Running DF7 1 User Manual

A Comprehensive Guide

Robert Hofer (RH-SPORTS)

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1. User documentation

Welcome to the **Running DF7 (Variant 1)** user documentation which is a data field and has to be integrated into one of the Garmin native apps.

Download PDF

2. English

2.1 RunningDF7 1

The **RunningDF7 1**, running on all Connect IQ™-compatible Garmin devices with CIQ 2 or higher, is designed as a data field focusing on improving your running performance. It is NO standaone application but has to be added to one of the different Garmin native applications like walking or running. The data field shows the current heart rate as colored value and gauge as well as three freely configurable additional metrics of your workout session.

> **Note:**
> This data field is optimized for best possible readability.

The main idea behind data fields is to use the native Garmin apps which offers features which cannot be accessed through the Garmin API in 3rd-party apps (e.g. map support, workout support, etc.) and extend its functionality with new features.

> **Note:**
> Due to memory constraints, data fields will only be available on newer Garmin devices with at least 32 kB of memory for data fields!

Link to **RunningDF7 1** on Garmin App Store

This website provides further information regarding requirements, installation, getting started, supported data fields and features as well as frequently asked questions.

2.2 Disclaimer

2.2.1 Software disclaimer

Our offered applications, widgets and data fields (further on simply called software), which can be downloaded from the Garmin App Store, are provided ‘as is’ without warranty of any kind, either express or implied, including, but not limited to, the implied warranties of fitness for a purpose, or the warranty of non-infringement. Without limiting the foregoing, Robert Hofer (RH-SPORTS) makes no warranty that:

- the software will meet your requirements.
- the software will be uninterrupted, timely, secure or error-free.
- the results that may be obtained from the use of the software will be effective, accurate or reliable.
- the quality of the software will meet your expectations.

Software and documentation on our web site:

- could include technical or other mistakes, inaccuracies or errors.
- may be out of date where we make no commitment to update the it right away.
- we assume no responsibility for errors or omissions in the software or documentation available from our web sites.
- Robert Hofer (RH-SPORTS) has the right to change the software or documentation anytime.

In no event shall we be liable to you or any third parties for any special, punitive, incidental, indirect or consequential damages of any kind, or any damages whatsoever, including, without limitation, those resulting from loss of use, data or profits, whether or not we have been advised of the possibility of such damages, and on any theory of liability, arising out of or in connection with the use of this software.

The use of the software downloaded is done at your own discretion and risk and with agreement that you will be solely responsible for any damage to your computer system, watch of navigation device or loss of data that results from such activities. No advice or information, whether oral or written, obtained by you from us by mail or from our web sites shall create any warranty for the software.

2.2.2 User data protection according to DSGVO

RH-SPORTS clearly wants to state that we do not collect or save user information of any kind. If you are using our applications or data fields and save the recorded session afterwards then the data will be fully processed by Garmin Ltd. or its subsidiaries. This might include that the recorded data is sent to servers hosted or paid for by Garmin. Please read the user data protection rules from Garmin for further details.

Following applications offer map support:

- Cycling App Professional
- Hiking App Professional
- MTB App Professional
- SkiTour App Professional

These applications do not directly track personal information but makes use of a 3rd party API provided by dynamicWatch which does store personal information on every data request. You can read the detailed privacy policy of dynamicWatch here.

2.2.3 Activity tracking and fitness metric accuracy

Our applications and data fields use the Garmin API´s to retrieve most of the information and cannot be more precise than the data delivered from there. Garmin states following about activity tracking and accuracy:

- "Garmin devices are intended to be tools to provide you with information to encourage an active and healthy lifestyle. Garmin wearables rely on sensors that track your movement and other metrics. The data and information provided by these devices is intended to be a close estimation of your activity and metrics tracked, but may not be precisely accurate. Garmin wearables are not medical devices, and the data provided by them is not intended to be utilized for medical purposes and is not intended to diagnose, treat, cure, or prevent any disease. Garmin recommends you consult your doctor before engaging in any exercise routine."

2.2.4 Accuracy of wrist-based heart rate (Elevate)

Our applications and data fields use the Garmin API´s to retrieve heart rate related data cannot be more precise than the data delivered from there. Regarding wrist-based accuracy, Garmin states following:

- "The optical wrist heart rate (HR) monitor for Garmin wearables is a valuable tool that can provide an accurate estimation of the user's heart rate at any given point in time. The optical HR monitor is designed to attempt to monitor a user's heart rate 24 hours a day, 7 days a week. The frequency at which heart rate is measured varies, and may depend on the level of activity of the user. When you start an activity with your Garmin optical HR device, the optical HR monitor measures more frequently. The intent is to provide the user with a more frequent and accurate heart rate reading during a given activity."
- "While our wrist HR monitor technology is state of the art, there are inherent limitations with the technology that may cause some of the heart rate readings to be inaccurate under certain circumstances. These circumstances include the user's physical characteristics, the fit of the device and the type and intensity of the activity as outlined above. The HR monitor data is not intended to be used for medical purposes, nor is it intended to diagnose, treat, cure or prevent any disease or condition."
- "Wrist heart rate accuracy during swimming is very limited. Garmin does not recommend using wrist heart rate during swimming activities and on some products, wrist heart rate monitoring is disabled while swimming. Garmin recommends using HRM-Swim™ or HRM-Tri™ heart rate monitors with compatible devices to track heart rate while swimming."

2.2.5 White background on AMOLED displays

For devices with AMOLED display (e.g. Venu™ based devices) we strongly recommend to always select the black background to avoid damages due to burn-in effects and to save battery life time!

> **Note:**
> We take over NO responsibility in case of damages due to burn-in effects.

2.3 Requirements

Supported Garmin devices

The **RunningDF7 1** data field runs on most Garmin devices but there is a difference in functionality between devices with less than 32 kB of memory and devices with more memory for 3rd party data fields.

List of devices with 32 kB or less memory for data fields:

- Approach® S60
- Captain Marvel
- Darth Vader™
- D2™ Air
- Fēnix® Chronos
- Fēnix® 5 and 5s
- Fēnix® 6 and 6s
- First Avenger
- Forerunner® 55, 245, 645 and 935
- ForeAthlete® 735XTJ
- Rey™
- Venu™ and Mercedes-Benz® Collection
- Venu™ SQ and SQ Music
- Vivoactive™ HR
- Vivoactive® 3, 3 Music, 3m LTE and 3 Mercedes-Benz® Collection
- Vivoactive® 4 and 4s

List of devices with more than 32 kB of memory:

- Approach® S50
- Approach® S62
- Approach® S70 42mm and 47mm
- D2™ Air X10
- D2™ Charlie
- D2™ Delta, Delta PX and Delta S
- D2™ Mach 1 and Mach 2
- Descent™ G2
- Descent™ MK1, MK2 and MK2s
- Descent™ Mk3 43mm and 51mm
- Enduro™ and 3
- Epix™ 2, Pro (Gen 2) 42mm, 47mm and 51mm
- Fēnix® 5X
- Fēnix® 5 Plus, 5S Plus and 5X Plus
- Fēnix® 6 Pro and 6s Pro
- Fēnix® 6x Pro, Sapphire, Pro Solar and tactix® Delta Sapphire
- Fenix® 7, 7s and 7x
- Fenix® 7 Pro, 7s Pro and 7x Pro
- Fēnix® 7 Pro (no Wi-Fi) and 7x Pro (no Wi-Fi)
- Fenix® 8 43mm, 47mm and 51mm
- Fenix® 8 Solar 47mm and 51mm
- Fenix® 8 Pro 47mm, 51mm and MicroLED
- Fenix® E
- Forerunner® 165, 165 Music, 245 Music, 255, 255 Music, 255s, 255s Music, 265 and 265s
- Forerunner® 570 42mm and 47mm, 645 Music, 735XT, 945, 945 LTE, 955, 955 Solar, 965 and 970
- Instinct® 3 AMOLED 45mm and 50mm
- Instinct® Crossover AMOLED
- MARQ™ Adventurer, Athlete, Aviator, Captain, Commander, Driver, Expedition and Golfer
- MARQ® (Gen 2) Athlete, Adventurer, Captain, Golfer and Aviator
- Venu™ 2, 2 Plus, 2s
- Venu™ SQ 2 and SQ 2 Music
- Venu® 3 and 3s
- Venu® 4 41mm and 45mm
- Venu® X1
- Vivoactive® 5 and 6

Garmin device firmware requirements

Please install the latest firmware on your Garmin device. Here the information about the minimum required Connect IQ™ version depending on your device type:

- V2.4.1
    - Approach® S60
    - ForeAthlete® 735J
    - Forerunner® 735XT
    - Vivoactive® HR
- V3.0.0
    - Approach® S62
    - D2® Charlie
    - D2® Delta, Delta PX and Delta S
    - Descent™ MK1
    - Vivoactive® 3 Mercedes-Benz® Collection
- V3.1.0
    - Descent™ MK2
    - Fēnix® Chronos
    - Fēnix® 5, 5S and 5X
    - Fēnix® 5 Quatix
    - Fēnix® 5 Plus, 5S Plus and 5X Plus
    - Forerunner® 935
    - Forerunner® 645 and 645 Music
    - Vivoactive® 3
- V3.2.0
    - Captain Marvel
    - Darth Vader™
    - D2™ Air
    - Descent™ MK2s
    - Enduro™
    - Fēnix® 6 and 6 Pro
    - Fēnix® 6s and 6s Pro
    - Fēnix® 6x Pro, 6x Sapphire, 6x Pro Solar and tactix® Delta Sapphire
    - First Avenger
    - Forerunner® 55, 245, 245 Music, 745 and 945
    - MARQ™ Adventurer, Athlete, Aviator, Captain, Commander, Driver, Expedition and Golfer
    - Rey™
    - Venu™ SQ and Venu™ SQ Music
    - Venu™ and Venu™ Mercedes-Benz® Collection
    - Vivoactive® 3 Music and 3 Music LTE
    - Vivoactive® 4s and 4
- V3.3.0
    - Forerunner® 945 LTE
- V4.0.0
    - D2™ Air X10
    - D2™ Mach 1
    - Venu™ 2, 2 Plus and 2s

- V4.1.0
    - Fenix® 7, 7s and 7x
    - Forerunner® 255, 255 Music, 255s and 255s Music
    - Forerunner® 955 and Solar
    - MARQ® (Gen 2) Athlete, Adventurer, Captain, Golfer and Aviator
    - Venu™ SQ 2 and SQ 2 Music
- V4.2.0
    - Approach® S70 42mm and 47mm
    - Descent™ Mk3 43 and 51mm
    - Epix™ 2
    - Epix™ Pro (Gen 2) 42mm, 47mm and 51mm
    - Fenix® 7 Pro, 7s Pro and 7x Pro
    - Fēnix® 7 Pro (no Wi-Fi) and 7x Pro (no Wi-Fi)
    - Forerunner® 165 and 165m
    - Forerunner® 265 and 265s
    - Forerunner® 965
    - Venu® 3 and 3s
    - Vivoactive® 5
- V5.0.0
    - Approach® S50
    - Descent™ G2
    - Enduro™ 3
    - Fenix® 8 43mm
    - Fenix® 8 47 and 51mm
    - Fenix® 8 Solar 47 and 51mm
    - Fenix® E
    - Instinct® 3 AMOLED 45 and 50mm
    - Vivoactive® 6
- V5.1.0
    - Fenix® 8 Pro 47mm, 51mm and MicroLED
    - Forerunner® 570 42mm and 47mm
    - Forerunner® 970
    - Instinct® Crossover AMOLED
    - Venu® X1
- V5.2.0
    - D2™ Mach 2
    - Venu® 4 41mm and 45mm

> **Note:**
> Please also take a look to the Garmin feature set description for your device.

Garmin software requirements

- Please install the latest Garmin Connect App if you use the mobile phone for installation and configuration.

- Please install the latest Garmin Express Version if you use the PC/MAC for installation and configuration.

2.3.1 Sensor requirements

- Please enable GPS for speed, distance, location and altitude information.
- Please enable ANT+ sensor for heart rate.

> **Note:**
> The power sensor pairing is done automatically within the data field.

2.4 Getting started

This section describes everything you need to know to get **RunningDF7 1** up and running on your Garmin device.

Topics:

2.4.1 Install data field

Adding a Connect IQ data field to one of your native Garmin apps like "Run" allows you to see custom metrics (like specialized running power, heart rate gauge, etc.) without leaving the standard tracking screen.

Important Distinction Before You Start Ensure you have downloaded a **Data Field** and not a **Widget** or a standalone **Watch App**:

- **Data Field:** Sits inside your normal Garmin native app in a seperate data page.
- **Watch App:** A standalone app that replaces the Garmin native activity entirely.

Please install the **RunningDF7 1** data field by downloading it from the Garmin App Store via the Garmin Express Software on PC/MAC or via the Garmin ConnectIQ mobile app on your mobile phone.

Link to **RunningDF7 1** on Garmin App Store

Install instructions:
In order to use this **Data Field**, you will need to set up a screen with only one field and select **RunningDF7 1** from the Connect IQ fields options. The

WHOLE screen is needed for displaying all the information which can highly be configured via settings.
Here's how you can set it up:

- **Step 1: Install the Data Field (phone side):**
  - Open the **Connect IQ mobile** app on your phone.
  - Search for the data field **RunningDF7 1**.
  - Tap **Install** or **Download**
  - **Sync your watch** with the standard Garmin Connect app to ensure the file is transferred.
- **Step 2: Add RunningDF7 1 data field to your e.g. watch (Garmin device side):** These steps apply to most modern Forerunner, Fenix, and Venu/Vivoactive models. Navigation may vary slightly (touchscreen vs. buttons).
  - Open the Garmin native app like **Run activity**:
    - Press the **Start/Stop** (top right) button.
    - Select **Run** (do not start the timer yet).
  - Enter activity settings:
    - **Forerunner/Fenix (Buttons):** Hold the Up/Menu button (middle left) until a menu appears.
    - **Venu/Vivoactive (Touch):** Swipe up or hold the bottom button (depending on model) to access the menu.
    - Select **Settings**.
  - Select data screens:
    - Scroll down and select **Data Screens**.
  - Choose where to put it:
    - You can edit an existing screen (only if it has just one field) or add a new one.
    - To **Add New**: Scroll to the bottom, select **Add New**, select **Custom Data**.
    - To **Edit Existing**: Scroll to the screen you want to change, press Start (or tap icon), select **Edit Data Fields**.
  - Select the slot:
    - This is a complex Connect IQ field which requires a "1 Field" layout (taking up the whole screen). If the field doesn't show up later, try changing the layout to 1 Field.
    - Tap or select the scrren where you want the new data to appear.
  - Find the Connect IQ field:
    - Once you've selected the slot to change, you will see a list of categories (Timer, Distance, Pace, etc.).
    - Scroll to find **Connect IQ fields**.
    - Select it, and you should see the name of the data field you downloaded in Step 1.
    - Select the field.
  - Save and Exit:
    - Press the **Back** button repeatedly until you return to the main screen. You should now see your new data field active.
- **Step 3: Configure the data field (phone side):**
  - This Connect IQ fields allows you to customize it (e.g., changing colors or averaging time). You cannot usually do this on the watch. Here the link to the available configuration options for **RunningDF7 1**.
  - Open the **Connect IQ Store** app on your phone.
  - Tap **My Device** (bottom right) and select **My Data Fields".
  - Tap **RunningDF7 1** you installed.
  - Tap **Settings**.
  - Adjust your preferences and hit **Save**. The watch will update automatically (usually immediately, sometimes requires a sync).

