

# G-Watch App User Guide

G-Watch App version 1.5



Icons by Icons8

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Looking for more comfortable way how to monitor your glucose levels? If you have a Samsung smart watch then this is the ideal app for you!

G-Watch App consists of two parts – G-Watch watch face for Samsung smart watch and Android companion G-Watch Service app.

G-Watch Service app is working as a dispatcher. It collects blood glucose measurements from 3rd party applications like xDrip+, Glimp, DiaBox and AndroidAPS and sends them to watch face. It is also used as a configuration panel for the watch face.

G-Watch watch face is an analog watch face showing blood glucose values received from its Android companion app.

#### What's new in this release

##### New features:

1. Support for DiaBox / LibreAlarm as data source
2. Added Configuration export / import options
3. Added phone battery indicator to watch face
4. Added digital time info panel to watch face
5. Added option to hide hour and minute hands

# 1 Installation

## 1.1 Prerequisites

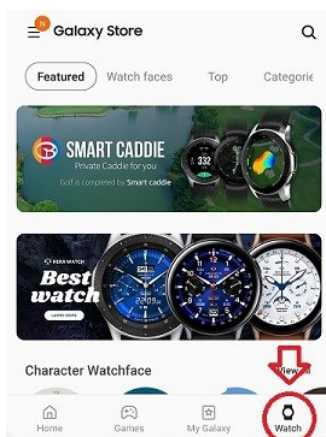
1. Mobile phone with Android OS 5 (Lollipop) or higher
2. Galaxy smart watch with round display 360x360 pixels and Tizen OS 2.3.2 or higher (Gear S2/3, Galaxy Sport, Galaxy Watch, Galaxy Active, ...)
3. Installed Galaxy Wearable Android app with appropriate smart watch version plugin. You can find both apps in Google Play store.
4. [Optional] Install Samsung Accessory Service on your phone, you can find it in Google Play store.

This step is not needed any more in the most cases. Usually, Samsung Accessory Library is installed together with Galaxy Wearable gear plugin. Do it only if you get errors that Samsung Accessory Library is not installed.

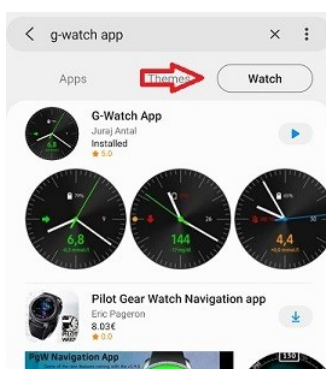
## 1.2 Watch Face Installation

### 1.2.1 Samsung Phones

Open Galaxy Store app and switch to Watch tab on the bottom of the screen.



Search for 'G-Watch App' – press magnifying glass button in upper right corner, wait till new screen opens, switch to Watch tab and enter the text and confirm.



Select the G-Watch App watch face from the list and install it.

After the watch face installation is finished a dialog opens asking for installation of G-Watch Service companion app on your phone. Select yes to install it.

Select the G-Watch watch face as the active watch face on your watch. If you haven't installed phone app yet, the watch face will request its installation.

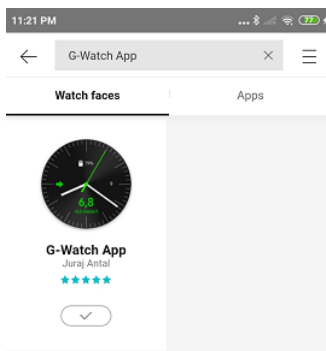


### 1.2.2 Phones from Other Manufactures

There is no Galaxy Store app available for phones from other manufacturers than Samsung. To install the app, follow these steps:

Open Galaxy Wearable app and open Discover tab. In any section click on 'View more'. New screen opens.

Search for 'G-Watch App' – press magnifying glass button in upper right corner, wait till new screen opens, enter the text and confirm.



Select the G-Watch App watch face from the list and install it.

Select the G-Watch watch face as the active watch face on your watch. If you haven't installed phone app yet, the watch face will request its installation.



### 1.3 Android G-Watch Service Installation

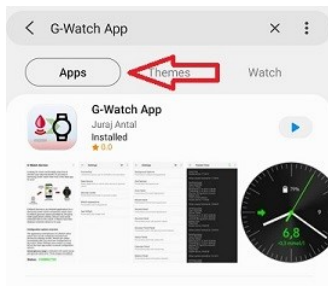
Android G-Watch app should be installed automatically after the G-Watch watch face installation.

If you want to install it manually before the watch face follow the steps described in the next chapters.

#### 1.3.1 Samsung Phones

For Samsung phones it is recommended to install the G-Watch companion app from Galaxy Store.

Open Galaxy Store app and search for 'G-Watch App' – press magnifying glass button in upper right corner, wait till new screen opens, switch to Apps tab and enter the text and confirm.



Select the G-Watch App from the list and install it.

If you are upgrading from previous version of mobile app which was installed from other source, e.g. directly from apk file, you have to uninstall the previous version first.

