation**: The highest elevation reached since the last reset.

**Maximum Lap Power**: The top power output for the current lap.

**Maximum Nautical Speed**: The maximum speed in knots for the current activity.

**Maximum Power**: The top power output for the current activity.

**Maximum Speed**: The top speed for the current activity.

**Minimum Elevation**: The lowest elevation reached since the last reset.

**Moving Time**: The total time moving for the current activity.

**Multisport Time**: The total time for all sports in a multisport activity, including transitions.

**Muscle O2 Saturation %**: The estimated muscle oxygen saturation percentage for the current activity.

**Nautical Distance**: The distance traveled in nautical miles or nautical feet.

**Nautical Speed**: The current speed in knots.

**Next Split Distance**: Running. The total distance of the next split.

**Next Split Target Pace**: Running. The target pace for the next split.

**Next Waypoint**: The next point on the route. You must be navigating for this data to appear.

**Normalized Power**: The Normalized Power™ for the current activity.

**Off Course**: The distance to the left or right by which you have strayed from the original path of travel. You must be navigating for this data to appear.

**Overall Ahead/Behind**: Running. The overall time ahead or behind of the target pace.

**Pace**: The current pace.

**PacePro Gauge**: Running. Your current split pace and your target split pace.

**Pedal Smoothness**: The measurement of how evenly a rider is applying force to the pedals throughout each pedal stroke.

**Performance Condition**: The performance condition score is a real-time assessment of your ability to perform.

**Platform Center Offset**: The platform center offset. Platform center offset is the location on the pedal platform where force is applied.

**Power**: The current power output in watts.

**Power Gauge**: A color gauge showing your current power zone.

**Power to Weight**: The current power measured in watts per kilogram.

**Power Zone**: The current range of power output (1 to 7) based on your FTP or custom settings.

**Rear**: The rear bike gear from a gear position sensor.

**Repeat On**: The timer for the last interval plus the current rest (pool swimming).

**Reps**: During a strength training activity, the number of repetitions in a workout set.

**Respiration Rate**: Your respiration rate in breaths per minute (bpm).

**Rest Timer**: The timer for the current rest (pool swimming).

**Right Peak Power Phase**: The current power phase peak angle for the right leg. Power phase peak is the angle range over which the rider produces the peak portion of the driving force.

**Right Power Phase**: The current power phase angle for the right leg. Power phase is the pedal stroke region where positive power is produced.

**Set Timer**: During a strength training activity, the amount of time spent in the current workout set.

**Speed**: The current rate of travel.

**Split Distance**: Running. The total distance of the current split.

**Split Distance Remaining**: Running. The remaining distance of the current split.

**Split Pace**: Running. The pace for the next split.

**Split Target Pace**: Running. The target pace for the current split.

**Stopped Time**: The total time stopped for the current activity.

**Stress**: Your current stress level.

**Stride Length**: The length of your stride from one footfall to the next, measured in meters.

**Stroke Rate**: Swimming. The number of strokes per minute (spm).

**Stroke Rate**: Paddle sports. The number of strokes per minute (spm).

**Strokes**: Swimming. The total number of strokes for the current activity.

**Strokes**: Paddle sports. The total number of strokes for the current activity.

**Sunrise**: The time of sunrise based on your GPS position.

**Sunset**: The time of sunset based on your GPS position.

**Swim Time**: The swimming time for the current activity, not including rest time.

**Temperature**: The temperature of the air. Your body temperature affects the temperature sensor. You can pair a tempe sensor with your device to provide a consistent source of accurate temperature data.

**Time in Zone**: The time elapsed in each heart rate or power zone.

**Time of Day**: The time of day based on your current location and time settings (format, time zone, daylight saving time).

**Timer**: The current time of the countdown timer.

**Time Seated**: The time spent seated while pedaling for the current activity.

**Time Seated Lap**: The time spent seated while pedaling for the current lap.

**Time Standing**: The time spent standing while pedaling for the current activity.

**Time Standing Lap**: The time spent standing while pedaling for the current lap.
**Time to Next**: The estimated time remaining before you reach the next waypoint in the route. You must be navigating for this data to appear.

**Torque Efficiency**: The measurement of how efficiently a rider is pedaling.

**Total Ascent**: The total elevation distance ascended since the last reset.

**Total Ascent/Descent Gauge**: The total elevation distances ascended and descended during the activity or since the last reset.

**Total Descent**: The total elevation distance descended since the last reset.

**Total Hemoglobin**: The estimated total hemoglobin concentration in the muscle.

**Training Effect Gauge**: The impact of the current activity on your aerobic and anaerobic fitness levels.

**Training Stress Score**: The Training Stress Score™ for the current activity.

**Velocity Made Good**: The speed at which you are closing on a destination along a route. You must be navigating for this data to appear.

