

User Guide

Adaptive W' & Endurance Tracker

Version: 1.0

For: Garmin Edge devices compatible with the app

Prepared by: Domestique

1. Introduction

Adaptive W' & Endurance Tracker is a Garmin cycling data field designed to help riders better understand fatigue during a ride. The app provides two live indicators:

- **Endurance:** a measure of long-duration fatigue buildup
- **Sprint:** a measure of high-intensity fatigue buildup

The goal of the app is to help riders manage effort more effectively, reduce the risk of overextending, and learn how pacing, intensity, and ride conditions affect fatigue.



IMAGE 1

App screen overview

2. What the App Does

During a ride, the app continuously analyzes your riding data and displays two live bars:

- **Endurance Bar**
Represents the accumulation of long-duration (endurance) fatigue based on power, ride duration, environmental conditions, and your personalized settings.
- **Sprint Bar**
Represents short-term high-intensity (Sprint) fatigue based on anaerobic demand, lactate-related stress, and W⁷/high-intensity depletion.

When fatigue indicators rise to critical levels, the app may show warning messages such as:

- **BONK RISK**
- **BONK CONFIRMED**

These messages are intended to help you reduce effort before performance drops significantly.

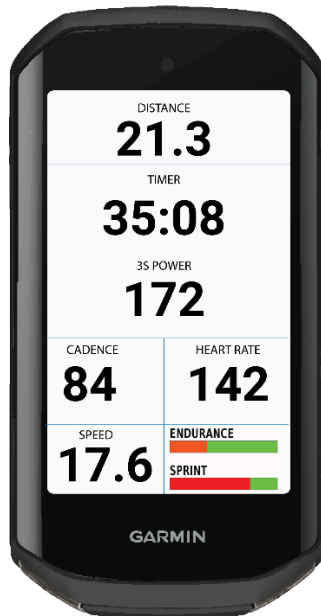


IMAGE 2
Example of normal riding screen

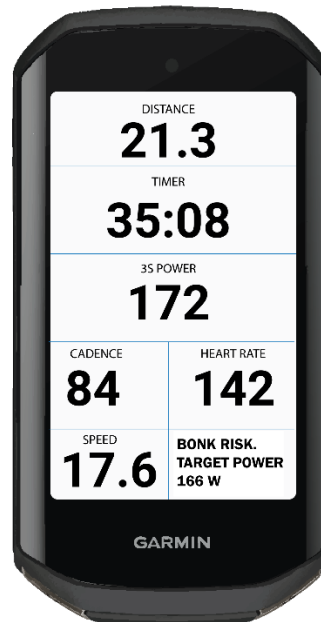


IMAGE 3
Example of warning screen

3. Downloading and Installing the App

From Garmin Connect IQ Store

1. Open the **Connect IQ Store** on your phone.
2. Search for **Adaptive W' & Endurance Tracker**.
3. Select the app.
4. Tap **Install**.
5. Sync your Garmin Edge device.

Confirm Installation

After syncing:

1. Open your Garmin Edge.
2. Go to your ride profile.
3. Edit a ride profile data screens.
4. Add the Adaptive W' & Endurance Tracker data field to one of your screens.