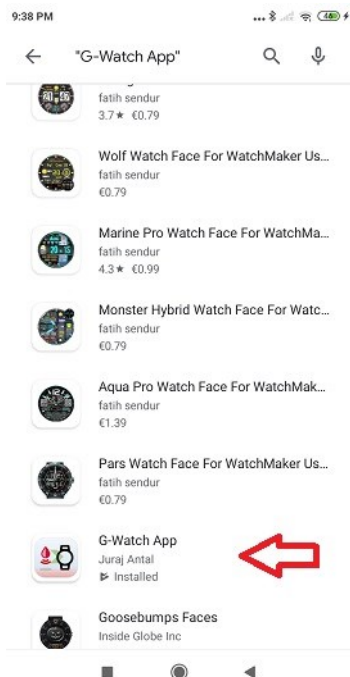
#### 1.3.2 Phones from Other Manufactures

There is no Galaxy Store app available for phones from other manufacturers than Samsung.

Use Google Play Store to search for the G-Watch App and install it.



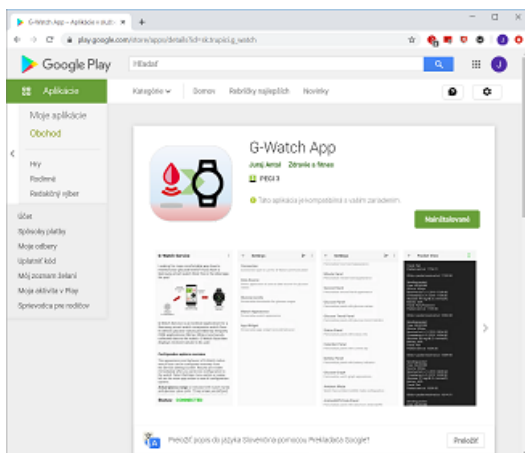
Open Google Play Store app and search for “G-Watch App” (also with quotes) – press magnifying glass button in upper right corner.



As the app is quite new there it will be positioned near the end of the result list. Select the app and install it.

If you can't find it using search then enter the Google Play Store direct link to browser and open it from there:

[https://play.google.com/store/apps/details?id=sk.trupici.g\\_watch](https://play.google.com/store/apps/details?id=sk.trupici.g_watch)

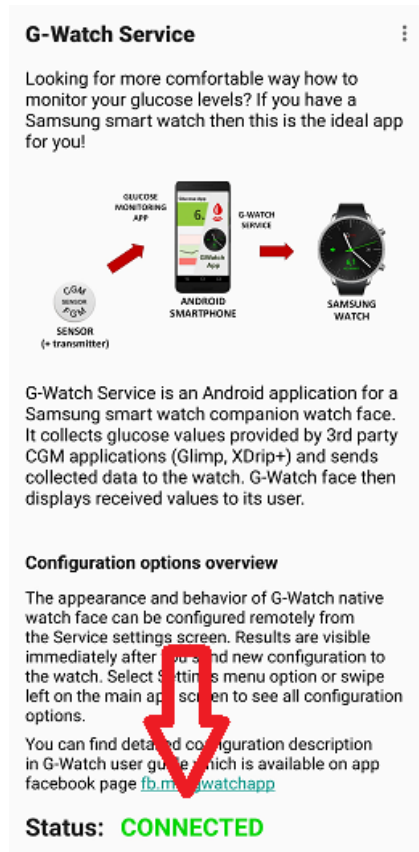


## 2 Quick Setup Guide

After installation of watch face and Android app you need to perform the initial configuration. Required steps are described in the following chapters.

### 2.1 Connect Watch Face

Open the G-Watch App mobile app and check the connection status.



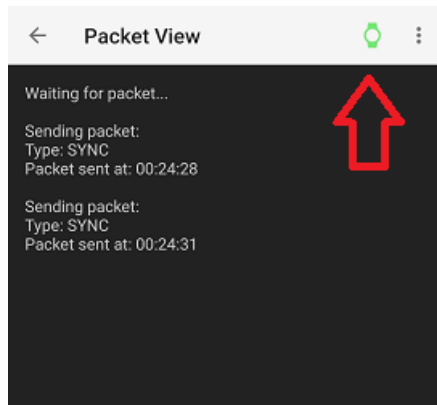
If mobile app is connected with watch face the green label is shown on the bottom of the screen. App should connect with watch face automatically.

If you see red status DISCONNECTED please check if your watch is connected with your mobile. Use Galaxy Wearable app to check and connect the watch with your mobile.

Also be sure you have active G-Watch App watch face on the watch.

If you have connected watch and status label is still red saying DISCONNECTED then swipe right on the main screen to open Packet Console screen or select Packet Console option from drop down menu.

The watch icon on the upper toolbar indicates connection status. Select Force sync option from drop down menu to establish connection with watch face. Repeat several times till the connection status indicator becomes green.



If you are not able to establish connection with watch face refer to Troubleshooting chapter to solve this issue.

## 2.2 Data Source Selection

As the first step select the app providing glucose blood values to display on watch. Open the mobile G-Watch Service app and go to Settings screen – swipe left on the main app screen or select Settings option from dropdown menu. Go to Data Source section.

In current G-Watch version you can select one of the three apps as a blood glucose data source:

1. Glimp
2. xDrip+
3. AndroidAPS
4. LibreAlarm / DiaBox
5. DexCom App (patched version)

You can select one or more apps as source app.