**Vertical Dist. to Dest.**: The elevation distance between your current position and the final destination. You must be navigating for this data to appear.

**Vertical Oscillation**: The amount of bounce while you are running. The vertical motion of your torso, measured in centimeters for each step.

**Vertical Oscillation Gauge**: A color gauge showing the amount of bounce while you are running.

**Vertical Ratio**: The ratio of vertical oscillation to stride length.

**Vertical Ratio Gauge**: A color gauge showing the ratio of vertical oscillation to stride length.

**Vertical Speed**: The rate of ascent or descent over time.

**Vertical Speed to Target**: The rate of ascent or descent to a predetermined altitude. You must be navigating for this data to appear.

**Work**: The accumulated work performed (power output) in kilojoules.

**VO2 Max. Standard Ratings**
These tables include standardized classifications for VO2 max. estimates by age and gender.

<table>
<thead>
<tr>
<th>Males</th>
<th>Percentile</th>
<th>20–29</th>
<th>30–39</th>
<th>40–49</th>
<th>50–59</th>
<th>60–69</th>
<th>70–79</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior</td>
<td>95</td>
<td>55.4</td>
<td>54</td>
<td>52.5</td>
<td>48.9</td>
<td>45.7</td>
<td>42.1</td>
</tr>
<tr>
<td>Excellent</td>
<td>80</td>
<td>51.1</td>
<td>48.3</td>
<td>46.4</td>
<td>43.4</td>
<td>39.5</td>
<td>36.7</td>
</tr>
<tr>
<td>Good</td>
<td>60</td>
<td>45.4</td>
<td>44</td>
<td>42.4</td>
<td>39.2</td>
<td>35.5</td>
<td>32.3</td>
</tr>
<tr>
<td>Fair</td>
<td>40</td>
<td>41.7</td>
<td>40.5</td>
<td>38.5</td>
<td>35.6</td>
<td>32.3</td>
<td>29.4</td>
</tr>
<tr>
<td>Poor</td>
<td>0–40</td>
<td>&lt;41.7</td>
<td>&lt;40.5</td>
<td>&lt;38.5</td>
<td>&lt;35.6</td>
<td>&lt;32.3</td>
<td>&lt;29.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Females</th>
<th>Percentile</th>
<th>20–29</th>
<th>30–39</th>
<th>40–49</th>
<th>50–59</th>
<th>60–69</th>
<th>70–79</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior</td>
<td>95</td>
<td>49.6</td>
<td>47.4</td>
<td>45.3</td>
<td>41.1</td>
<td>37.8</td>
<td>36.7</td>
</tr>
<tr>
<td>Excellent</td>
<td>80</td>
<td>43.9</td>
<td>42.4</td>
<td>39.7</td>
<td>36.7</td>
<td>33</td>
<td>30.9</td>
</tr>
<tr>
<td>Good</td>
<td>60</td>
<td>39.5</td>
<td>37.8</td>
<td>36.3</td>
<td>33</td>
<td>30</td>
<td>28.1</td>
</tr>
<tr>
<td>Fair</td>
<td>40</td>
<td>36.1</td>
<td>34.4</td>
<td>33</td>
<td>30.1</td>
<td>27.5</td>
<td>25.9</td>
</tr>
<tr>
<td>Poor</td>
<td>0–40</td>
<td>&lt;36.1</td>
<td>&lt;34.4</td>
<td>&lt;33</td>
<td>&lt;30.1</td>
<td>&lt;27.5</td>
<td>&lt;25.9</td>
</tr>
</tbody>
</table>

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**FTP Ratings**
These tables include classifications for functional threshold power (FTP) estimates by gender.

<table>
<thead>
<tr>
<th>Males</th>
<th>Watts per Kilogram (W/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior</td>
<td>5.05 and greater</td>
</tr>
<tr>
<td>Excellent</td>
<td>From 3.93 to 5.04</td>
</tr>
<tr>
<td>Good</td>
<td>From 2.79 to 3.92</td>
</tr>
<tr>
<td>Fair</td>
<td>From 2.23 to 2.78</td>
</tr>
<tr>
<td>Untrained</td>
<td>Less than 2.23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Females</th>
<th>Watts per Kilogram (W/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior</td>
<td>4.30 and greater</td>
</tr>
<tr>
<td>Excellent</td>
<td>From 3.33 to 4.29</td>
</tr>
<tr>
<td>Good</td>
<td>From 2.36 to 3.32</td>
</tr>
<tr>
<td>Fair</td>
<td>From 1.90 to 2.35</td>
</tr>
<tr>
<td>Untrained</td>
<td>Less than 1.90</td>
</tr>
</tbody>
</table>

FTP ratings are based on research by Hunter Allen and Andrew Coggan, PhD, *Training and Racing with a Power Meter* (Boulder, CO: VeloPress, 2010).