Once you've completed these steps, you'll have everything you need for a run on just one screen.
If you require further assistance with setting up data fields for your device, please refer to this link for instructions.

Trouble shooting:

- **I see an "IQ!" icon**: This means the data field has crashed. This usually happens if the field is outdated or incompatible with your specific watch firmware. Try uninstalling and reinstalling it.
- **The field isn't in the list**: Sync your watch again using Garmin Express (PC/Mac) or the Garmin Connect mobile app. If it still doesn't appear, check the store page to ensure it is compatible with your specific watch model.
- **"2 of 2" Error**: Most Garmin watches have a limit of two Connect IQ data fields per activity profile. If you try to add a third, it won't let you. You must remove an old one first.

2.4.2 Change the user settings

The **RunningDF7 1** in the PREMIUM version offers a huge amount of configuration options which can be changed on your PC/MAC your or on your mobile phone:

- Change User Settings on PC/MAC
- Change User Settings on Mobile Phone

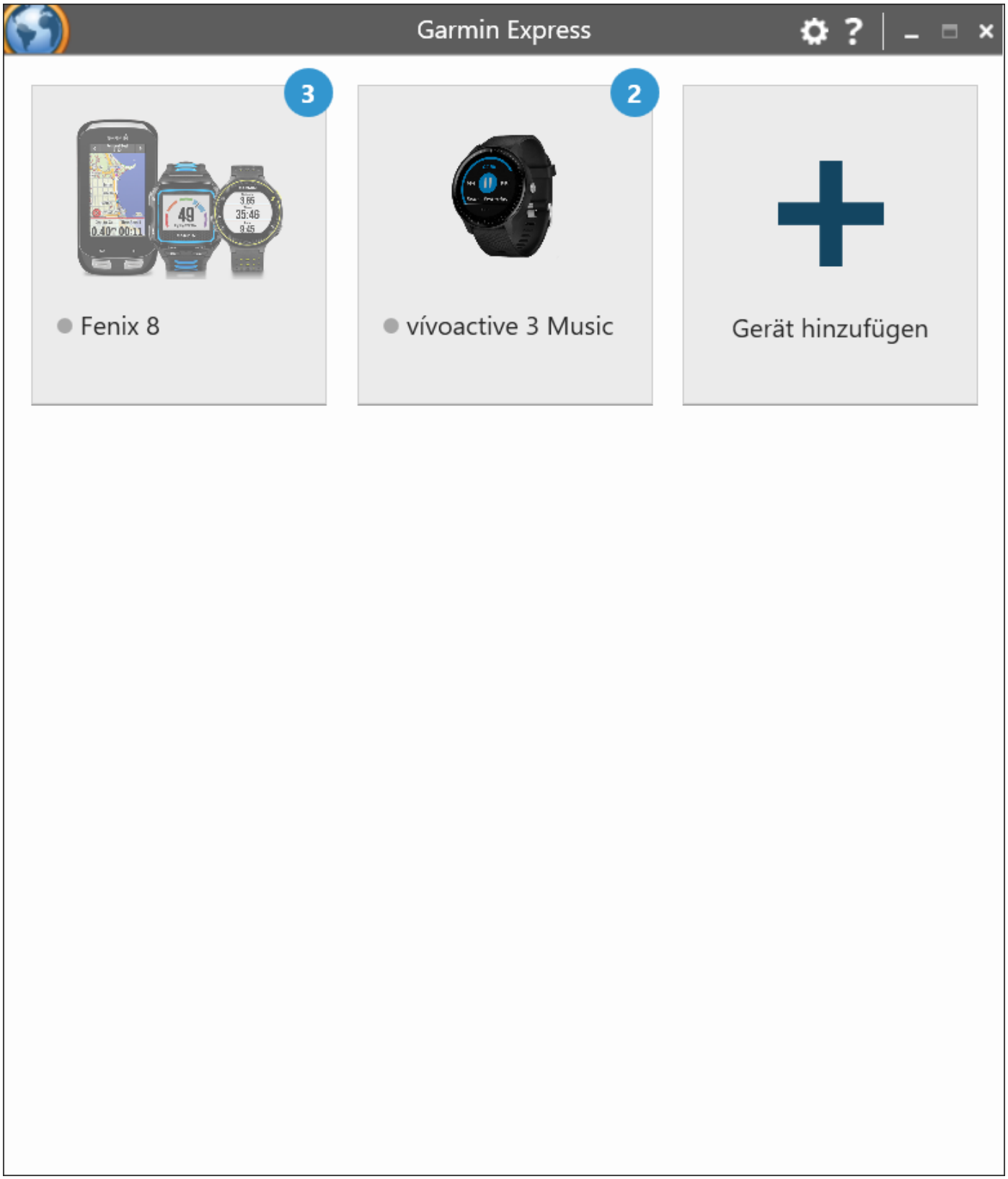
Change user settings on PC or MAC

All configurations can be changed on your PC or MAC by using the Garmin Express Software. Before changing configurations, please make sure that you have installed the latest software version. The software can be downloaded from the official Garmin web site.

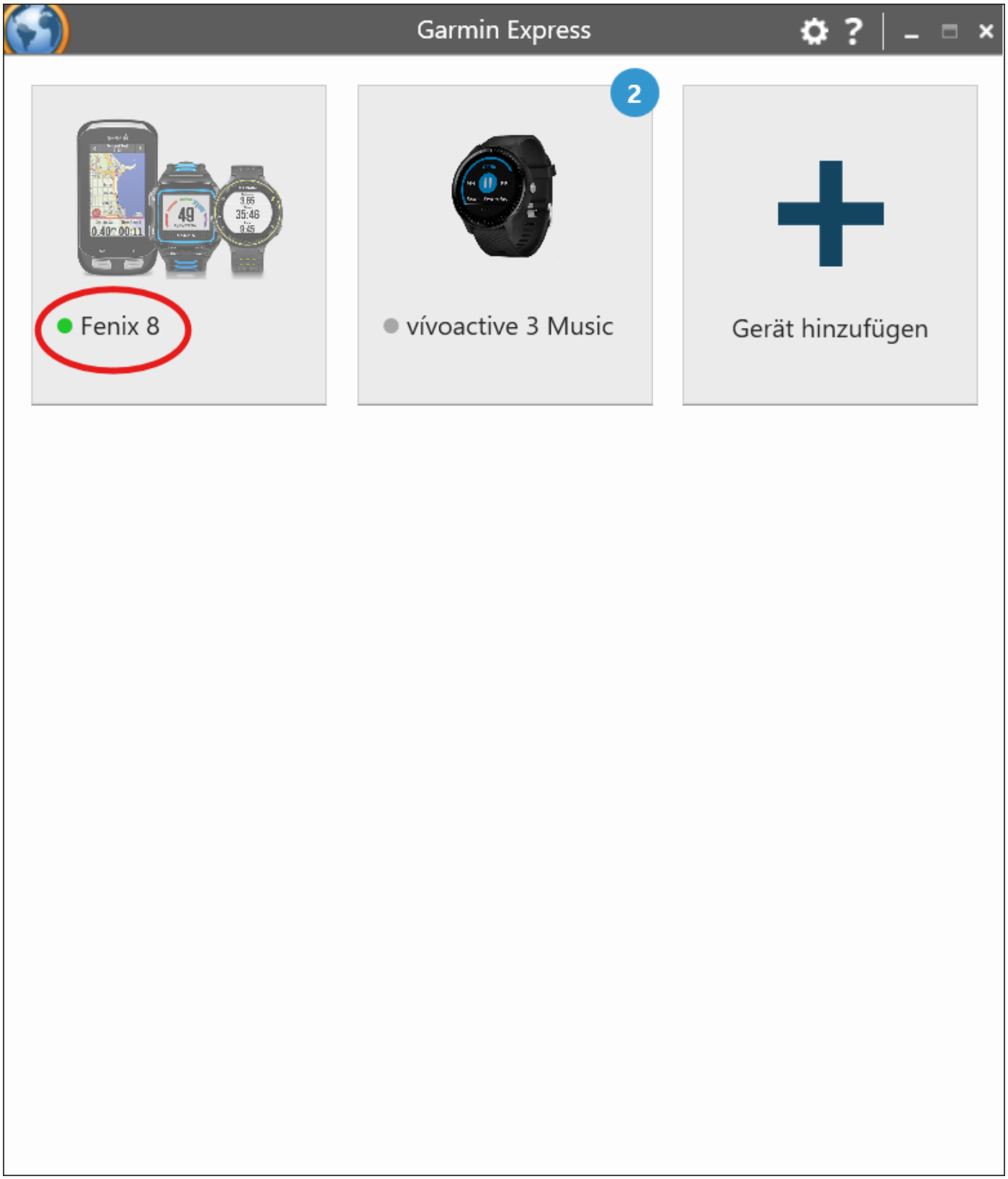
> **Note** The pictures in the following sections are taken from the Garmin Express Software V7.28.0 running on Windows 11 and may be subject of change in future Garmin versions.

Step 1: Start Garmin Express Software Look for the symbol as shown below and double-click it to start the Garmin Express software.

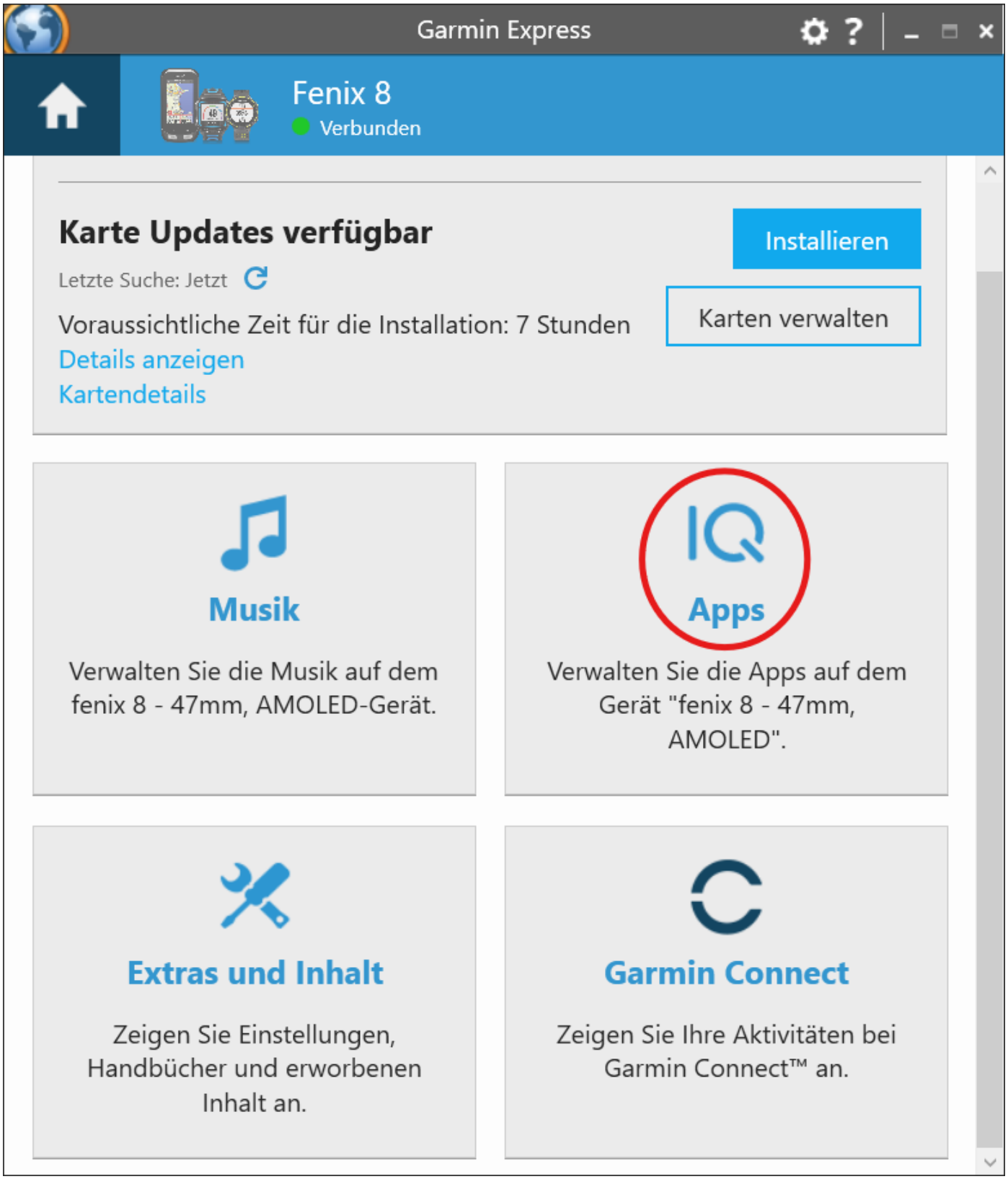
After that you should be able to see your Garmin device as shown in the picture below. If not, please add your device first. For details refer to the documentation provided by Garmin.



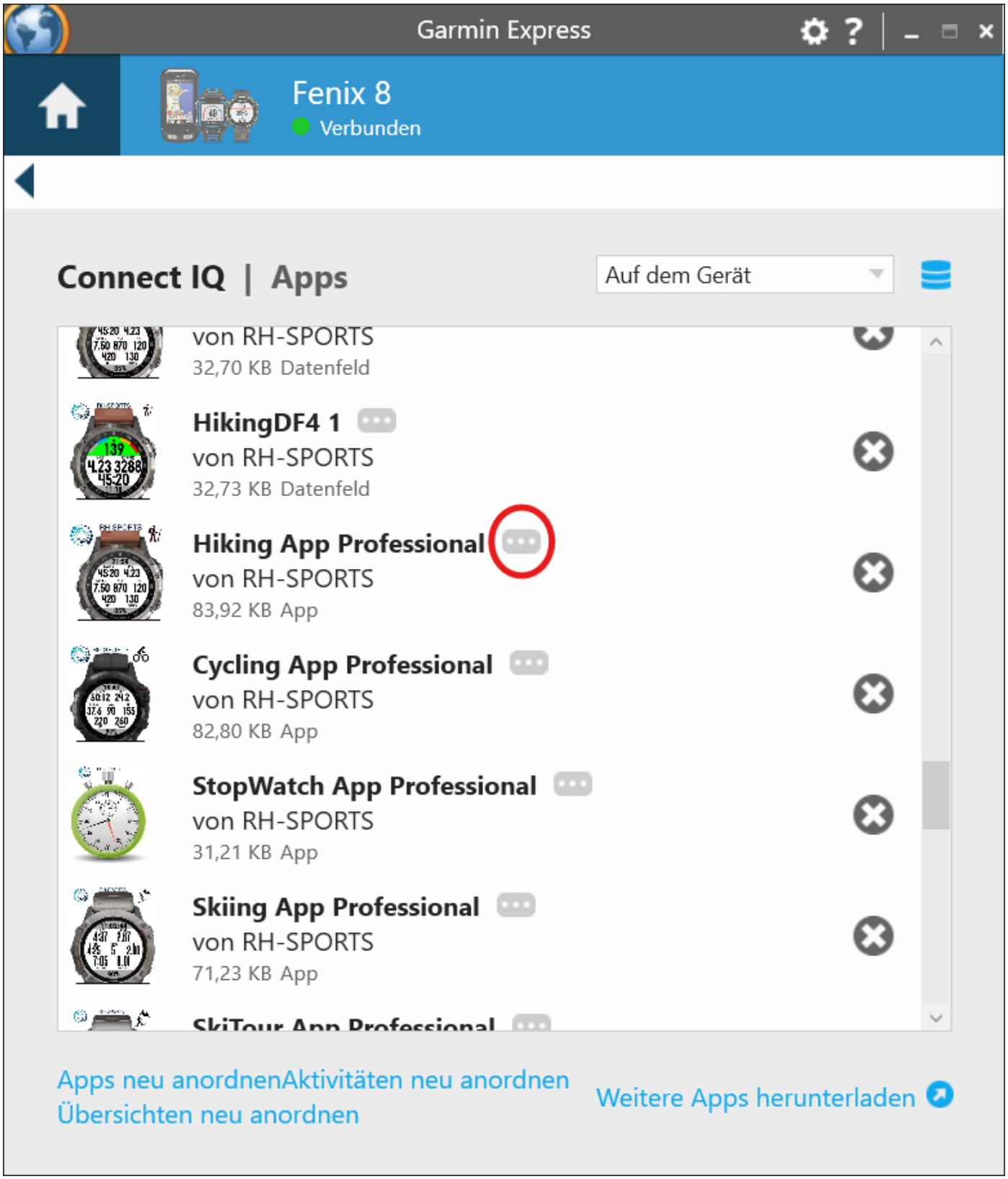
Step 2: Establish Connection between PC/MAC and the Garmin Device Connect your device via USB to your PC/MAC. Your device should be automatically detected and the Garmin Express software starts a synchronization process. When everything is ok, it is signalized via green lights as shown in the figure below. In case problems occur, please refer to the documentation provided by Garmin.