Changes must be confirmed by pressing Send (arrow) icon on upper toolbar. A message pop-up (bubble) with text 'Configuration applied' is shown if change is accepted. If message does not appear or it contains text 'Configuration failed' repeat the action.

Selected app must be installed and configure to provide data to G-Watch App. Refer to Configuration chapter Data Source Settings to see how to configure selected data source app.

## 2.3 Glucose Units and Thresholds

The next step is to select glucose units and adjust the glucose levels thresholds.

Go to Settings screen – swipe left on the main app screen or select Settings option from dropdown menu. Go to Glucose Levels section.

The default glucose units are mg/dl. If you want use mmol/l toggle the Glucose units switch.

Adjust glucose level thresholds as necessary.

See Configuration chapter Glucose Levels Settings for details.

All changes must be confirmed by pressing Send (arrow) icon on upper toolbar. A message pop-up (bubble) with text 'Configuration sent' is shown if change is accepted. If message does not appear or it contains text 'Configuration failed' repeat the action.

## 2.4 System Settings

To prevent G-Watch App from being killed by Android OS and loose glucose values be sure to disable all battery optimization for G-Watch App. Refer to your mobile phone user manual how to disable battery optimization for an app.

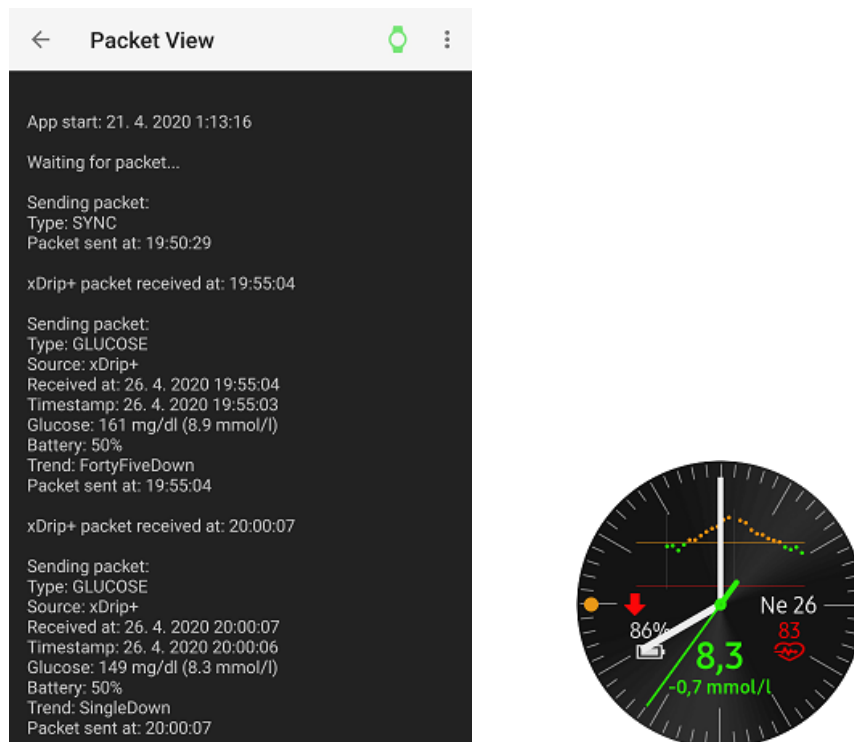
## 2.5 Verify configuration

Open the Packet Console screen – swipe right on the mobile G-Watch app main screen or select Packet Console option from the dropdown menu.

Be sure that the connection indicator on the upper toolbar is green.

Be sure that your CGM/FGM sensor is communicating with selected data source app.

Wait at least 5 minutes to receive blood glucose data from the selected data source app. In the Packet Console you should see received packets and received glucose values should be displayed on the watch.



The watch face initially needs one or two blood glucose values to be received to display data.

If you don't see any received packets or no value is displayed on the watch check again configuration steps. You can reapply all configured values selecting Send all values drop down menu options on the Settings screen. If you still have troubles to receive or see values on the watch refer to Troubleshooting chapter to solve this issue.

See the next chapters for full list of configuration options.

## 3 G-Watch Overview

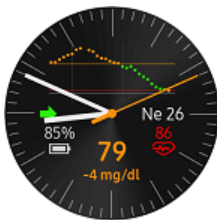
### 3.1 Watch Face

The watch face is designed to keep the user informed about the current blood glucose and to easily identify any deviation from the requested glucose range at the first sight. Actual glucose range is indicated also with dedicated color of displayed value. The watch hands color helps to enforce the visual effect. The watch hands are also used to indicate data miss or lost connectivity.

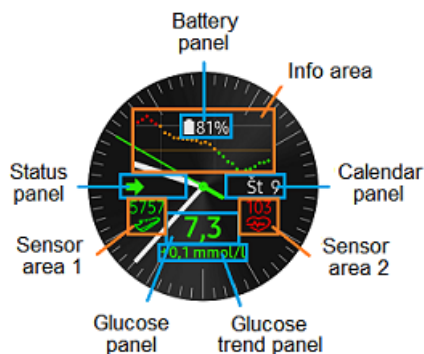
Nearly every aspect of the watch face can be customized. See Configuration chapter for details.