**Wheel Size and Circumference**
Your speed sensor automatically detects your wheel size. If necessary, you can manually enter your wheel circumference in the speed sensor settings.

The tire size is marked on both sides of the tire. This is not a comprehensive list. You can also measure the circumference of your wheel or use one of the calculators available on the internet.

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Wheel Circumference (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 x 1.75</td>
<td>1515</td>
</tr>
<tr>
<td>20 x 1.3/8</td>
<td>1615</td>
</tr>
<tr>
<td>22 x 1.3/8</td>
<td>1770</td>
</tr>
<tr>
<td>22 x 1-1/2</td>
<td>1785</td>
</tr>
<tr>
<td>24 x 1</td>
<td>1753</td>
</tr>
<tr>
<td>24 x 3/4 Tubular</td>
<td>1785</td>
</tr>
<tr>
<td>24 x 1-1/8</td>
<td>1795</td>
</tr>
<tr>
<td>24 x 1.75</td>
<td>1890</td>
</tr>
<tr>
<td>24 x 1-1/4</td>
<td>1905</td>
</tr>
<tr>
<td>24 x 2.0</td>
<td>1925</td>
</tr>
<tr>
<td>24 x 2.125</td>
<td>1965</td>
</tr>
<tr>
<td>26 x 7/8</td>
<td>1920</td>
</tr>
<tr>
<td>26 x 1-1.0</td>
<td>1913</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Wheel Circumference (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 × 1</td>
<td>1952</td>
</tr>
<tr>
<td>26 × 1.25</td>
<td>1953</td>
</tr>
<tr>
<td>26 × 1-1/8</td>
<td>1970</td>
</tr>
<tr>
<td>26 × 1.40</td>
<td>2005</td>
</tr>
<tr>
<td>26 × 1.50</td>
<td>2010</td>
</tr>
<tr>
<td>26 × 1.75</td>
<td>2023</td>
</tr>
<tr>
<td>26 × 1.95</td>
<td>2050</td>
</tr>
<tr>
<td>26 × 2.00</td>
<td>2055</td>
</tr>
<tr>
<td>26 × 1-3/8</td>
<td>2068</td>
</tr>
<tr>
<td>26 × 2.10</td>
<td>2068</td>
</tr>
<tr>
<td>26 × 2.125</td>
<td>2070</td>
</tr>
<tr>
<td>26 × 2.35</td>
<td>2083</td>
</tr>
<tr>
<td>26 × 1-1/2</td>
<td>2100</td>
</tr>
<tr>
<td>26 × 3.00</td>
<td>2170</td>
</tr>
<tr>
<td>27 × 1</td>
<td>2145</td>
</tr>
<tr>
<td>27 × 1-1/8</td>
<td>2155</td>
</tr>
<tr>
<td>27 × 1-1/4</td>
<td>2161</td>
</tr>
<tr>
<td>27 × 1-3/8</td>
<td>2169</td>
</tr>
<tr>
<td>29 × 2.1</td>
<td>2288</td>
</tr>
<tr>
<td>29 × 2.2</td>
<td>2298</td>
</tr>
<tr>
<td>29 × 2.3</td>
<td>2326</td>
</tr>
<tr>
<td>650 × 20C</td>
<td>1938</td>
</tr>
<tr>
<td>650 × 23C</td>
<td>1944</td>
</tr>
<tr>
<td>650 × 35A</td>
<td>2090</td>
</tr>
<tr>
<td>650 × 38B</td>
<td>2105</td>
</tr>
<tr>
<td>650 × 38A</td>
<td>2125</td>
</tr>
<tr>
<td>700 × 18C</td>
<td>2070</td>
</tr>
<tr>
<td>700 × 19C</td>
<td>2080</td>
</tr>
<tr>
<td>700 × 20C</td>
<td>2086</td>
</tr>
<tr>
<td>700 × 23C</td>
<td>2096</td>
</tr>
<tr>
<td>700 × 25C</td>
<td>2105</td>
</tr>
<tr>
<td>700C Tubular</td>
<td>2130</td>
</tr>
<tr>
<td>700 × 28C</td>
<td>2136</td>
</tr>
<tr>
<td>700 × 30C</td>
<td>2146</td>
</tr>
<tr>
<td>700 × 32C</td>
<td>2155</td>
</tr>
<tr>
<td>700 × 35C</td>
<td>2168</td>
</tr>
<tr>
<td>700 × 38C</td>
<td>2180</td>
</tr>
<tr>
<td>700 × 40C</td>
<td>2200</td>
</tr>
<tr>
<td>700 × 44C</td>
<td>2235</td>
</tr>
<tr>
<td>700 × 45C</td>
<td>2242</td>
</tr>
<tr>
<td>700 × 47C</td>
<td>2268</td>
</tr>
</tbody>
</table>

**Symbol Definitions**

These symbols may appear on the device or accessory labels.

![Symbol Definition](image)
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