Step 3: Select Device Please click on the icon which shows your device. Following picture should appear:

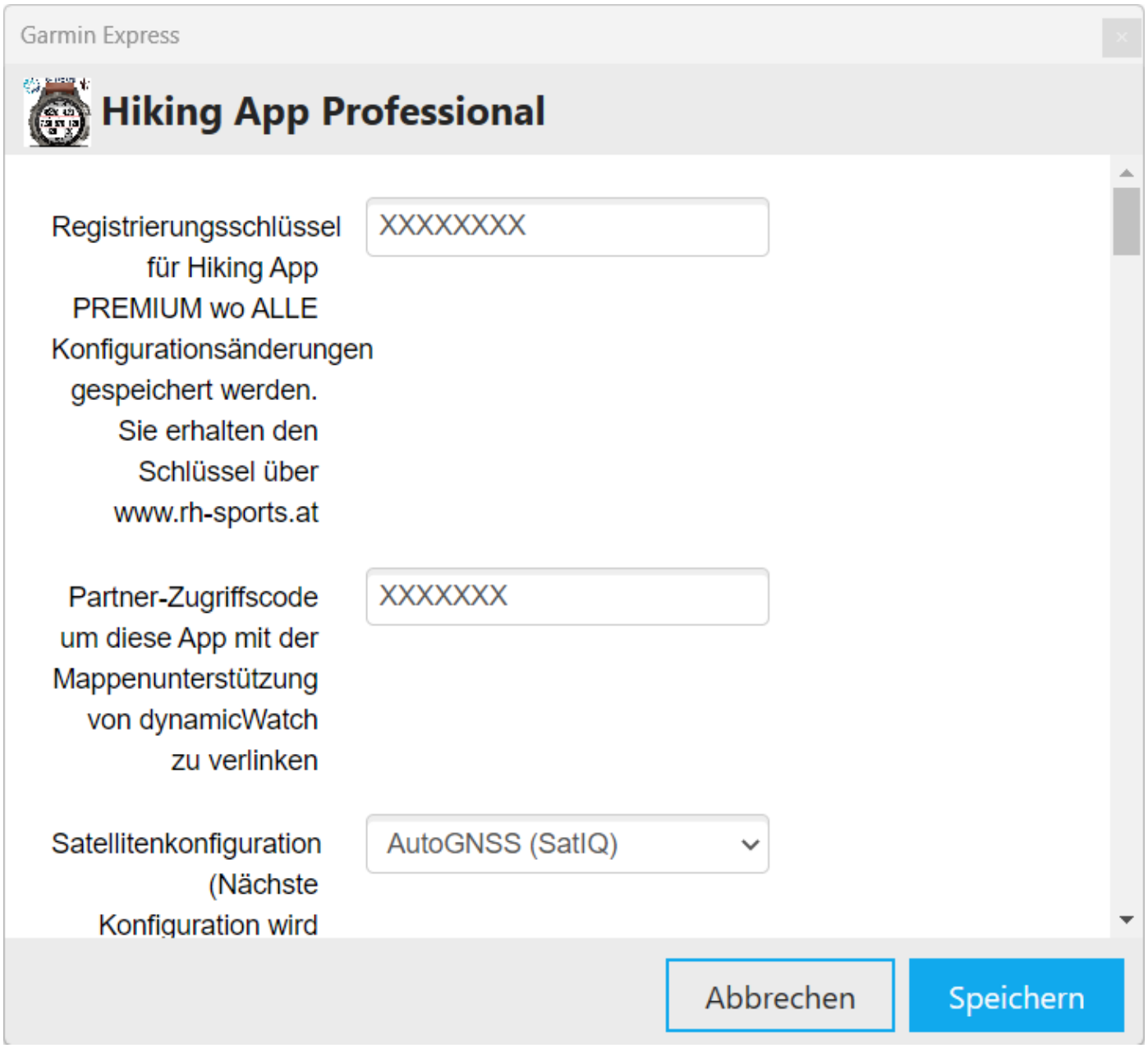


Step 4: Find Application or Data Field Please click the marked button in the picture above. A list of all installed applications and data fields on your device should appear. Please scroll up/down until you find the application or data field you would like to configure as shown in the figure below:

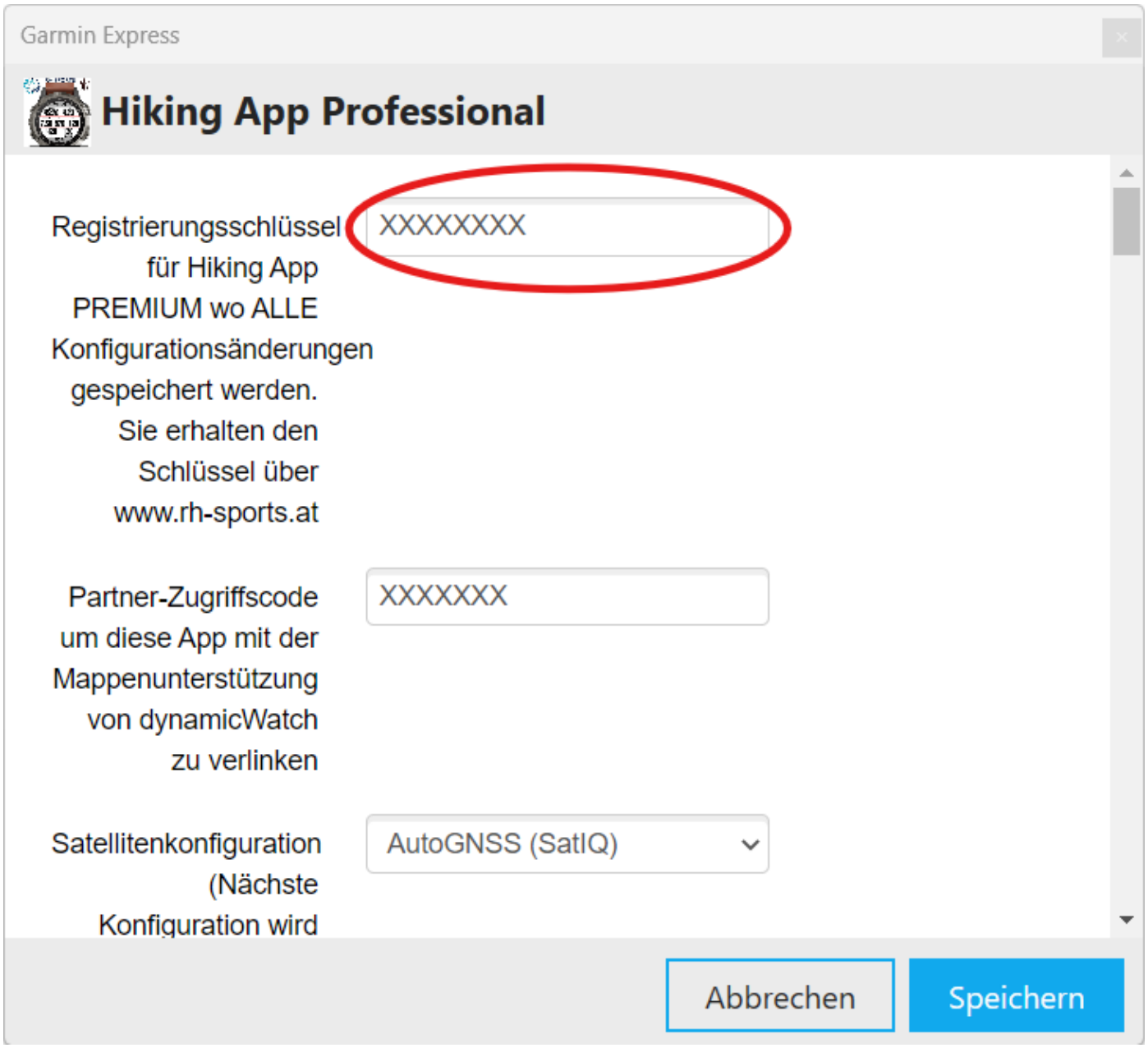


Step 5: Select Application or Data Field for Configuration Please select the RH-SPORTS application or data field you would like to configure by clicking with the left mouse button to the three dots as marked in the left picture above for your application or data field of choice. A context menu will be shown where you have to select "Settings"

A similar screen like shown below should appear:



Step 6: Change Configuration Please note that configuration changes ONLY apply on your Garmin device if you have entered a proper PREMIUM activation key in the field marked in the picture below. For details about the possible key types, please refer to the registration key details. If a proper activation key is entered, you can change **ALL** configurations according to your needs. Finnaly press the "Save" button at the bottom of the dialog. The Garmin Express Software will update the configurations on your device. In case of errors, please refer to the documentation provided by Garmin.



Step 7: Disconnect Device After the configuration changes were saved, disconnect your device from the PC/MAC.

Step 8: Start Application or Data Field on Device Please start our RH-SPORTS application or data field on your Garmin device. If you have the PREMIUM Version (key was correct), then all your configuration changes should have been applied. If not, please refer to our Frequently Asked Questions.

Change user settings on mobile phone

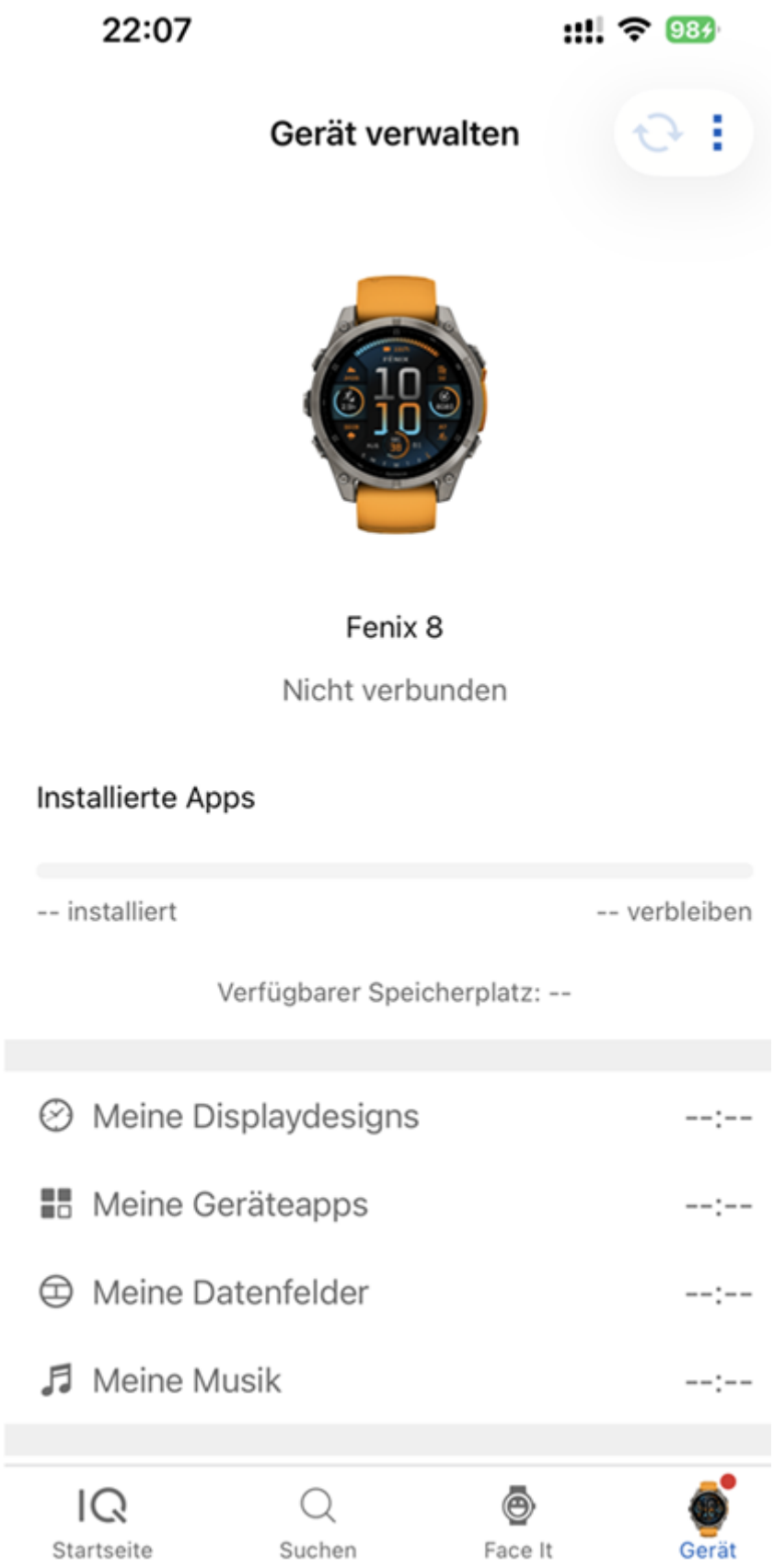
All configurations can be changed on your mobile phone by using the Garmin ConnectIQ™ mobile app which is available for Android- and iOS-compatible devices. Before changing configurations, please make sure that you have installed the latest mobile app version. The app can be downloaded from the appropriate App Stores (e.g. Google Play, Apple Store, etc.)

> **Note** The pictures in the following sections are taken from the Garmin ConnectIQ™ mobile app V2.43 running on an iPhone 14 Pro with iOS 26.2 and may be subject of change in future Garmin versions.