Background and dial can be customized to fits your needs. You can choose from predefined settings or upload your own picture.

The watch hands shape can be adjusted with custom length, width, endings shape. Seconds hand can be hidden at all. Color of hands can be set to any color as you like, for each glucose range can be set color individually. To minimize area covered by hands you can use transparency effect or specify an offset from the center. With offset and rounding endings effect you can achieve even a circular hand shape.

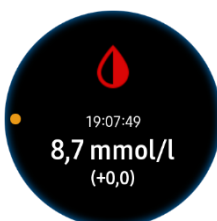


The watch face contains 5 information panels and one info area used to display one or more complex info panels. Appearance of each panel can be customized in its dedicated configuration section.



#### 3.1.1 Glucose panel

Glucose panel shows the last received glucose value. Tap on glucose panel to display pop-up with details of the last received value. Tap pop-up to close it.



### 3.1.2 Glucose Trend Panel

Glucose trend panel shows the glucose value delta from the previous glucose value and units used. If configured, tapping on glucose trend panel can be used to switch between glucose units mg/dl and mmol/l.

### 3.1.3 Status Panel

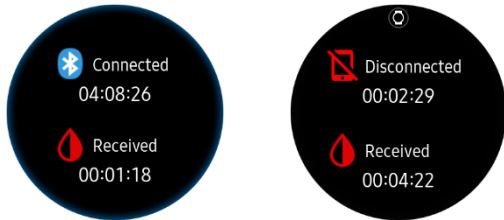
Status panel shows the most actual watch face status:

1. if connection between watch face and mobile app is established and glucose values are received regularly, the status panel shows the actual glucose trend icon
2. if connection with mobile companion app is lost (Offline status) then a red mobile phone icon is shown. Time from the status occurrence is displayed next to the icon if it is configured.
3. if glucose sample has not been received in configured period (No data status) the red drop is displayed. Time from the status occurrence is displayed next to the icon if it is configured.

Offline status and No data status can be also indicated with associated watch hands color.



Tap status panel to see connection and the last glucose value reception status.



### 3.1.4 Calendar Panel

Calendar panel shows the actual day of month and if configured also a day of week.

Tap on calendar panel to enter watch calendar widget.

### 3.1.5 Battery Panel

Battery panel shows the actual battery level with icon and percentage.

Tap on battery panel to enter watch battery settings widget (Tizen 3.0 and higher).

If you need to hide battery panel (e.g. if watch graph is shown) but still want to show battery status then you can use secondary battery indicator in Sensor area.

### 3.1.6 Info Area

Info area is used to display more complex panels at one place. However, only one panel is shown at a time. If more panels are configured tap on the center of the watch face to toggle between panels.

The following panels can be displayed in Info area:

#### 3.1.6.1 Glucose Graph Panel

Glucose graph panel displays glucose values of the last 2.5 hours. You can select from 2 graph modes and show or hide bounding lines as necessary.



Graph background and colors can be adjusted as needed.

Beginning from version 1.3 the watch graph has a dynamic range feature. If enabled the graph is scaled to fit values not showing empty areas below and above target range. The target range is displayed always regardless of current graph scaled. It is recommended to show all horizontal boundaries (lines) when dynamic scale is enabled.

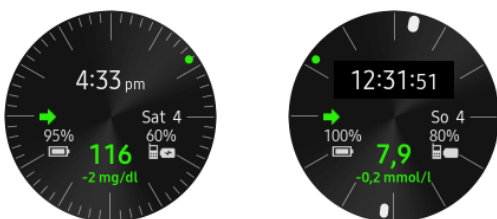


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#### 3.1.6.2 Digital Watch Panel

If you like to see current time in digital form you can enable this panel. It is recommended to hide or at least minimize watch hands when this panel is used.



### 3.1.6.3 AndroidAPS Panel

AndroidAPS (AAPS) panel displays values COB (Carbohydrates On Board), IOB (Insulin On Board) and APS basal profile string received from AndroidAPS app.



To show AAPS panel set AndroidAPS as data source and use Watch Appearance / AndroidAPS Data Panel settings to enable AAPS panel.

As in every panel you can customize panel background and text colors.

Tap on AAPS panel to show pop-up with details of the last received AAPS values. Use finger to scroll pop-up down or up, tap pop-up to close it.



**AAPS panel requires AndroidAPS build with DataBroadcastPlugin which will be available in AndroidAPS version 2.7. Currently it is available only at development branch (dev).**

### 3.1.7 Sensor Areas

You can use two sensor areas to display info from one of the following:

1. Heart beat monitor (HRM)
2. Pedometer
3. Secondary watch battery indicator
4. Phone battery indicator

Left and right sensor area content is configured separately, see Sensor areas configuration chapter 4.6.12.



Note that only watch sensors are used to measure current HRM and Pedometer status - Samsung Health API is not used and collected results may (and probably will) differ. Samsung Health API requires access to your Samsung Health account and produce more data traffic.

Instead, G-Watch App provides some features you don't have in Samsung Health



- HRM: you can set measurement period
- Pedometer: you can reset daily counter to start again from zero to measure steps made in a following activity

And as usually, you can set custom colors for all displayed sensor types. See Sensor Areas configuration chapter for details about all configuration options.