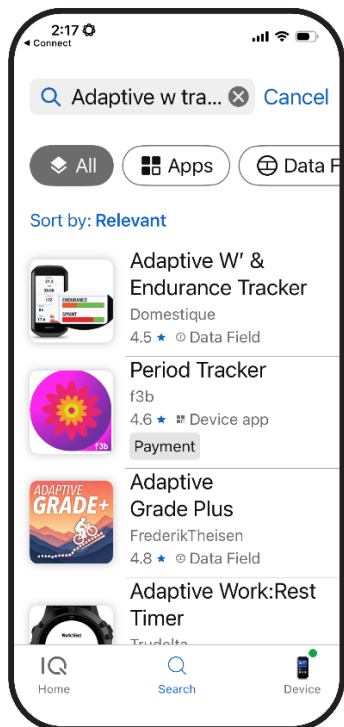


IMAGE 4

Connect IQ Store download screen

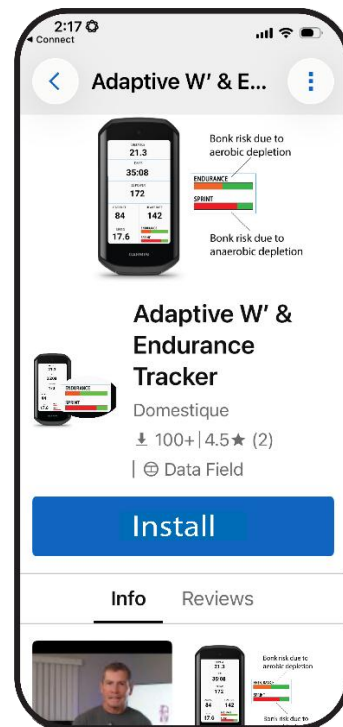


IMAGE 5

Garmin Connect / Edge add data field screen

4. First-Time Setup

Before using the app, you should review and configure the user settings.

Accessing Settings

Settings can be changed in Garmin Connect Mobile:

1. Open **Garmin Connect**
2. Go to your device
3. Open **Activities & Apps**
4. Select **Adaptive W' & Endurance Tracker**
5. Open **Settings**

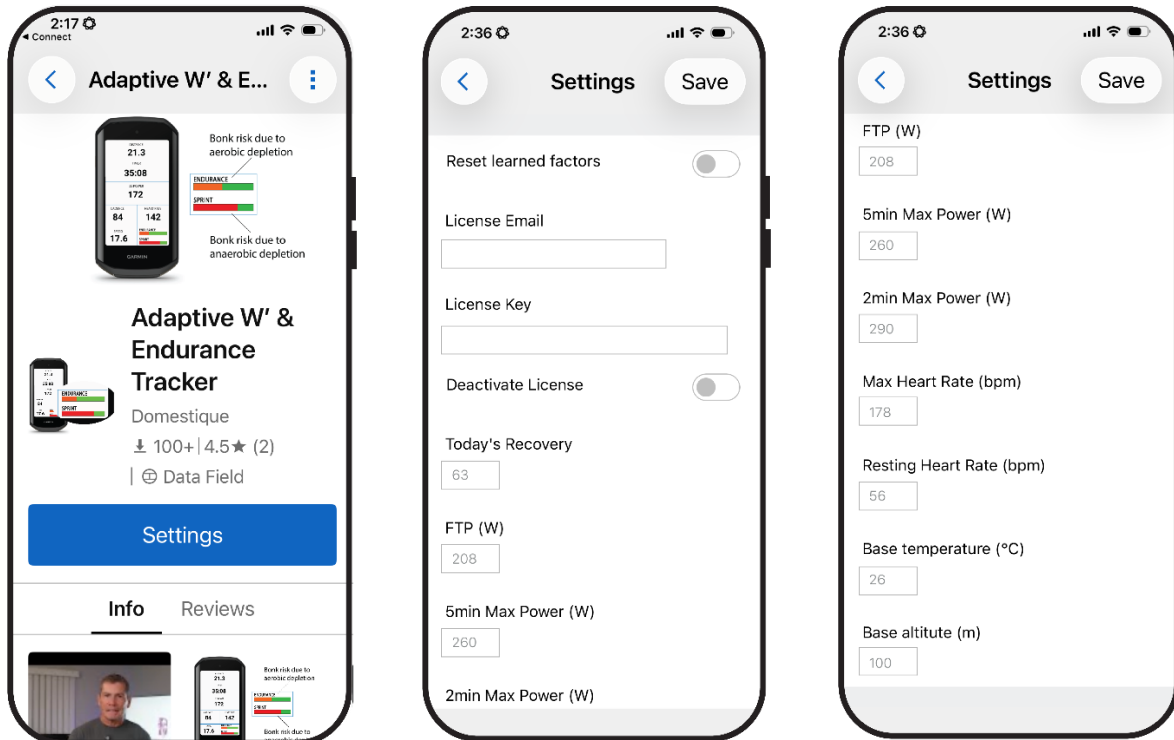


IMAGE 6

Garmin Connect settings path

5. License Setup

The app supports licensed and unlicensed operation.