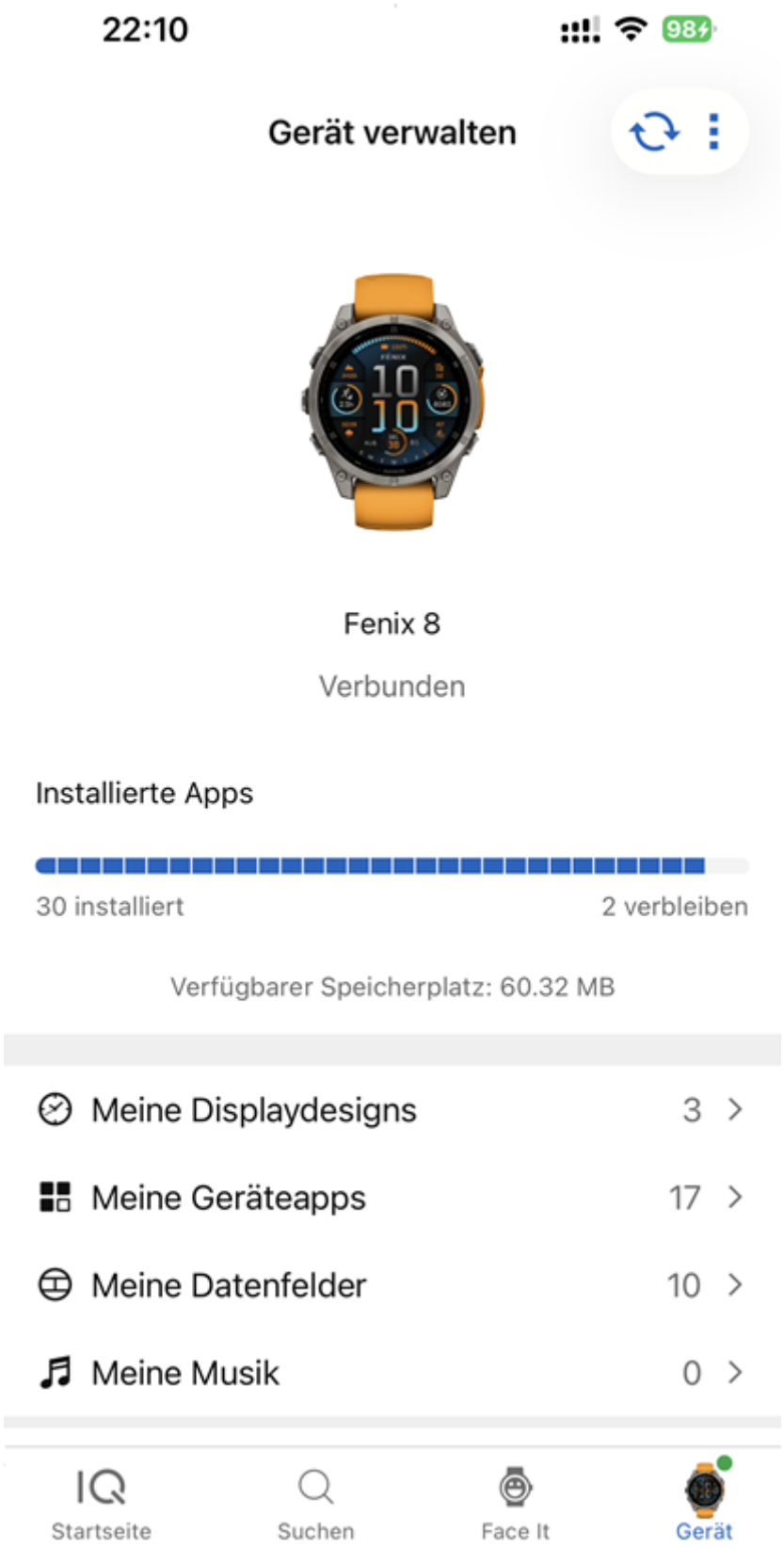
Step 1: Start Garmin ConnectIQ™ mobile app Look on your mobile phone for the app with the symbol shown belowe and click it to start the Garmin ConnectIQ™ mobile app.

A similar window as shown below should appear.

Step 2: Press device button The device button is located at the bottom on the right side. Please press it and following picture should appear if the device is not connected so far:

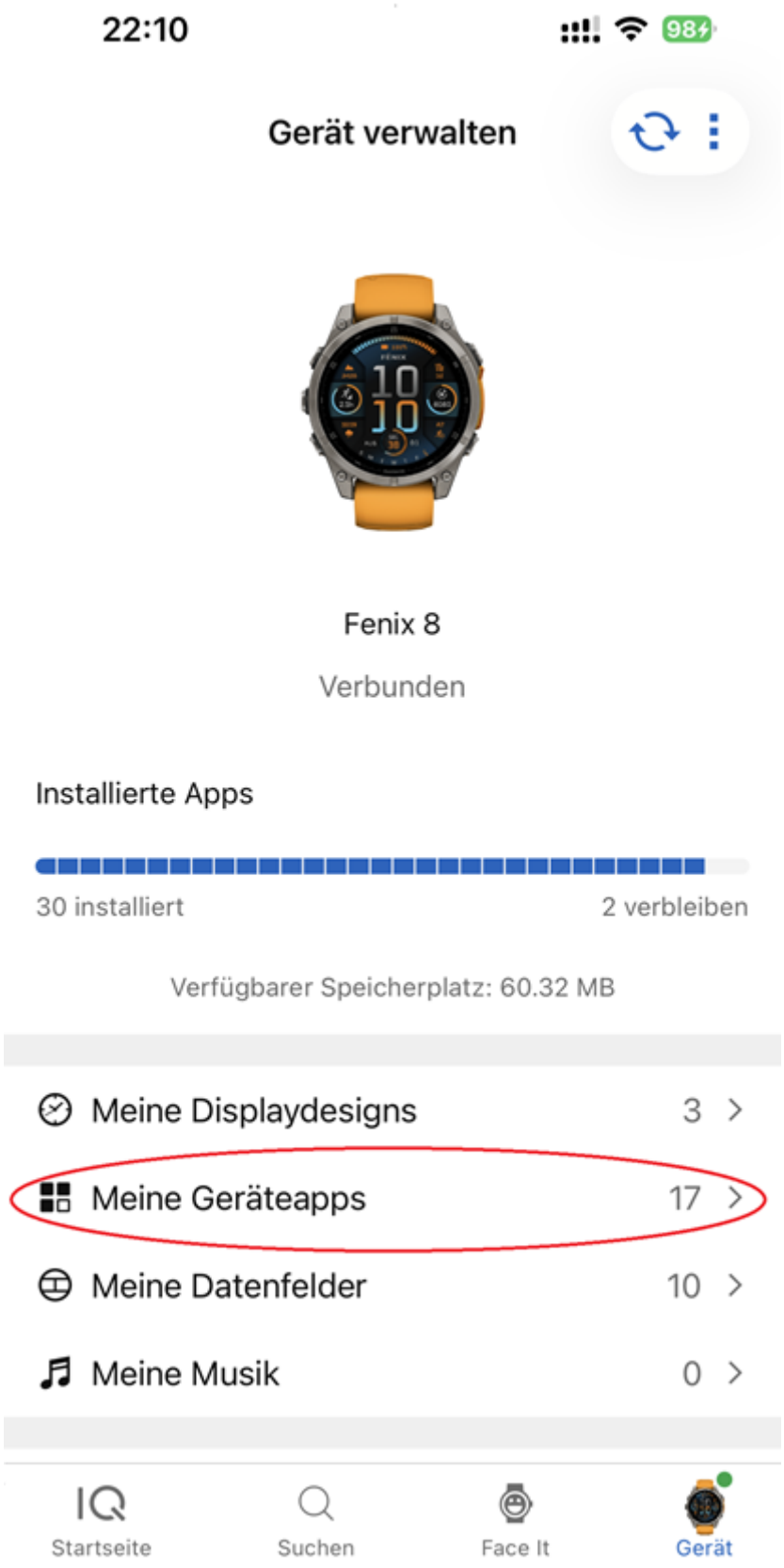


If the device is already connected with your mobile phone via Bluethooth, then the proper connection status is shown as illustrated in following picture:

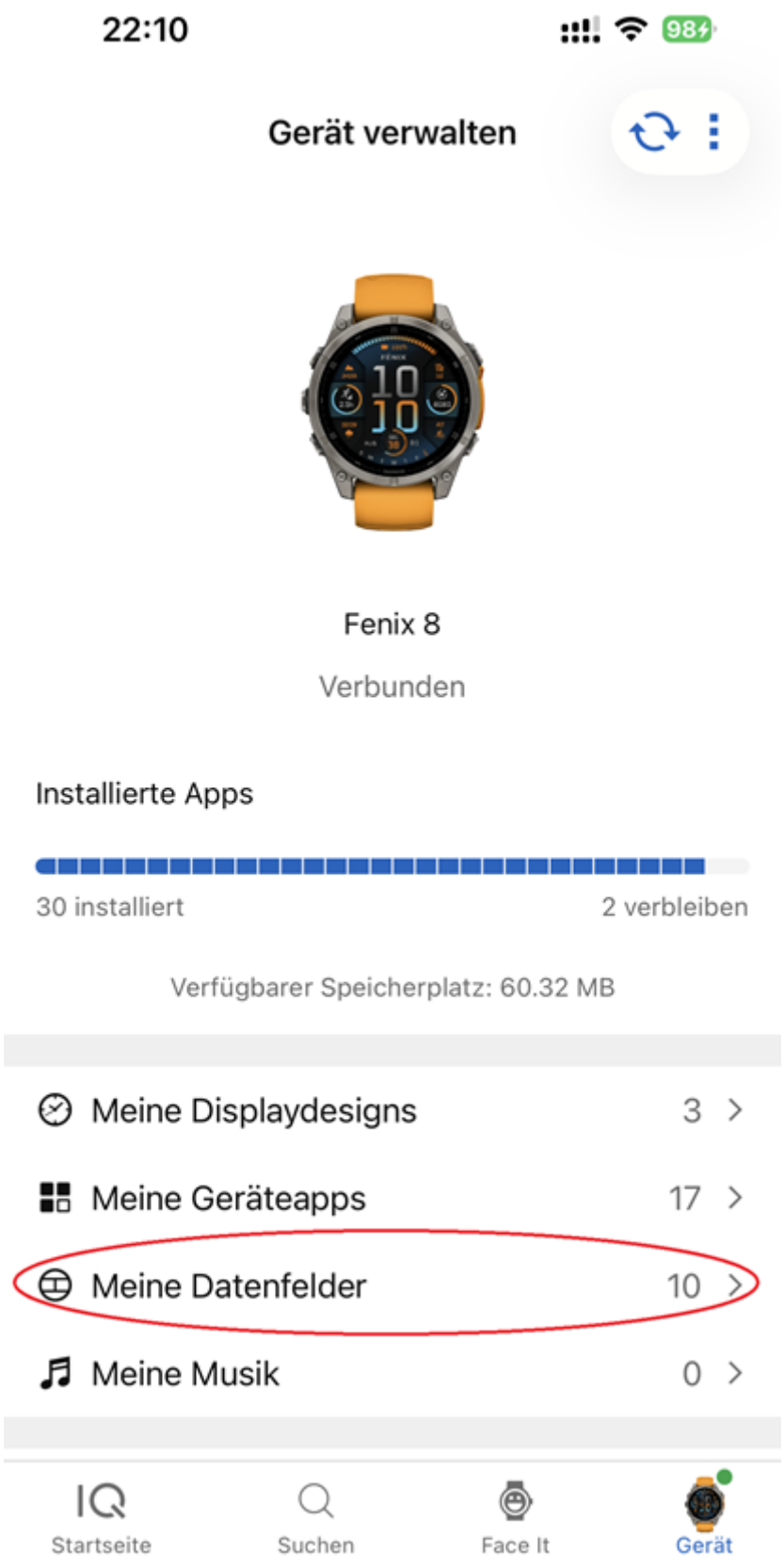


Step 3: Select your Garmin Devices If you have multiple Garmin devices and the wrong device is selected by default, please select a proper device via the button on the top on the left side.

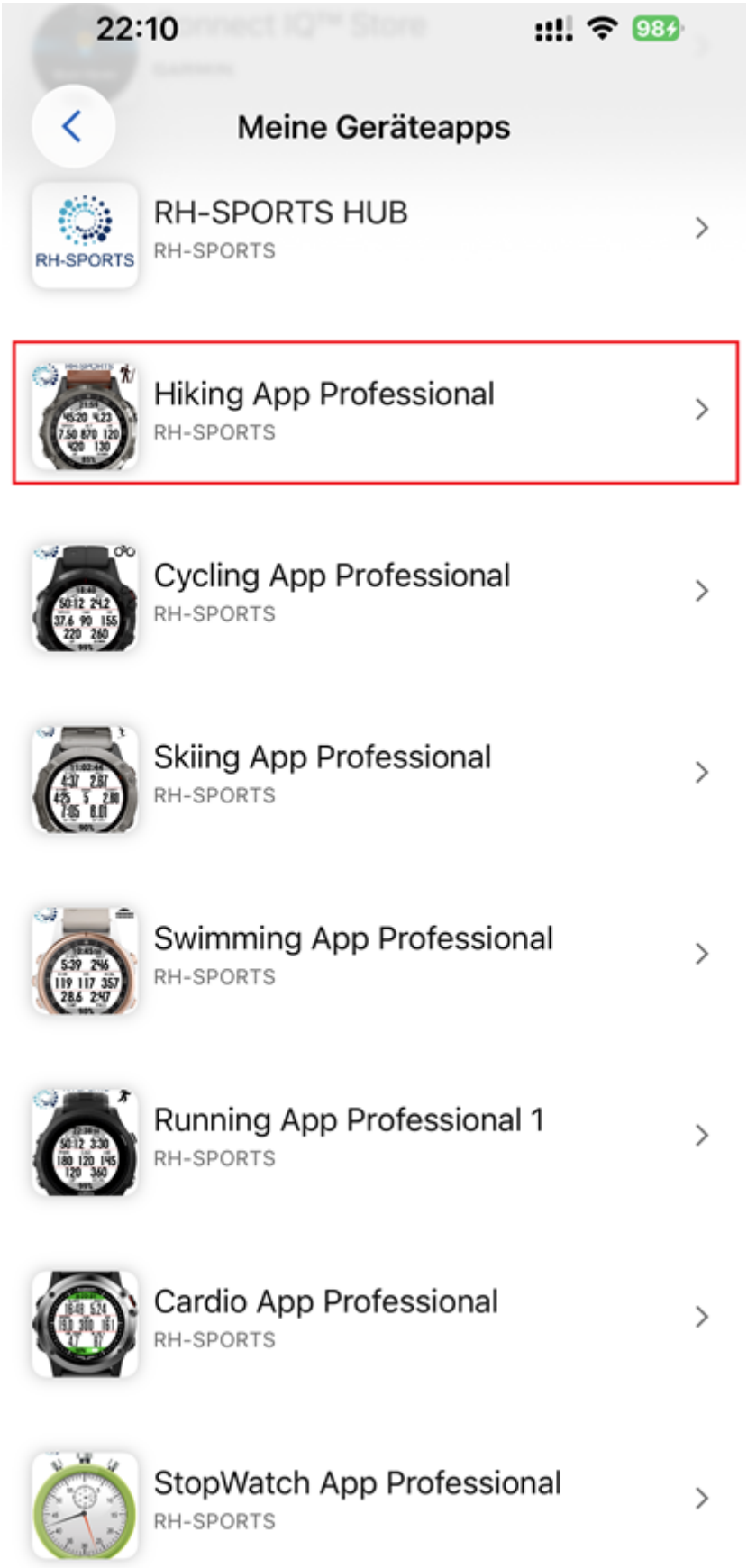
Step 4: Select RH-SPORTS product If you would like to change the settings for a RH-SPORTS application, please click the marked button **My device apps** as shown in the pictures below:



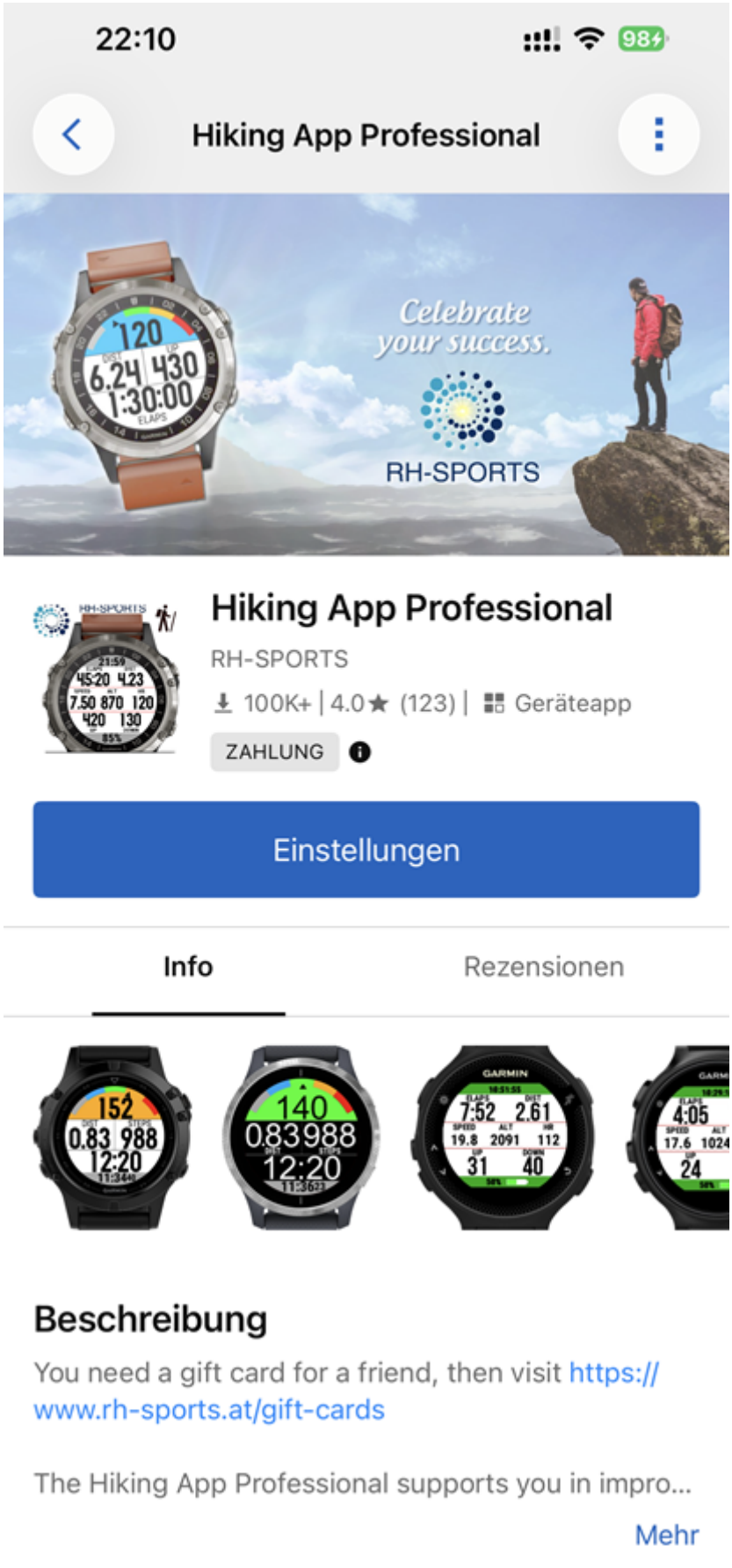
If you would like to change the settings for a RH-SPORTS data field, please click the marked button **My data fields** as shown in the pictures below:



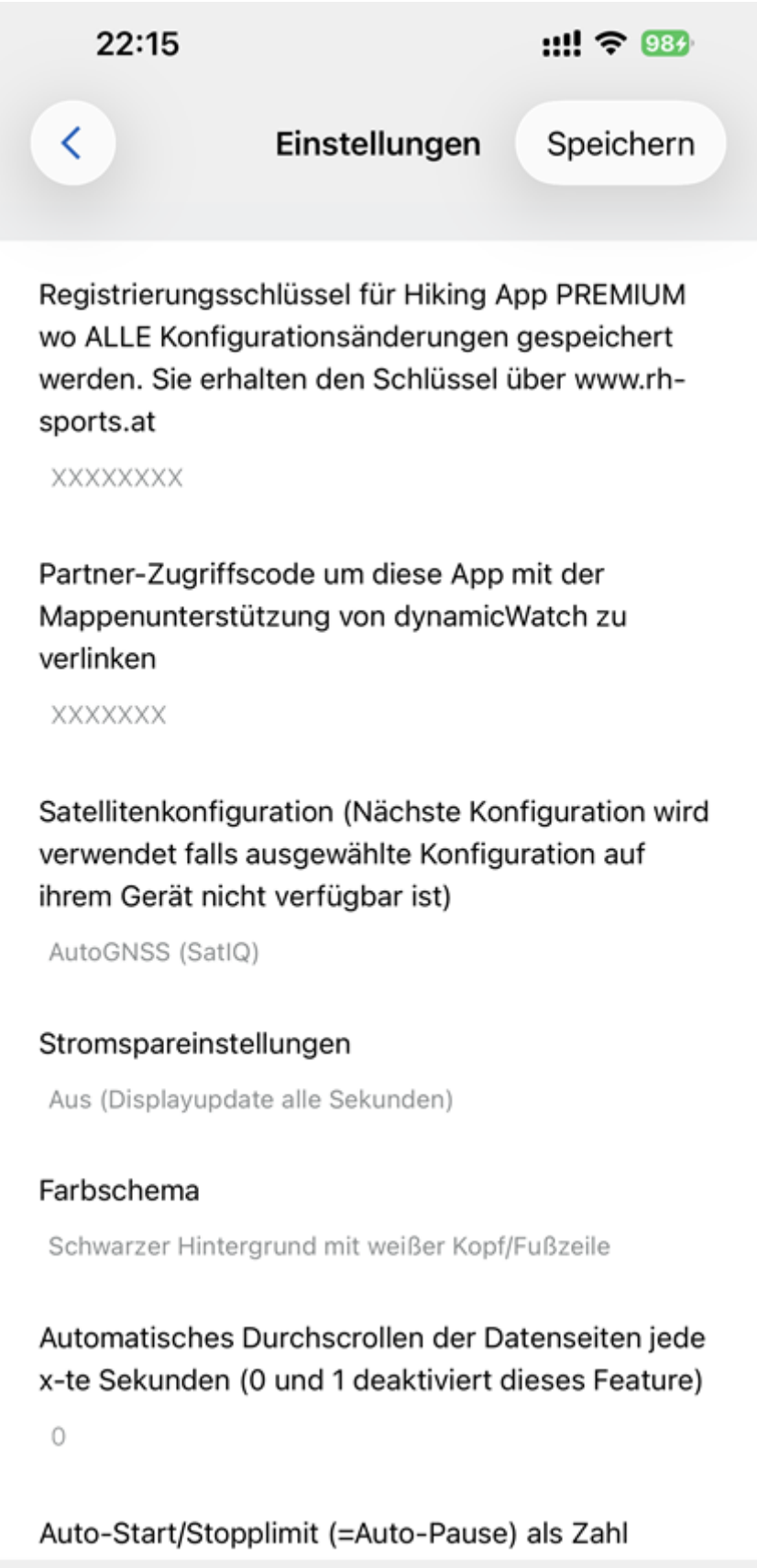
Step 5: Select an Application or Data Field for Configuration A list of all applications and data fields appear. Please scroll up/down until you find the application or data field you would like to configure as shown in the figure below:



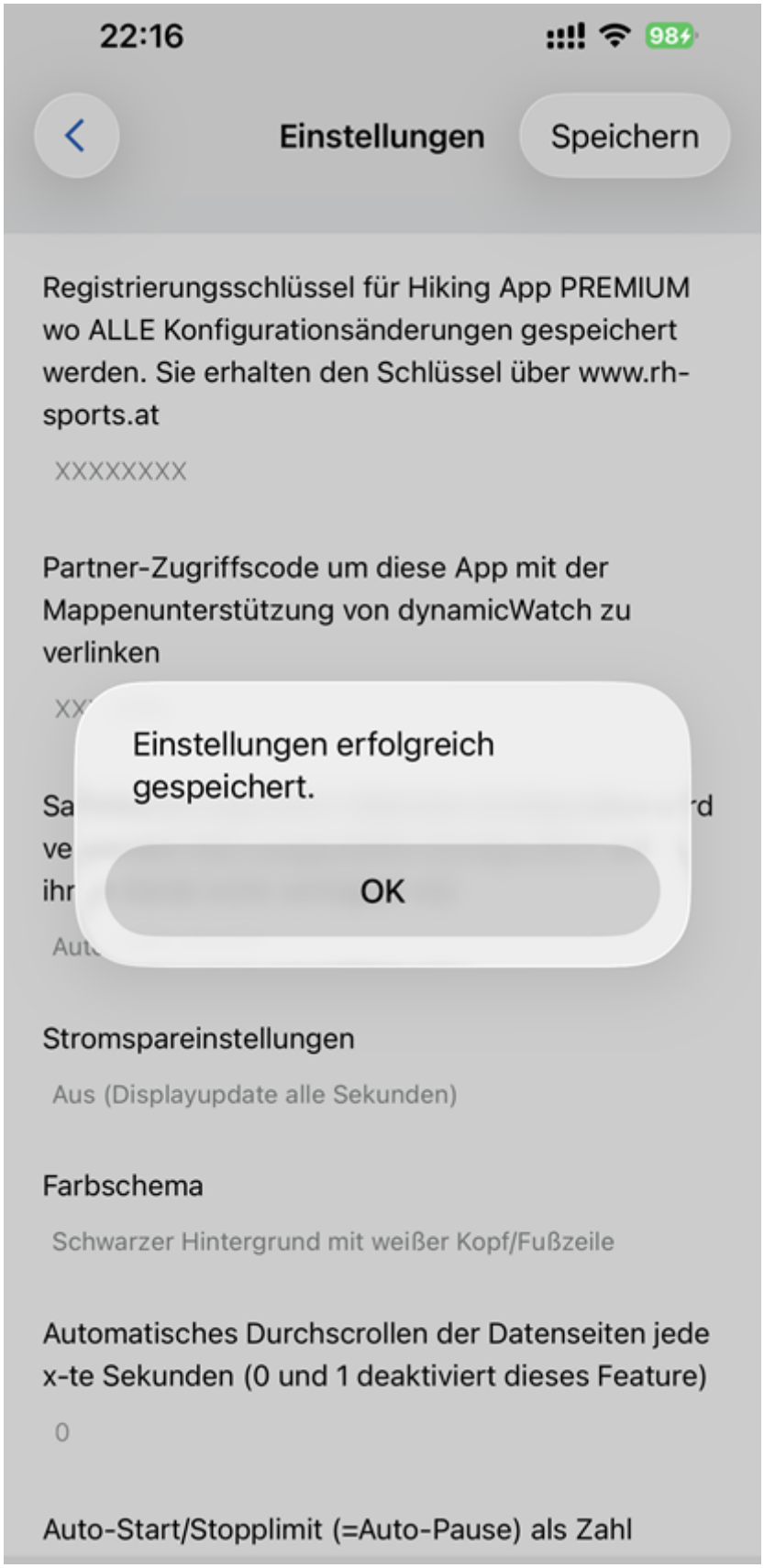
Step 6: Select Settings Please click on the **Settings** button as shown in the picture below:



Step 7: Change Configuration Please note that the configuration changes **ONLY APPLY** on your device if you have entered the proper PREMIUM activation key in the field marked in the picture below. For details about the possible key types, please refer to the registration key details. If a proper activation key is entered, you can change **ALL** configurations according to your needs.



Step 8: Save Configurations Finally press the **Save** button at the top on the right side. The Garmin mobile app will update your configurations on your device. In case of communication errors, please refer to the documentation provided by Garmin.



Step 9: Start Application or Data Field on Device Please start our RH-SPORTS application or data field on your Garmin device. If you have the PREMIUM Version (key was correct), then all your configuration changes should have been applied. If not, please refer to our Frequently Asked Questions.

2.4.3 Start the data field

Pre-Condition:

- Please add the data field to your Garmin native application as described here.

Perform following steps to use the data field:

- **Method 1**: For 5-button watches *(most Forerunner models, Fenix, Epix, Instinct, Enduro)*
  - **Press the Start/Stop Button**: This is the **top-right button**.
    - Note: On some models, this button has a colored ring or a "Run" icon.
  - Select "Run":
    - If "Run" is the first option, simply press the **Start/Stop** button again to select it.
    - If you see a different activity (like "Bike" or "Trail Run"), use the **Up/Down** buttons (middle-left and bottom-left) to scroll until "Run" is highlighted, then press **Start/Stop**.
  - Wait for GPS:
    - You will see a screen with data fields (timer, distance, pace). **Do not start running yet**.
    - Look for a GPS bar at the top turning **Green** or a message saying "GPS Ready."
  - Start the Timer:
    - Press the **Start/Stop** button (top right) one more time. The timer numbers will turn green or start counting. You are now tracking.
- **Method 2**: For Touchscreen & 2 or 3-button watches *(Venu, Vivoactive, Lily)*
  - Press the Action Button:
    - This is usually the **top-right** button.
  - Select "Run":
    - A list of activities will appear on the screen.
    - Tap the **Run** icon on the touchscreen.
    - Note: If you don't see "Run", you may need to tap the dots or the "More" icon at the bottom to find it in the extended list.
  - Wait for GPS:
    - Wait until the GPS arc at the top turns **Green** or the watch vibrates to signal it has a lock.
  - Start the Timer:
    - Press the **top-right** button again to begin tracking.

How to Find Your New Data Field

Once you have started the timer:

- Use the **Down button** (bottom-left) or ****Swipe Up** on the screen to scroll through your data pages.
- Your new Connect IQ data field (from the previous step) will appear on one of these screens.

How to Stop and Save

- Press the **Start/Stop** button (top right) to pause the timer.
- Select **Save** (on screen or by pressing Start again) to finish the workout.
- Select **Resume** if you just stopped for a traffic light and want to keep going.