### 3.1.8 Ambient Mode

G-Watch watch face has supports also ambient mode to keep you informed about current glucose level all the time. You can choose from 3 ambient mode types:

1. simple analog watch with G-Watch label in color of actual glucose value range
2. simple analog watch with actual glucose value, delta and trend indicator
3. ambient mode for intensive sport activities. It shows a big current glucose value and delta without any time info.



You have to enable Always On Display (AOD) feature on your watch to switch on ambient mode. Refer to watch manual for details.

### 3.1.9 Watch Alarms

Watch alarms can be enabled to alert you in case of critical blood glucose values. Watch alarms are handy if you don't want to disturb other people around with noisy mobile app alarms, e.g. in the night or at work. You can also enable alarms only in a specified time of the day.

Watch alarm is activated if a received blood glucose value is equal and below hypoglycemia threshold level or equal and above hyperglycemia threshold level.

When an alarm is activated it displays a pop-up showing the actual blood glucose value and the watch vibrates with characteristic pattern.



To dismiss the active alarm, press the "X" button. To snooze the active alarm and all future alarms in the configured snooze period press the "zZ" button. Alarm is automatically cancelled after 1 minute.

If a blood glucose value drops below 54 mg/dl (3 mmol/l) or it rises above 360 mg/dl (20 mmol/l) then alarm has no snooze button and it lasts for 2.5 minutes. Also, a different vibration pattern is used.



See Watch Alarms settings for all configuration options.

### 3.1.10 Watch Face Remote Connection

For the time not being with you watch in Bluetooth connectivity range the Samsung galaxy watch supports connection over another network types, e.g. WiFi, Mobile networks, etc. This connectivity is also known as watch remote connection and if it is active it is also indicated on watch system status panel (pulled from the top of the watch display). Refer to watch manual for details.

G-Watch watch face also supports the remote connection if it is configured. The remote connection can be used to follow another person. The watch and G-Watch App connects always if the phone and watch have network available.

When the remote connection is active it is indicated also in watch face Status panel pop-up:



## 3.2 Mobile App

G-Watch mobile app works as a dispatcher of glucose values and has a role of watch face configuration panel. It uses Samsung Accessory Protocol (SAP) library to communicate with watch.

G-Watch does not communicate with any server or another entity over wifi or internet. The only exception is if the watch is remotely connected with mobile over wifi or other network. But still G-Watch app uses only SAP for communication with the watch.

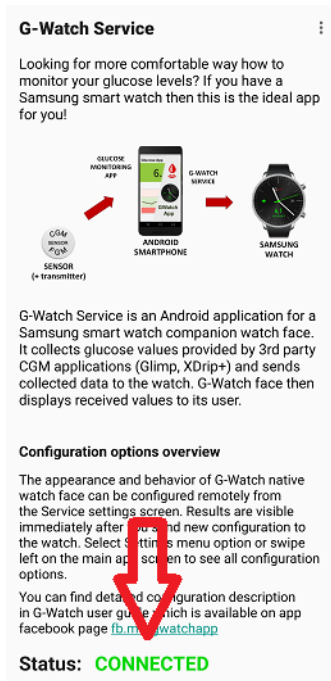
The watch face has 3 screens (activities). See sub-chapters below for description.

G-Watch App offers also a widget to display current glucose values, trend and status on the phone screen.

### 3.2.1 Main Screen

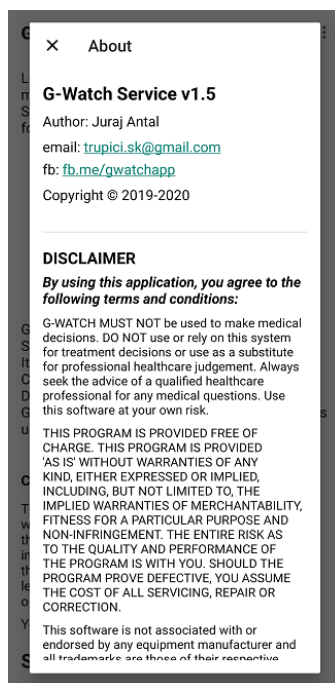
Main screen is meant to be an intro to the G-Watch app functionality. It briefly describes the basic concept of the application and lists the major options of configuration.

At the bottom of the screen there is a big status bar showing the current connection status with the G-Watch watch face.



From main screen you can navigate to other screens. To go to another screen, you can use horizontal finger swipe or an option from dropdown menu.