Entering License Information

In the settings, enter:

- **License Email**
- **License Key**

When these values are entered, the app will attempt to activate the license automatically.

Deactivating a License

If you need to remove a license from a device:

1. Open app settings
2. Turn on the **Deactivate License** toggle
3. Sync the device
4. Open the app screen on the Edge

The app will deactivate the license, set the license state to unlicensed, and clear the saved email and license key.

License Status Screen

Before you press **Start**, the app shows the current license status on the Edge screen.

Possible messages include:

- **LICENSED**
- **UNLICENSED**
- error or status details

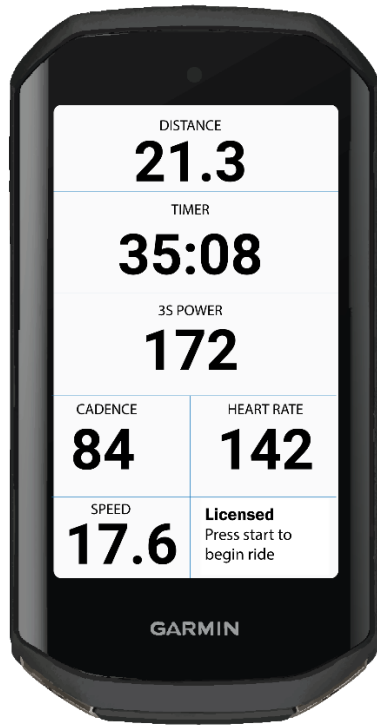


IMAGE 7
Licensed status screen

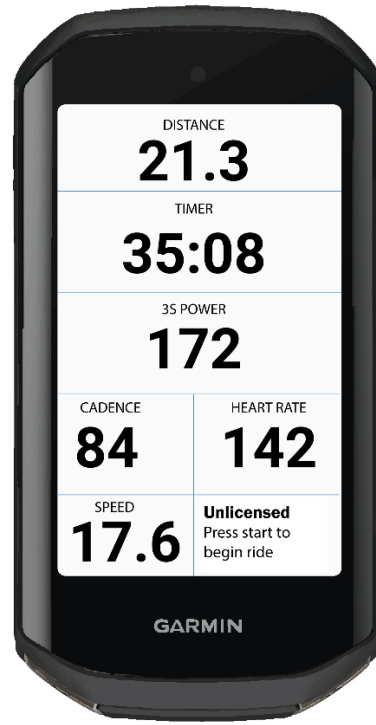


IMAGE 8
Unlicensed status screen

6. Licensed vs Unlicensed Behavior

Licensed Mode

In licensed mode, the app:

- uses your saved parameters
- performs fatigue tracking during the ride
- updates learned factors
- records supported data to FIT contributions when enabled

Unlicensed Mode

In unlicensed mode, the app still works as a basic display, but with limitations:

- calculations use fixed default factors
- learned factors are not updated
- FIT chart/contribution recording is disabled

- no personalization is saved

This allows the rider to see the basic fatigue bars without unlocking the full adaptive behavior.

7. User Settings Explained

Below are the main settings available in the app.

FTP

Your Functional Threshold Power in watts.

This is one of the most important parameters in the app. It affects fatigue calculations, endurance load, sprint load, and several derived thresholds.

Recommendation: Use your current best estimate of FTP.

5-Minute Max Power

Your best 5-minute power in watts.

Used in the app's internal high-intensity calculations and critical power estimation.

2-Minute Max Power

Your best 2-minute power in watts.

Used together with 5-minute max power to estimate high-intensity capacity.

Max Heart Rate

Your maximum heart rate.

Used in the app's decoupling and fatigue-related logic.

Resting Heart Rate

Your normal resting heart rate.

Used together with Max Heart Rate to calculate heart rate reserve.

Recovery

A rider-entered estimate of current recovery status.

Lower recovery values increase fatigue sensitivity. Higher recovery values reduce fatigue sensitivity.

Recommendation:

Use a number from 0 to 100 that reflects how recovered you feel that day.

Base Temperature

Your normal baseline riding temperature in °C.

The app compares current conditions against this value when applying environmental fatigue effects.

Base Altitude

Your normal baseline riding altitude in meters.