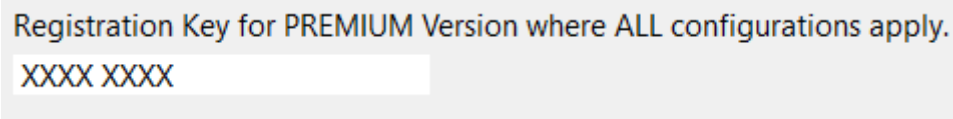
2.4.4 User setting overview

Registration key for PREMIUM version

There are following ways to get a registration key in order to activate the PREMIUM version:

- **Method 1**: After successful donation, you receive a mail from RH-SPORTS with the PREMIUM registration key(s) as PDF.
  - If you donated for the **Complete application and data field package**, you get:
    - a master key in the format "RH-SPORTS-Nxxxx", which can be used in:
      - the RH-SPORTS HUB application to start from there all other standalone applications.
      - each individual standalone app and data field.
  - If you donated for an individual application or data field or a package includes more applications and/or data fields, you get a key in the format "XXXX XXXX" for each included product.
- **Method 2**: If you have reveived an RH-SPORTS gift card then you can use the code on the gift card as master key (in the format "RH-SPORTS-xxxxxxx") in:
  - the RH-SPORTS HUB application to start from there all other standalone applications.
  - each individual standalone app and data field.

Please copy the registration key exactly in the given format (e.g. XXXX XXXX) into this text field. The registration key evaluation is case sensitive.



Here some important registration hints:

Hint 1: Please copy the registration key exactly in the given format (e.g. XXXX XXXX) into this text field:

- The registration key for individual applications or data fields is a hexadecimal number (numbers from 0 to 9 and big letters from A to F).
- The master key has the format "RH-SPORTS-xxxxxxx" where x must be a capital letter or a number.

The evaluation of the code is case-sensitive!

Hint 2: Please synchronize the settings with your watch afterwards. If you use Garmin Express software on PC or MAC, please disable the bluetooth connection between your mobile phone and watch during configuration as otherwise the settings might be overwritten again.

Hint 3: Sometimes it is necessary to reboot the watch once (for whatever reason).

Hint 4: Please use the prooper key for the selected standalone application or data field.

Hint 5: Please make sure that there are no floating point values in the app settings anymore (except for Swimming App where they are allowed).

Color scheme

This option allows you to select the background and text color.

Following options are available:

- White background with black text color and grey header/footer
- Black background with white text and grey header/footer
- White background with black text and inverted colors in header/footer
- Black background with white text and inverted colors in header/footer

Please refer to following picture for better illustration:

> **Note:**
> By default the option with "Black background with white header/footer" is used for best readability on all devices!
>
> **Note:**
> One Edge® devices, the color scheme is taken from the settings in the Garmin native app and not from the data field settings!
>
> **Note:**
> For devices with AMOLED display (e.g. Venu™ based devices) we strongly recommend to always select the black background to avoid damages due to burn-in effects and to save battery life time!

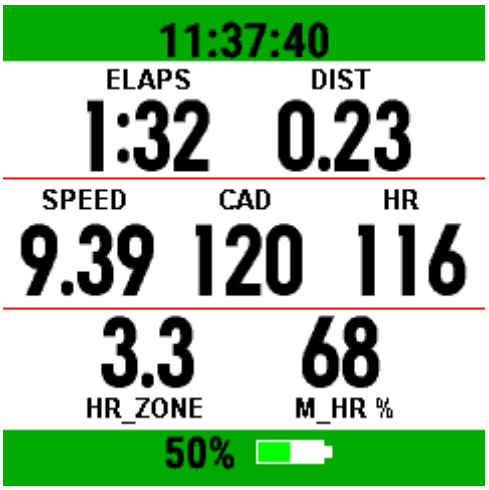
Averaging period for pace calculation

This option allows you to configure the averaging period in seconds for instant PACE calculation. If you e.g. would like to have PACE averaged over the last 5 seconds, then please set the value to 5. The PACE data field shows this information. With longer time selections you get more stable values but they are more lazy.

> **Note:**
> The default value is set to 10 seconds.

7-field data page

This option allows you to freely select the content of the 7-field data page out of a huge list of all available data fields (even during the ongoing training session). This enables you to adjust all fields completely according to your personal preferences. For an overview of available data fields PRESS HERE.



2.5 Data fields

This section gives you an overview about all data fields of the **RunningDF7 1**.

2.5.1 Data field table

Below the table with all available data fields:

> **Note:**
> Please note that some of them require the **PREMIUM Version** to be active so that they are visible!

Data field header	Data field description
A CAD	Average cadence information of the whole session.
A HR	Average heart rate information in bpm for the whole session.
A PACE	Average pace information of the whole session for 1 km/mi depending on your watch unit settings for distance.
A PWR	Average power information of the whole session in watt. Please click here and find further information in note 3
A SPEED	Average speed information of the whole session in km/h or mi/h based on your watch unit settings for distance.
CAD	Current cadence information.
CL DIST	Current LAP distance in km/mi depending on your watch unit settings for distance.
CL HR	Current LAP heart rate in bpm.
CL PACE	Current LAP pace information depending on your watch unit settings for distance.
CL PWR	Current LAP power information in watt. Please click here and find further information in note 3
CL SPEED	Current LAP speed in km/h or mi/h based on your watch unit settings for distance.
CL TIME	Current LAP time in the format hh:mm, h:mm:ss or mm:ss.
DIST	Distance information in km or mi based on your watch unit settings for distance.
DOWN	Negative altitude difference in meters or feet for the whole session depending on your watch unit settings for distance. Please click here and find further information in note 1.
ELAPS	Elapsed total session time (including IDLE time) in the format hh:mm, h:mm:ss or mm:ss.
HR	Current heart rate information in bpm.
HR ZONE	Current heart rate zone in the range of 0.0 to 6.0 with following meaning: * 0.0 ... current heart rate below Zone 1 (minimum heart rate) * 1.0 - 1.9 ... current heart rate in Zone 1 * 2.0 - 2.9 ... current heart rate in Zone 2 * 3.0 - 3.9 ... current heart rate in Zone 3 * 4.0 - 4.9 ... current heart rate in Zone 4 * 5.0 - 5.9 ... current heart rate in Zone 5 * 6.0 ... current heart rate above Zone 5 (maximum heart rate). The value is derived from your running heart rate profile settings configured at Garmin. Please click here and find further information in note 2.
IDLE	Idle session time where speed was below the following user-defined limit (default is 0.5 km/h or mi/h).
KCAL	Kilo-calories consumption for the whole session.
LAP	Current LAP number.
LL DIST	Last LAP distance in km/mi depending on your watch unit settings for distance.
LL HR	Last LAP heart rate in bpm.
LL PACE	Last LAP pace information depending on your watch unit settings for distance.
LL PWR	Last LAP power information in watt. Please click here and find further information in note 3
LL SPEED	Last LAP speed in km/h or mi/h based on your watch unit settings for distance.
LL TIME	Last LAP time in the format hh:mm, h:mm:ss or mm:ss.
MOVE	Moving session time (without IDLE time) in the format hh:mm, h:mm:ss or mm:ss.
M CAD	Maximum cadence information of the whole session.

M HR	Maximum heart rate information in bpm for the whole session.
M HR %	Current heart rate in percentage of maximum heart taken from the user settings depending on the application you are using. Please refer to HR ZONE for further details. Please click here and find further information in note 2.
M PACE	Maximum pace information of the whole session for 1 km/mi depending on your watch unit settings for distance.
M PWR	Maximum power information of the whole session in watt. Please click here and find further information in note 3
M SPEED	Maximum speed information of the whole session in km/h or mi/h based on your watch unit settings for distance.
PACE 5s	Current pace of the last 5 seconds for 1 km/mi depending on your watch unit settings for distance. The value is shown in the format m:ss or mm:ss.
PWR	Current power information in watt. Please click here and find further information in note 3
SPEED	Current speed information in km/h or mi/h based on your watch unit settings for distance.
TIME	Current time in 12/24h format based on your watch system settings.
UP	Positive altitude difference in meters or feet for the whole session depending on your watch unit settings for distance. Please click here and find further information in note 1.

2.5.2 Notes

Note 1
This information is only precise enough on watches with barometric altimeter as altitude information cannot be derived precisely from GPS. For further details, please click here.

Note 2
The EPIX watch does not support the Garmin SDK 1.2.6 or higher. Thus it is not possible for an app to access the heart rate profiles. Therefore the heart rate zones are derived from the maximum heart rate configured by the user.

Note 3
Temperature sensor support is only possible if your Garmin device has an internal temperature sensor or you have an ANT+ TEMPE sensor.

2.6 Features

This section describes the most important features of the **RunningDF7 1** in more detail. Here a short summary:

- Session features
- ANT+ power profile support
- Heart rate zone coloring

2.6.1 Session features

This section describes the workout session features which are very similar among all of our Garmin Connect IQ™ data fields. The current workout session status is indicated by a specific sign. Following table provides an overview about all possible states of a workout session.

Session status	Visualization	Description
NOT STARTED	Blinking red border	Workout session (recording) was not started so far. This is the state after starting the app. Press the "START" button to start workout.
RUNNING	Constant grey header/footer	Workout session (recording) is running. This is the case after you manually pressed the "START" button. If the Auto-Stop feature is enabled, the speed must be above the specified limit, otherwise the app automatically enters AUTO-STOP mode.
AUTO-STOP	Blinking yellow pause sign	Workout session is in Auto-Stop mode which means that the speed is below the user-defined limit. Please be aware that no session recording takes place in this state.
PAUSED	Blinking red stop sign	Workout session (recording) was manually paused in the menu by selection of "Pause Session". It can be resumed at any point in time by entering the menu again and selecting "Resume Session". Please be aware that no session recording takes place in this state.

Start a workout session (NOT STARTED)

After starting the app the workout session status is "NOT STARTED" as the session has to be manually started by the user. This can be done by pressing the "START" button. This state is visualized by showing a blinking red boarder every two seconds as illustrates in following picture:

Workout session running (RUNNING)

After pressing the "START" button the first time after app start, the session status changes from "NOT STARTED" to "RUNNING". This is illustrated by a constant grey header/footer as shown in the following picture:

Auto-stop mode (AUTO-STOP)

Whenever the speed goes below the user-specific limit the app automatically enters the "AUTO-STOP" mode. When the speed goes above this limit, the app enters "RUNNING" mode again. This state is visualized by showing a blinking yellow boarder with a pause sign in the middle every two seconds as shown in following picture:

Manually paused session (PAUSED)

The user can manually pause the workout session at any time if the session status is in "RUNNING" or "AUTO-STOP" mode. This can be done by pressing the "START" button. A menu is shown where the user can select among following choices by either pressing the touch screen or by up/down or left/right buttons:

User selection	Description
Resume	Start or resume workout session
Pause	Pause workout session. This allows the user to navigate through the data pages. The workout session can be resumed again at any time by pressing "START" button and select "Resume".
Save and Exit	Save workout data and close the application. After synchronization with your watch or via Garmin Express Software the workout data will be uploaded to the Garmin cloud and will be visible via Garmin Connect.
Discard and Exit	Discard session data and close the application. Please note that all the collected workout data is lost!

A stopped session is indicated by a blinking red boarder and pause sign in the middle of the screen as shown in following figure:

2.6.2 ANT+ power sensor support

This data field supports the ANT+ power sensor profile in order to be able to use e.g. a Stryd power sensor. The pairing with the ANT+ power sensor is done automatically by the data field. During the workout following information can be shown on the data pages:

- PWR (current power value in watt)
- A PWR (average power value in watt)
- M PWR (maximum power value in watt)
- CL PWR (average power in current LAP in watt)
- LL PWR (average power in last LAP in watt)

In case the ANT+ power sensor supports cadence this information is derived from there as well. Following information is available during the workout:

- CAD (current cadence value in revolutions per minute)
- A CAD (average cadence value revolutions per minute)
- M CAD (maximum cadence value revolutions per minute)

If a workout is executed with a present ANT+ power sensor then following information is captured and later stored on Garmin Connect:

- Chart about current power values for the whole workout.
- Average power value for whole workout.

> **Note:**
> If no ANT+ power sensor is connected then the information for cadence and power is taken from the Garmin API for devices which support that.

2.6.3 Heart rate zone coloring

The data field shows the heart rate zone color on the left side of the screen. Following table describes the color coding:

HR zone	Color	Percentage of maximum heart rate
Zone 0	NONE	M HR % < 50
Zone 1	GREY	50 <= M HR % < 59
Zone 2	BLUE	60 <= M HR % < 69
Zone 3	GREEN	70 <= M HR % < 79
Zone 4	ORANGE	80 <= M HR % < 89
Zone 5	RED	90 <= M HR % < 99
Zone 6	DARK RED	M HR % >= 100

Following figure illustrates how it looks on a Fenix 5:

2.7 Frequently asked questions

2.7.1 What is the difference between data field 1 and 2

For cycling, hiking and running we offer two data fields which are currently either the same or very similar. E.g. for cycling these are:

- CyclingDF4 1 and 2
- CyclingDF7 1 and 2

There are following main reasons for that:

- The resources for data fields on some devices (with 32kB) are very limited. Therefore features will be balanced upon the two data fields.
- The user can already now add both data fields and select different metrics for each of them.

For further details, please click here.

2.7.2 What is the difference between RunningDF7 1 and 2?

Even though both data fields are currently more or less identical, it still makes sense to have two, because Garmin allows to add two different Connect IQ data fields where you can choose different metrics in the data field settings for each of them.
The actual differences between RunningDF7 1 and 2 are:

- Only RunningDF7 1 offers heart rate coloring as indicator bar on the left side
- Only RunningDF7 1 offers following lap-related data fields:
  - Current lap heart rate (CL HR)
  - Current lap speed (CL SPEED)
  - Last lap heart rate (LL HR)
  - Last lap speed (LL SPEED)
- For watches with 32 kB or less memory, only the RunningDF7 2 data field supports:
  - data field headers in better font quality for some devices.
  - supports power information also on devices where Garmin does not support the power profile natively. For a list of devices refer to the feature section.

> **Note:**
> An overview about the memory consumption of the different devices can be found here.

2.7.3 What to do if the app or data field does not work?

We do our best to test the applications and data fields as good as possible. As we do not have all physical available Garmin devices and all ANT+ sensors with all combinations of Garmin firmware versions, we have to do most of the tests on the simulator provided by Garmin. If you detect problems with our application or data field on your Garmin device, please provide us detailed feedback via the official bug report form in order we are able to understand and reproduce your problem. This gives us a fair chance to provide a fix as soon as possible.

Please press here to get the bug report dialog

THANK YOU VERY MUCH for YOUR SUPPORT!!

2.7.4 Why is an update of the firmware required?

Some users reported that an update of the firmware is requested even though the latest firmware is already installed. In such a case, please try out following options:

- Update your Garmin Express or Garmin Mobile software (if you don´t have the latest versions installed).
- Reboot your device once.

2.7.5 What is the purpose of the FREE version?

The **FREE Version** is fully functional and offers you a basic feature set which allows you to test the application or data field intensively without any risk on your Garmin device.

> **Note:**
> In our standalone applications some more advanced features (e.g. alerts) cannot be activated in the FREE verison and a periodic **FREE Version** notification is shown.
>
> **Note:**
> In our data fields all features are available even in the FREE verison but still a periodic **FREE Version** notification is shown.

If you like our application or data field we would be very happy if you donate to upgrade to the **PREMIUM Version**.

2.7.6 How to upgrade to the PREMIUM version?

If you like our application or data field and would you like to benefit of following further advantages:

- support our further development or
- unlock all (more advanced) features or
- get ride of the periodic **FREE Version** notification

we would be very happy if you donate to upgrade to the **PREMIUM Version**.