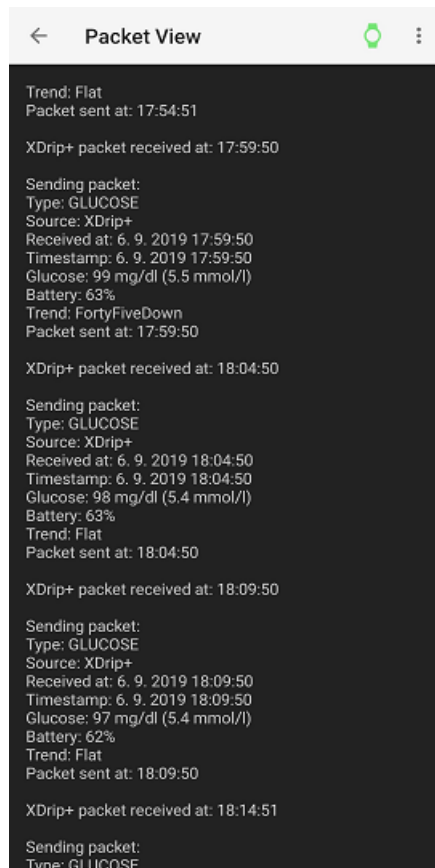
To see info about app version, developer or used 3<sup>rd</sup> party libraries open the About dialog from the dropdown menu.



### 3.2.2 Packet Console

Packet console screen is used to see the data communication between data source app, G-Watch mobile app and watch face.

To open Packet console screen swipe right on the main screen or select 'Packet console' option from the main screen dropdown menu.



If a packet is received from the data source app an info line with timestamp is displayed in the console. If reception from the data source app is not allowed by configuration no other action is involved and packet is not processed.

If packet is being sent to the watch face its content is displayed in the console. If packet is successfully sent a confirmation message with timestamp is appended.

If you want to send the last received glucose packet to the watch again, e.g. to speed up watch face initialization, use 'Send last glucose' option from dropdown menu.

Packet console can also be used to restore communication between mobile app and watch face. Use 'Force sync' option from dropdown menu to re-establish connection between mobile app and watch face. The watch icon on the toolbar indicates the current connection status.

To clear console content select 'Clear content' option from dropdown menu.

To return to main screen swipe left on the Packet console screen or use back button.

### 3.2.3 Settings

Settings screen is used to configure G-Watch mobile app settings, widget settings and also the watch face options.

To open Settings screen swipe left on the main screen or select 'Settings' option from the main screen dropdown menu.

Configuration options are described in details in the Configuration chapter.

To leave Settings screen and return to the main screen swipe right on the Settings screen or use back button.

## 3.3 Android Widget

G-Watch widget is used to show glucose values on the Android home page. To place G-Watch widget on the home page follow the instructions from user manual of your mobile phone.



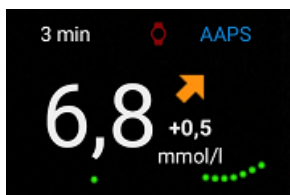
The glucose value is displayed in the center of widget, color is based on the current glucose level range and can be customized. Next to the glucose value is displayed trend indicator and delta with glucose units used.

On the background is drawn a dotted graph of the received glucose values for the last 2,5 hours. The color of dots is based on the glucose value and can be customized. A hole in the graph represents moments when glucose data was not received (was missed).

The time elapsed from the last glucose data reception is shown in the upper left part of the widget.

The upper right part of the widget shows the label of data glucose app from which sent the last glucose data.

A connection lost between mobile app and watch face is indicated with a red watch icon in the central upper part of the widget.

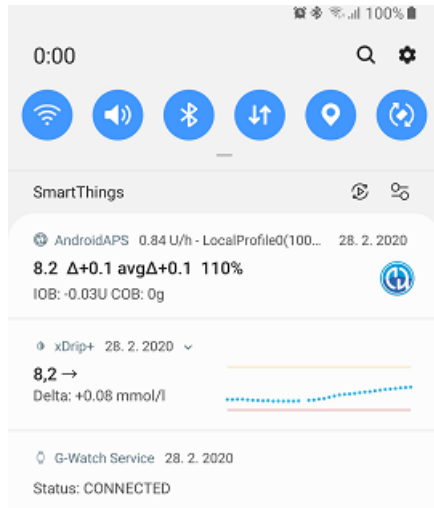


If you tap on the widget the G-Watch App is opened in default. If you want you can configure to open one of the installed data source app instead. See widget configuration chapter for details.

### 3.4 Android Notification

To help to keep mobile app alive a notification mechanism is used to prevent app from being killed by Android OS.

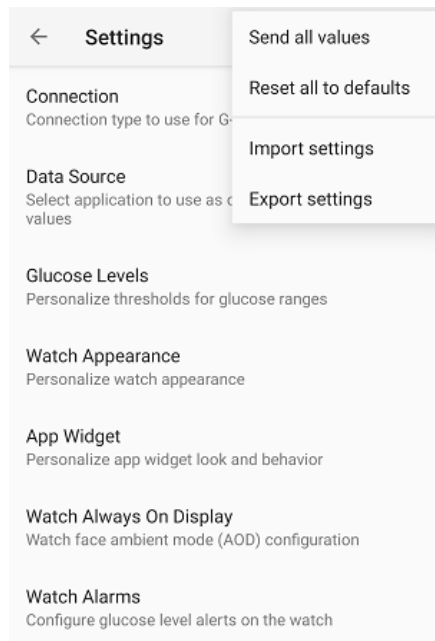
You can see G-Watch notification in dropdown app notification list on main Android home page.



G-Watch notification contains the current connection status between mobile app and watch face. Tap on notification to open G-Watch app.

## 4 Configuration

Configuration of mobile app, widget and watch face is divided into separate sections. Open Settings screen to enter the main configuration page.