Used to estimate additional fatigue when riding significantly above your normal altitude.

Reset Learned Factors

This setting resets the app's learned adjustment factors back to default.

Use this if:

- your training condition has changed significantly
- your power profile has changed
- you want to restart personalization from scratch

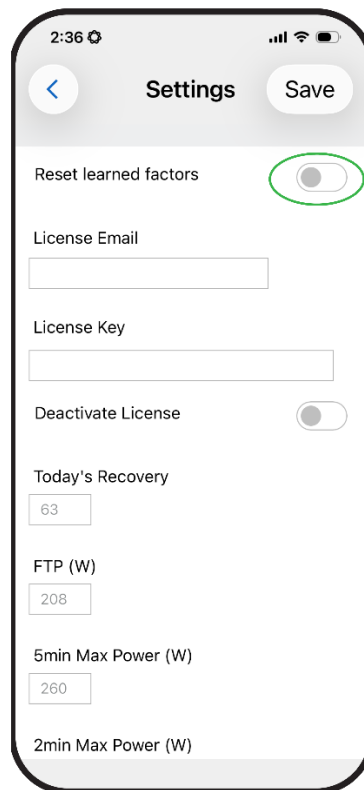


IMAGE 9

Settings screen with parameter examples

8. Before Starting a Ride

Recommended workflow:

1. Sync your Garmin Edge with Garmin Connect
2. Open the activity profile that contains the app
3. Go to the screen that shows Adaptive W' & Endurance Tracker
4. Wait for the license status screen
5. Confirm the app shows **LICENSED** if you are using a paid/activated version
6. Press **Start**

This is especially important after changing:

- license settings
 - rider parameters
 - recovery value
 - baseline environmental settings
-

9. During the Ride

Once the timer starts, the app switches from the license screen to the live fatigue display.

Endurance Bar

Shows cumulative fatigue related to:

- sustained power
- duration
- environmental stress
- rider state
- adaptive factors

Sprint Bar

Shows short-term high-intensity fatigue related to:

- anaerobic effort

- high-intensity bursts
- W'/lactate-related stress

Warning States

BONK RISK

This message indicates the app detects a high risk of performance collapse if the current effort continues.

BONK CONFIRMED

This message indicates the rider has likely crossed into a significant fatigue state and should reduce power.

10. Interpreting the Display

The app should be used as a decision-support tool, not as an absolute medical or physiological diagnosis.

General Interpretation

- Lower values suggest more available capacity
- Rising values suggest fatigue is accumulating
- Warning messages suggest the rider should reduce effort

Best Use Cases

The app is particularly useful for:

- long endurance rides
 - climbs
 - breakaways
 - time trials
 - interval pacing
 - managing effort late in the ride
-

11. Tips for Best Results

For the best experience:

- keep your FTP updated
 - use realistic 2-minute and 5-minute max values
 - set an honest daily recovery value
 - set your baseline temperature and altitude realistically
 - review the screen before pressing start
 - do not ignore repeated bonk warnings during long or intense efforts
-

12. Troubleshooting

The app shows UNLICENSED

Possible causes:

- license email not entered
- license key not entered
- activation failed
- device needs sync
- app needs to reload after settings change

Try this:

1. Confirm email and license key in settings
 2. Sync Garmin Connect
 3. Exit and reopen the activity profile
 4. Return to the app screen and wait a few seconds
-

The app does not update learned factors

This happens when:

- the app is unlicensed
- FIT contributions are disabled by license state

- the ride did not generate sufficient data for updates
-

The bars display but nothing is recorded

This usually means the app is in **unlicensed mode**.

I changed the settings but do not see the update

Try:

1. Sync device
 2. leave the activity profile
 3. reopen the ride profile
 4. return to the app screen before pressing start
-

13. Safety Note

Adaptive W' & Endurance Tracker is a performance-support tool. It is not a medical device and should not replace professional coaching, medical advice, or safe riding judgment.

Always ride safely and use common sense when responding to fatigue, terrain, weather, traffic, and your own physical condition.

14. Support

For support, feedback, or license assistance, contact:

Email: admin@local-domestique.com

Website: www.neverbonkagain.com

App Version: 9.13 and up