> **Note:**
> The PREMIUM version is a **lifetime license** which is valid for ALL future updates and can be used on as many devices you personally own, even at the same time!

Here two links for further details how to donate for the **PREMIUM Version**:

- RH-SPORTS website
- Online shop with additional payment options like:
  - stripe credit card
  - PayPal (including credit card, debit card and bank transfer)
  - Payment in advance (useful for countries where stripe or PayPal do not work)

2.7.7 I did not received the unlock keys for the PREMIUM Version after donation?

After successful donation you immediately will get a mail to the mail address used in PAYPAL. It contains the unlock keys and the activation information for the selected **PREMIUM version(s)**. The information is provided as attached PDF. If this is not the case, please do following:

- Check whether you used the right mail address. It is the one you are using in PAYPAL.
- Check whether the mail went to your JUNK or SPAM folder.
- Write a mail to rh-sports@gmx.at to request the keys.

2.7.8 What to do if after entering the key, still the FREE version is active?

You can detect whether the **FREE version** is still active or not in following way:

- In standalone applications (e.g. Running App Professional) the **FREE version** is active, if you see a "Please donate as EARLY BIRD" message upon application start.
- In data fields (e.g. RunningDF4 1), which have to be integrated into one of the Garmin native apps, the **FREE version** is active if you get a "FREE Version" notification upon session start and regularily after some minutes.

Some users reported that the **FREE version** is still active after entering the registration key and after synchronization. In all known cases, the wrong key has been entered. Please make sure that you enter the proper key and following the instructions below:

Here some important registration hints:

Hint 1: Please copy the registration key exactly in the given format (e.g. XXXX XXXX) into this text field:

- The registration key for individual applications or data fields is a hexadecimal number (numbers from 0 to 9 and big letters from A to F).
- The master key has the format "RH-SPORTS-xxxxxxx" where x must be a capital letter or a number.

The evaluation of the code is case-sensitive!

Hint 2: Please synchronize the settings with your watch afterwards. If you use Garmin Express software on PC or MAC, please disable the bluetooth connection between your mobile phone and watch during configuration as otherwise the settings might be overwritten again.

Hint 3: Sometimes it is necessary to reboot the watch once (for whatever reason).

Hint 4: Please use the prooper key for the selected standalone application or data field.

Hint 5: Please make sure that there are no floating point values in the app settings anymore (except for Swimming App where they are allowed).

2.7.9 What to do if GPS is not found upon start?

Sometimes it happens that GPS is not found during app startup and the app polls infinitely for a proper GPS signal. According to customer feedback this happens when the Garmin (sensor) firmware was updated. This is out of our control. Following workaround seems to do the trick:

- Once start a Garmin native app like running, cycling, etc.
- Wait until GPS is found.
- Stop the Garmin native app and start one of our apps.
- GPS should be found soon.

> **Note:**
> Indoor it is sometimes very difficult for a device to find a proper GPS signal. So please make sure you do it outdoor.

2.7.10 How to enable GPS, GLONASS or GALILEO?

On Garmin devices with CIQ below 3.3.6, Garmin does not allow Connect IQ applications to controll which satellites are used. Following steps seem to help here as workaround:

- Once start a Garmin native app like running, cycling, etc.
- Select the required positioning sources in the settings of the native app.
- Stop the Garmin native app and start one of our apps.
- According to our information the selected sources of the native app are then used for our apps as well.

2.7.11 What to do in case of a app or data field crash upon start?

If you see following icon on your Garmin device upon application start or when you add a data field into a Garmin native app:

please completely uninstall and reinstall the application or data field. The setting file changed and the automated Garmin install is not replacing the setting file.

2.7.12 How to change the language?

Even though the main supported language is english we are working on supporting other languages as well. German language is currently available

- in some applications (e.g. RH-SPORTS HUB):
  - selected language on your Garmin device is used.
- for all applications and data fields for the settings you can change via Garmin mobile app or Garmin Express on PC/MAC:
  - selected system language in Windows or on MAC is used.

Changing language on your smart watch

Changing the language on your Garmin watch can be done in two ways:

- **Method 1:** through the Garmin Connect app on your phone (easiest, especially if you can't read the current language on the watch) via following sequence (this requires an active Bluetooth connection between mobile phone and Garmin device):
  - Open the Garmin Connect app on your smartphone.
  - Open the menu:
    - Android: Tap the Menu icon (3 lines) in the top left.
    - iOS (iPhone): Tap More (3 dots) in the bottom right.
  - Tap Garmin Devices.
  - Select your specific watch image/name.
  - Select System (or General on some older models).
  - Tap Language (or Text Language).
  - Choose your desired language from the list.
  - Crucial Step: Go back to the main screen of the app and Sync your watch. The language on the watch will update once the sync finishes.
- **Method 2:** directly on the watch itself via menu by selecting 'System' and then 'Language'.

Changing language on a windows system

Here the step-by-step guideance how to change the display language (menus, windows, settings) on a Windows system:

- For Windows 11:
  - Click Start (Windows icon) and select Settings (Gear icon).
  - On the left sidebar, click Time & language.
  - Click Language & region on the right.
  - Look for "Windows display language" at the top.
    - If your language is listed: Select it from the dropdown menu.
    - If your language is NOT listed:
    - Click the Add a language button next to "Preferred languages."
    - Search for your language (e.g., "Spanish") and select it. Click Next.
    - Important: Check the box that says "Set as my Windows display language."
    - Click Install.
  - Sign Out Required: Windows will ask you to sign out for changes to take effect. Click Sign out. When you sign back in, the language will be changed.
- For Windows 10:
  - Click Start and then Settings (Gear icon).
  - Click Time & Language.
  - Click Language on the left menu.
  - Look for "Windows display language" at the top.
    - If your language is listed: Select it from the dropdown menu.
    - If your language is NOT listed:
      - Click Add a language under the "Preferred languages" section.
      - Search for the language you want and select it. Click Next.
      - Check the box "Set as my Windows display language" (or "Install language pack").
      - Click Install.
  - Sign Out: You will see a prompt to sign out. Do so, and sign back in to see the changes.

Changing language on a MAC system

Here the step-by-step guideance how to change the display language (menus, windows, settings) on a MAC system for macOS Ventura, Sonoma, Sequoia (Newer Models):

- Click the Apple Menu (ð logo) in the top-left corner.
- Select System Settings.
- In the left sidebar, click General.
- Click Language & Region on the right.
- Under "Preferred Languages," click the (+) plus button.
- Select your desired language from the list and click Add.
- A pop-up will ask if you want to use this as your primary language. Click "Use [New Language]".
- Restart Required: You will be prompted to restart your Mac. Do this to apply the changes system-wide.

2.7.13 What to do if settings cannot be changed?

Setting changes always work in the Garmin eco-system and a valid connection to Garmin serves are necessary. Sometimes these servers are down and settings cannot be changed.

> **Note:**
> Unfortunately this is out of our control and we have to wait until Garmin fixed that problem.

In case the settings are corrupted, then following seqeunce may help:

- Delete app
- Synchronize
- Once reboot your device (e.g. watch)
- Install the app again
- Change settings

2.7.14 User settings lost after update?

Unfortunately Garmin may reset the user settings when updating the Garmin firmware version of the application or data field. This leads to the problem that all configurations are lost and the **FREE Version** is active again. I´m testing some work-arounds but so far I was not successful. As soon as I have updates, I will publish them here.

2.7.15 Activity not visible on Garmin Connect?

There could be several reasons why an activity is not visible on Garmin Connect:

- Activity recording was never started.
- Activity recording was not saved upon leaving the Garmin native app.
- No synchronization between device and Garmin Connect happened.
- Especially in indoor sessions it can happen that the device stays in Auto-Stop Mode. Please deactivate this feature in the user settings.
- Especially in indoor sessions no movements might be detected by the device. Thus distance stays 0. In such a case no activity results are stored on Garmin Connect.

2.7.16 Activity tracking and fitness metric accuracy

The app uses the Garmin API´s to retrieve most of the information and cannot be more precise than the data delivered from there. Garmin states following about activity tracking and accuracy:

- "Garmin devices are intended to be tools to provide you with information to encourage an active and healthy lifestyle. Garmin wearables rely on sensors that track your movement and other metrics. The data and information provided by these devices is intended to be a close estimation of your activity and metrics tracked, but may not be precisely accurate. Garmin wearables are not medical devices, and the data provided by them is not intended to be utilized for medical purposes and is not intended to diagnose, treat, cure, or prevent any disease. Garmin recommends you consult your doctor before engaging in any exercise routine."

2.7.17 Accuracy of wrist-based heart rate (Elevate)

The app uses the Garmin API to retrieve heart rate related data cannot be more precise than the data delivered from there. Regarding wrist-based accuracy, Garmin states following:

- "The optical wrist heart rate (HR) monitor for Garmin wearables is a valuable tool that can provide an accurate estimation of the user's heart rate at any given point in time. The optical HR monitor is designed to attempt to monitor a user's heart rate 24 hours a day, 7 days a week. The frequency at which heart rate is measured varies, and may depend on the level of activity of the user. When you start an activity with your Garmin optical HR device, the optical HR monitor measures more frequently. The intent is to provide the user with a more frequent and accurate heart rate reading during a given activity."
- "While our wrist HR monitor technology is state of the art, there are inherent limitations with the technology that may cause some of the heart rate readings to be inaccurate under certain circumstances. These circumstances include the user's physical characteristics, the fit of the device and the type and intensity of the activity as outlined above. The HR monitor data is not intended to be used for medical purposes, nor is it intended to diagnose, treat, cure or prevent any disease or condition."
- "Wrist heart rate accuracy during swimming is very limited. Garmin does not recommend using wrist heart rate during swimming activities and on some products, wrist heart rate monitoring is disabled while swimming. Garmin recommends using HRM-Swim™ or HRM-Tri™ heart rate monitors with compatible devices to track heart rate while swimming."

2.7.18 Is there a way to enable/disable GLONASS?

The GPS/GLONASS setting is based on what was last used in the Garmin native apps (like cycling, running). Garmin does not allow Connect-IQ apps or data fields to change this setting.

2.7.19 Why is info derived from altitude (e.g, UP, DOWN, PWR, GRADE in %) not accurate?

People with Garmin devices (e.g. watches) are frequently concerned about the accuracy (or lack of it) of the altitude data (or from altitude derive data) if the info is derived from GPS and not from a barometric altimeter. Many suspect their equipment or the app may even be defective or buggy when they see the altitude data. Unfortunately this is NORMAL as GPS is not accurate enough regarding altitude information. Following Garmin devices have no barometric altimeter and are thus affected (list might not be complete):

- ForeAthlete® 230J, ForeAthlete® 235J, ForeAthlete® 630J.
- Forerunner® 735XTJ, ForeAthlete® 920XTJ, Forerunner® 230, Forerunner® 235, Forerunner® 630, Forerunner® 735XT.
- Vivoactive™ series.
- Others: Please take a look to the Garmin feature set description for your device.

With the integrated GPS receivers, the horizontal error is specified to be within about +/- 15 meters (50 feet) 95% of the time. Most users find this is a conservative specification and that their modern GPS receivers routinely perform better than this worst case specification. But users should expect that SOMETIMES they may see the error approach the specification limits. AND 5% of the time, the error may be "any value" from zero to whatever. Note: Unless you have a CLEAR AND UNOBSTRUCTED view of the sky you can count on your error excursions to be much greater than the above numbers. Your GPS depends on this clear and unobstructed view or it cannot make accurate range measurements to the satellites. Generally, altitude error is specified to be 1.5 times horizontal error specification. This means that the user of standard consumer GPS receivers should consider +/-23meters (75ft) with a DOP of 1 for 95% confidence. Altitude error is always considerably worse than the horizontal (position error). Much of this is a matter of geometry. If we (simplistically) consider just four satellites, the "optimum" configuration for best overall accuracy is having the four SVs at 40 to 55 degrees above the horizon and one (for instance) in each general direction N, E, W, and S.

> **Note:**
> You will get a very BAD DOP if the SVs are at the exact same elevation. Luckily, this is a rare occurrence. The similar "best" arrangement for vertical position is with one SV overhead and the others at the horizon and 120 degrees in azimuth apart. Obviously, this arrangement is very poor from a signal standpoint. As a result, of this geometry the calculated solution for altitude is not as accurate as it is for horizontal position. Almost any calibrated altimeter will be more stable at reading altitude than a GPS. GPS altitude measures the user´s distance from the center of the SVs orbits. These measurements are referenced to geodetic altitude or ellipsoidal altitude in some GPS equipment. Garmin and most equipment manufacturers utilize a mathematical model in the GPS software which roughly approximates the geodetic model of the earth and reference altitude to this model. As with any model, there will be errors as the earth is not a simple mathematical shape to represent. What this means is that if you are walking on the seashore, and see your altitude as -15 meters, you should not be concerned. First, the geodetic model of the earth can have much more than this amount of error at any specific point and Second, you have the GPS error itself to add in. As a result of this combined error, I am not surprised to be at the seashore and see -40 meter errors in some spots.

Following data fields are affected if you have no watch with barometric altimeter:

- UP
- DOWN
- GRADE in %
- PWR, A PWR, M PWR (if not derived from a compatible ANT+ power sensor)
- VSPD xs, A VSPD, M VSPD

2.8 Backlog

This section shows the backlog with potential features planned for upcoming releases:

- Cadence zone coloring on the right side of the display
- Pairing for power sensor

> **Note:**
> Please note that there is no guarantee if and when the feature will be implemented!