### 4.1 Set / Reset Configuration

Every change in configuration must be confirmed otherwise it won't be applied.

Use Send (arrow button) on upper toolbar to confirm and apply changes in current configuration screen (section).

Use 'Send all values' menu option from dropdown menu to confirm and apply changes in current configuration screen and all its descendant configuration screens. If you want to apply changes from all configuration screens go to main configuration screen (Settings page) and select 'Send all values' menu option from dropdown menu.

Use 'Reset all to defaults' option from dropdown menu to reset all configuration options in current screen and all its descendant configuration screens to default values. If you want to reset all configuration options to their default values go to main configuration screen (Settings page) and select 'Reset all to defaults' menu option from dropdown menu.

If configuration is successfully applied / delivered to watch a confirmation toast (bubble) with text 'Configuration applied / sent' is shown. Configuration applied message is shown if there were only changes related to mobile app. If also an option for watch face was changed the message Configuration sent appears.

If configuration fails of any reason a confirmation toast (bubble) with text 'Configuration failed' is shown.

If there was no configuration change then no confirmation toast (bubble) is displayed. Otherwise repeat the action.

If you have any troubles with configuration see Troubleshooting chapter how to solve the issue.

## 4.2 Configuration Export / Import

You can export current configuration to store it for the future use or backup - use 'Export Settings' option from pull-down menu. A system File Save As dialog opens to choose the destination directory and file name. If configuration is successfully exported a confirmation toast (bubble) with text 'Settings exported' is shown.

Similar to applying configuration, only the configuration options from the current configuration screen and all descendant configuration screens are exported. With help of this feature you can store or share only the relevant part of your settings.

If you want to export the complete settings you need to export settings from the root configuration page.

If you want to restore saved configuration select 'Import Settings' option from pull-down menu. All known configuration options are always imported regardless of the current configuration screen. If configuration is successfully imported a confirmation toast (bubble) with text 'Settings imported' is shown.

Please note, that custom background image is not included in export or import. You have to back it up (or restore it) manually.

It is always recommended to apply all changes in current configuration before the export or import, otherwise not applied options might be lost.

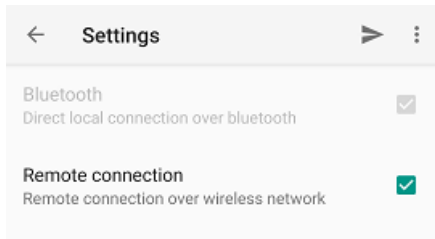


The root configuration screen contains main configuration categories

The following chapters describe the individual configuration options as they appear on the configuration screens.

### 4.3 Connection Settings

Connection settings lists options for type of connection with watch face.



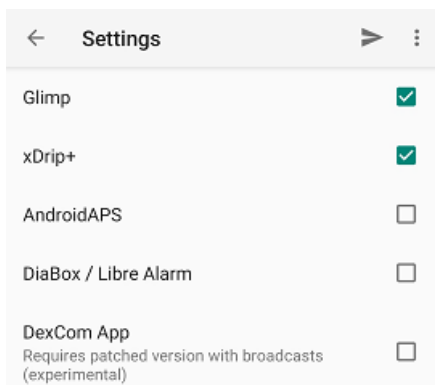
The Bluetooth connection is mandatory.

The Remote connection is optional, default value is on.

Remote connection means that mobile app can connect with watch face even if the watch is out of Bluetooth range and watch is connected with mobile phone over wifi or another network. Refer to watch user manual to see what type of connection it supports.

### 4.4 Data Source Settings

Data source settings list all possible apps that can be used as glucose data source in current version.



The selected app(s) must be installed on your mobile phone and app must be configured to deliver blood glucose samples. Refer to its documentation for installation guide. The following chapters describe required configuration.

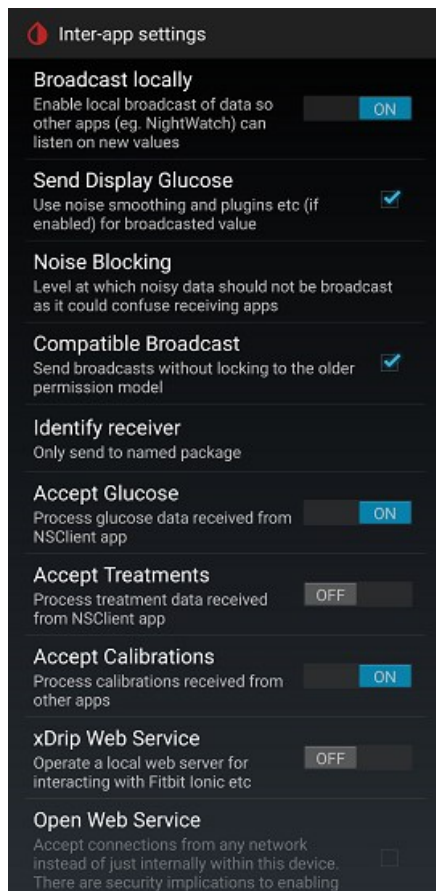
#### 4.4.1 Glimp

Glimp is working with G-Watch App out of the box and does not require any specific configuration.