2.9 Version history

The following table lists the version history of the latest released **RunningDF7 1** versions:

Version	Date	Change description
3.3.2	12.12.2025	Support master key for all devices Support gift card keys on all devices
3.3.1	01.11.2025	Support for D2™ Mach2 added
3.3.0	11.10.2025	Support for Instinct® 3 AMOLED 45mm added Support for Instinct® 3 AMOLED 50mm added Support for Instinct® Crossover AMOLED added Support for Venu® X1 added
3.2.5	26.09.2025	Several GUI improvements Support for Fenix® 8 Pro 47mm, 51mm and MicroLED added Support for Venu® 4 41mm and 45mm added
3.2.0	25.05.2025	Several GUI improvements Support for Forerunner® 570 42mm and 47mm added Support for Forerunner® 970 added
3.1.0	02.05.2025	Several GUI improvements Support for Vivoactive® 6 added
3.0.5	26.03.2025	Several GUI improvements Support for Approach® S50 added Support for Descent™ G2 added
3.0.0	30.09.2024	Support for Fenix® 8 43mm added Support for Fenix® 8 47 / 51mm added Support for Fenix® 8 Solar 47mm added Support for Fenix® 8 Solar 51mm added Support for Fenix® E added Support for Enduro™ 3 added
2.9.5	28.04.2024	Add sensor information for most Edge devices upon start Hotfix for app setting problems on newer devices Build with latest SDK 7.1.1
2.9.0	09.03.2024	Support for Forerunner® 165 and 165 Music added Bugfix to only alert for FREE version if session is running
2.8.5	08.12.2023	Support for Descent™ Mk3 43mm added Add support for configuration options in german language Improve configuration description in english language
2.8.0	24.11.2023	Support for Descent™ Mk3 51mm added Support for Fēnix® 7 Pro (no Wi-Fi) added Support for Fēnix® 7x Pro (no Wi-Fi) added GUI improvements
2.7.6	19.10.2023	GUI improvements
2.7.5	14.10.2023	Support for Venu® 3 added Support for Venu® 3s added Support for Vivoactive® 5 added
2.7.0	07.08.2023	Color scheme configuration option added to select background and font colors
2.6.5	21.07.2023	Support for Approach® S70 47mm added Support for Epix™ Pro (Gen 2) 51mm added
2.6.0	10.07.2023	Support for Approach® S70 42mm added Support for Epix™ Pro (Gen 2) 42mm and 47mm added Support for Fenix® 7 Pro, Fenix® 7s Pro and Fenix® 7x Pro added

2.5.5	06.07.2023	Support for Forerunner® 265 and 265s added Support for Forerunner® 965 added
2.5.1	22.06.2023	Support for MARQ® (Gen 2) Athlete / Adventurer / Captain / Golfer / Aviator added
2.5.0	06.03.2023	Several adaptions to work with new Garmin SDK 4.2.1 Workaround implemented for FR645 and FR645m to avoid app crashes upon start due to font problems
2.4.5	09.09.2022	Support for Venu™ SQ 2 and Venu™ SQ 2 Music added GUI and stability improvements
2.4.1	09.08.2022	Several GUI and stability improvements
2.4.0	18.06.2022	Support for Forerunner® 255, 255 Music, 255s and 255s Music added Support for Forerunner® 955 / Solar added Memory optimizations
2.3.5	19.04.2022	Support for D2™ Mach 1 added Several GUI and stability improvements
2.3.2	23.02.2022	Switch from distance-based to speed-based PACE calculation for more stable and precise results
2.3.1	13.02.2022	Hotfix for problems with wrong cadence and power Support for D2™ Air X10 added
2.3.0	31.01.2022	Bugfix of heart rate coloring for Venu 2 based devices Support for Epix™ 2 added Support for Fenix® 7, Fenix® 7s and Fenix® 7x added
2.2.5	24.01.2022	Complete rework of PACE calculation which can now be also configured in the FREE version Period window for averaging of PACE and cadence extended from 5 to 30 seconds to 5 to 60 seconds Support for Venu™ 2 Plus added

3. Deutsch

3.1 Deutsche Dokumentation

Diese Seite beinhaltet die deutschen Dokumente für alle Garmin Connect-IQ-kompatiblen Applikationen und Datenfelder von RH-SPORTS.

Aktuell ist nur eine Liste aller Datenfelder in deutscher Beschreibung verfügbar.

> **Note:**
> Die Dokumentation in deutscher Sprache ist in Arbeit und kommt in den nächsten Monaten sukzessive für alle verfügbaren Applikationen.

3.1.1 Datenfelder

Folgende Tabelle beschreibt alle Datenfelder unserer Garmin Connect-IQ kompatiblen Apps (mit Ausnahme der Skiing App). Bitte berücksichten Sie folgende zwei Punkte:

- Einige Datenfelder sind nur in der **PREMIUM Version** verfügbar.
- Nicht jedes Datenfeld ist in jeder angebotenen Applikation oder Datenfeld verfügbar.

Datenfeld	Beschreibung
AHEAD	Aktuelle Zeit die Sie vor (bei positivem Wert) oder hinter (bei negativem Wert) dem konfiguriertem Rennziel liegen. Die Angabe ist im Format hh:mm, h:mm:ss, mm:ss oder m:ss.
ALT	Aktuelle Höhe in Meter oder Fuß, abhängig von den Einstellungen auf der Uhr für Höhe.
A CAD	Durchschnittliche Trittfrequenz in Umdrehungen pro Minute, gemittelt über die gesamte Trainingseinheit. Anmerkung: In der Cycling App Professional werden nur jene Zeiten berücksichtig, wo auch wirklich getreten wird. In Garmin Connect ist allerdings der Wert gespeichert, der auch die Zeiten ohne Treten beinhaltet.
A HR	Durchschnittliche Herzfrequenz in Schläge pro Minute gemittelt über die gesamte Trainingseinheit.
A PACE	Durchschnittliche Pace der aktuellen Trainingseinheit für einen Kilometer oder eine Meile, abhängig von den Einstellungen auf der Uhr für Pace/Geschwindigkeit.
A PWR	Durchschnittliche Power in der aktuellen Trainingseinheit in Watt. Bitte berücksichtigen Sie auch Anmerkung 4
A SPEED	Durchschnittliche Geschwindigkeit der aktuellen Trainingseinheit in Kilometer/Stunde oder Meilen/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
A VSPD	Durchschnittliche vertikale Geschwindigkeit in der aktuellen Trainingseinheit in Meter/Stunde oder Fuß/Stunde, abhängig von den Einstellungen auf der Uhr. Bitte berücksichtigen Sie auch Anmerkung 1
CAD	Aktuelle Trittfrequenz in Umdrehungen pro Minute.
CL DIST	Distanz der aktuellen Runde in Kilometer oder Meilen, abhängig von den Einstellungen auf der Uhr für Distanz.
CL PACE	PACE der aktuellen Runde für einen Kilometer oder eine Meile, abhängig von den Einstellungen auf der Uhr für Distanz.
CL SPEED	Durchschnittsgeschwindigkeit der aktuellen Runde in Kilometer/Stunde oder Meilen/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
CL TIME	Aktuelle Rundenzeit im Format hh:mm, h:mm:ss, mm:ss oder m:ss.
CR AHR	Durchschnittliche Herzfrequenz während der aktuellen Abfahrt in Schläge pro Minute.
CR DOWN	Aktuelle negative Höhenmeter während der aktuellen Abfahrt in Meter oder Fuß, abhängig on den Einstellungen auf der Uhr für Höhe.
CR DIST	Zurückgelegte Strecke der aktuellen Abfahrt in Kilometer oder Meilen, abhängig on den Einstellungen auf der Uhr für Distanz.
CR MHR	Maximale Herzfrequenz während der aktuellen Abfahrt in Schläge pro Minute.
CR MSPD	Maximale Geschwindigkeit der aktuellen Abfahrt in Kilometer/Stunde or Meilen/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
DBG1	Debug Datenfeld das aktuell den minimalen freien Speicher anzeigt.
DIST	Aktuell zurückgelegte Strecke in Kilometer oder Meilen, abhängig von den Einstellungen auf der Uhr für Distanz.
DIST REM	Noch zu laufende Strecke in Kilometer oder Meilen, abhängig von den Einstellungen auf der Uhr für Distanz.
DOWN	Absteigende Höhenmeter in der aktuellen Trainingseinheit in Meter oder Fuß, abhängig von den Einstellungen auf der Uhr für Höhe. Bitte berücksichtigen Sie auch Anmerkung 1
ELAPS	Vergangene Zeit in der aktuellen Trainingseinheit (inkl. Standzeiten bei eingeschaltenem Auto Start/Stop Feature) im Format hh:mm, h:mm:ss, mm:ss oder m:ss.
ETA	Geschätze Ankunftszeit auf Basis Ihrer Konfigurationen im Format hh:mm, h:mm:ss, mm:ss oder m:ss.
GRADE %	Aktuelle Steigung in Prozent. Diese Information wird abgleitet von der zurückgelegten Strecke und Höhe gemittelt über die letzten 10 Sekunden. Bitte berücksichtigen Sie auch Anmerkung 2

HR	Aktuelle Herzfrequenz in Schläge pro Minute.
HR GOAL	Herzfrequenzziel in Schläge pro Minute.
HR ZONE	Aktuelle Herzfrequenzzone im Bereich 0.0 bis 6.0 mit folgender Bedeutung: * 0.0 ... aktuelle Herzfrequenz unterhalb der Zone 1 (= Minimale Herzfrequenz) * 1.0 - 1.9 ... aktuelle Herzfrequenz in Zone 1 * 2.0 - 2.9 ... aktuelle Herzfrequenz in Zone 2 * 3.0 - 3.9 ... aktuelle Herzfrequenz in Zone 3 * 4.0 - 4.9 ... aktuelle Herzfrequenz in Zone 4 * 5.0 - 5.9 ... aktuelle Herzfrequenz in Zone 5 * 6.0 ... aktuelle Herzfrequenz oberhalb der Zone 5 (= Maximale Herzfrequenz). Dieser Wert wird von den Herzfrequenzzoneneinstellungen des Users abgeleitet. Auf der Epix hat man darauf über die Garmin API keinen Zugriff. Deswegen werden die Zonen dort von der maximalen Herzfrequenz abgeleitet.
IDLE	Standzeit in der aktuellen Trainingseinheit wo die Geschwindigkeit unterhalb dem eingestellten Limit für den Auto Start/ Stop Modus liegt.
INT LEFT	Anzahl der offenen Intervalle.
INT NEXT	Ausständige Distanz oder Zeit bis das nächste Intervall startet.
KCAL	Aktuell verbrauchte Kilo-Kalorien in der aktuellen Trainingseinheit.
KCAL_DAY	Kilo-calories consumption of today.
LAP	Aktuelle Rundenzahl.
LL DIST	Distanz der letzten Runde in Kilometer oder Meilen, abhängig von den Einstellungen auf der Uhr für Distanz.
LL PACE	PACE der letzten Runde für einen Kilometer oder eine Meile, abhängig von den Einstellungen auf der Uhr für Distanz.
LL SPEED	Durchschnittsgeschwindigkeit der letzten Runde in Kilometer/Stunde oder Meilen/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
LL TIME	Letzte Rundenzeit im Format hh:mm, h:mm:ss, mm:ss oder m:ss.
MOVE	Zeit in Bewegung (ELAPS - IDLE) in der aktuellen Trainingseinheit im Format hh:mm, h:mm:ss, mm:ss oder m:ss.
M CAD	Maximale Trittfrequenz in Umdrehungen pro Minute in der aktuellen Trainingseinheit.
M HR	Maximale Herzfrequenz in der aktuellen Trainingseinheit in Schläge pro Minute.
M HR %	Aktuelle Herzfrequenz in Prozent der maximalen Herzfrequenz, die von den User-Settings ausgelesen wird.
M PACE	Maximale PACE in der aktuellen Trainingseinheit für einen Kilometer oder eine Meile, abhängig von den Einstellungen auf der Uhr für Distanz.
M PWR	Maximale Power in der aktuellen Trainingseinheit in Watt. Bitte berücksichtigen Sie auch Anmerkung 4
M SPEED	Maximale Geschwindigkeit in der aktuellen Trainingseinheit in Kilometer/Stunde oder Meilen/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
M VSPD	Maximale vertikale Geschwindigkeit in der aktuellen Trainingseinheit in Meter/Stunde oder Fuß/Stunde, abhängig von den Einstellungen auf der Uhr. Bitte berücksichtigen Sie auch Anmerkung 1
PACE	Aktuelle PACE gemittelt über die letzten x Sekunden für einen Kilometer oder eine Meile, abhängig von den Einstellungen auf der Uhr für Distanz.
PACE xs	Aktuelle PACE gemittelt über die letzten x Sekunden für einen Kilometer oder eine Meile, abhängig von den Einstellungen auf der Uhr für Distanz.
PACE REQ	Benötigte PACE um das konfigurierte Rennziel zu erreichen.
PHASE	Aktuelle Phase, entweder Run (=Abfahrt) oder Up (Liftfahrt).

PRESSURE	Barometrischer Druck in Pascal.
PWR	Aktuelle Leistung in Watt. Bitte berücksichtigen Sie auch Anmerkung 4
PWR xs	Leistung in Watt gemittelt über die letzten x Sekunden. Bitte berücksichtigen Sie auch Anmerkung 4
RUNS	Gesamtanzahl der bereits getätigten Abfahrten.
R AHR	Durchschnittliche Herzfrequenz in Schläge pro Minute gemittelt über alle Runs (=Abfahrten).
R ASPD	Durchschnittlich Geschwindigkeit aller Abfahrten in Kilometer/Stunde oder Meilen/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
R AVSPD	Durchschnittlich vertikale Geschwindigkeit aller Abfahrten in Meter/Stunde oder Fuß/Stunde, abhängig von den Einstellungen auf der Uhr. Bitte berücksichtigen Sie auch Bitte berücksichtigen Sie auch Anmerkung 1
R DIST	Aktuell zurückgelegte Abfahrtsstrecke in Kilometer oder Meilen, abhängig von den Einstellungen auf der Uhr für Distanz.
R TIME	Vergangene Zeit aller Abfahrten im Format hh:mm, h:mm:ss, mm:ss oder m:ss.
R MHR	Maximale Herzfrequenz aus allen Abfahrten in Schläge pro Minute.
R MSPD	Maximale Geschwindigkeit aller Abfahrten in Kilometer/Stunde oder Meilen/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
R MVSPD	Maximale vertikale Geschwindigkeit aller Abfahrten in Meter/Stunde oder Fuß/Stunde, abhängig von den Einstellungen auf der Uhr für Distanz.
SPEED	Aktuelle Geschwindigkeit in Kilometer/Stunde or Meilen/Stunde, abhängig von den Einstellungen auf der Uhr.
STEPS	Anzahl der zurückgelegten Schritte in der aktuellen Trainingseinheit.
STEPS T	Anzahl der zurückgelegten Schritte am heutigen Tag.
STEP G	Schrittziel für den heutigen Tag.
STEP G%	Aktueller Prozentsatz für die Zielereichung der Schritte für den heutigen Tag.
TEMP	Aktuelle Temperatur in Celsius oder Fahrenheit, abhängig von den Einstellungen auf der Uhr für Temperatur. Bitte berücksichtigen Sie auch Bitte berücksichtigen Sie auch Anmerkung 3
TIME	Aktuelle Tageszeit 12- oder 24-Stundenformat, abhängig von den Einstellungen auf der Uhr.
UP	Aufsteigende Höhenmeter in der aktuellen Trainingseinheit in Meter oder Fuß, abhängig von den Einstellungen auf der Uhr für Höhe. Bitte berücksichtigen Sie auch Bitte berücksichtigen Sie auch Anmerkung 1
VSPD xs	Aktuelle vertikale Geschwindigkeit in der aktuellen Trainingseinheit in Meter/Stunde oder Fuß/Stunde gemittelt über die letzten x Sekunden, abhängig von den Einstellungen auf der Uhr. Bitte berücksichtigen Sie auch Anmerkung 2

3.1.2 Anmerkungen

Anmerkung 1

Diese Information ist nur dann genau genug wenn die Uhr über einen barometrischen Höhenmesser verfügt. Eine Ableitung der Höheninformation über GPS ist zwar möglich aber ungenau.

Anmerkung 2

Diese Information ist nur dann genau genug wenn Sie über einen ANT+ Geschwindigkeitssensor und eine Uhr mit barometrischem Höhenmesser verfügen. Speziell die Höheninformation ist aufgrund physikalischer Grundsätze sehr ungenau, wenn sie von GPS abgeleitet wird und für Differenzmessungen verwendet wird.

Anmerkung 3

Eine Temperatur-Messung in Garmin Apps funktioniert nur dann wenn Sie über einen ANT+ TEMPE Sensor verfügen.

Anmerkung 4

Diese Information ist nur dann genau genug wenn Sie über einen ANT+ Power Sensor verfügen. Alternative ist auch eine Schätzung der Leistung implementiert, die aber für brauchbare Genauigkeit einen barometrischem Höhenmesser benötigt.

None