#### 4.4.2 xDrip+

In xDrip+ you must enable local broadcasts. Open Settings from the left drop down menu and in Other settings section open Inter-app settings screen.

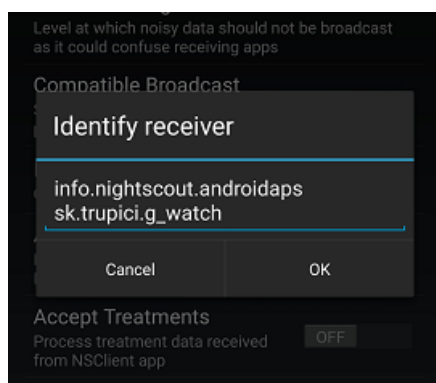
Enable the first option - Broadcast locally and check Compatible Broadcast.



Tap on Identify receiver to open and check target receiver settings. If you do not use any specific app yet as a broadcast receiver than leave the field clear and close dialog.

If you already use a specific receiver, e.g. AndroidAPS app then you have to add G-Watch app package to the list, otherwise G-Watch App won't receive any data from xDrip+.

The list is blank space ' ' separated, G-Watch Android package is 'sk.trupici.g\_watch' (all letters must be in lower case).



#### 4.4.3 AndroidAPS

You can select AndroidAPS as a data source to receive glucose values from AndroidAPS together with other APS data. Please refer to AndroidAPS panel configuration options for details.

In current dev version DataBroadcastPlugin does not require any further configuration.

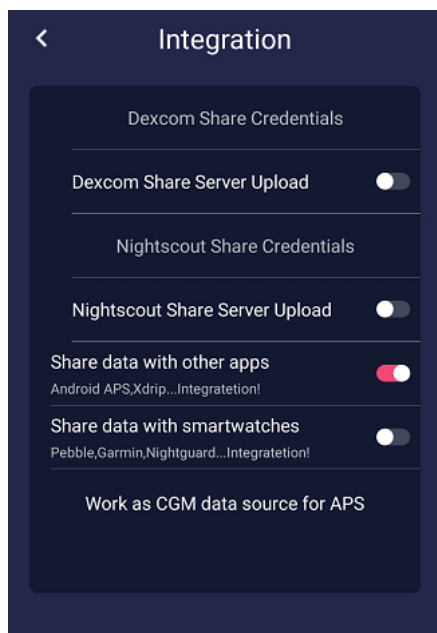
**Required AndroidAPS DataBroadcastPlugin will be officially available in AndroidAPS version 2.7 which is not released yet. Currently it is available only at dev branch.**

See also AndroidAPS manual for details.

#### 4.4.4 DiaBox

To share glucose values in Bubblan DiaBox app it requires to enable data sharing with other apps. It uses the same data format as Libre Alarm app.

Open settings and go to Integration screen. Check 'Share data with other apps' option.



#### 4.4.5 Dexcom App (patched)

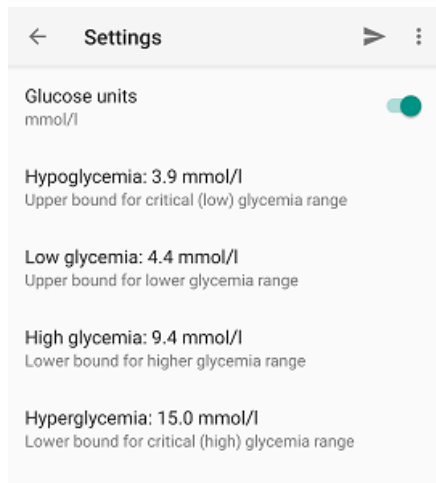
Patched Dexcom App is working with G-Watch App out of the box and does not require any specific configuration.

Note that it does not work with the original Dexcom App, since it doesn't broadcast collected values to other apps.

The modified app is available at [github](https://github.com).

## 4.5 Glucose Levels Settings

Glucose Level settings allow to select glucose units and thresholds for individual levels. These values will be used for all mobile app, Android widget and watch face.

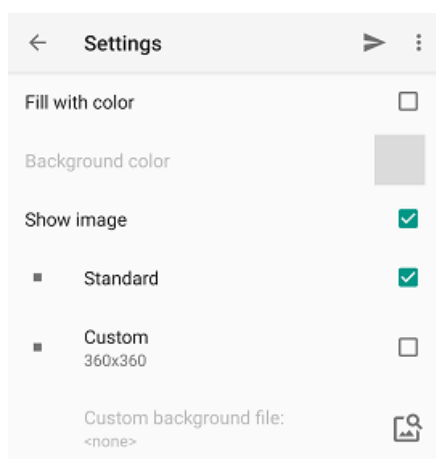


Glucose Level settings are the main decision criteria for selecting the color for glucose value and delta from the last value on watch face, watch face graph, widget graph and for positioning of watch face graph horizontal lines.

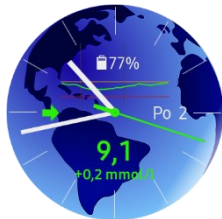
## 4.6 Watch Appearance Settings

Main configuration screen for watch face settings. Watch face settings are grouped into sub-sections by relevance.

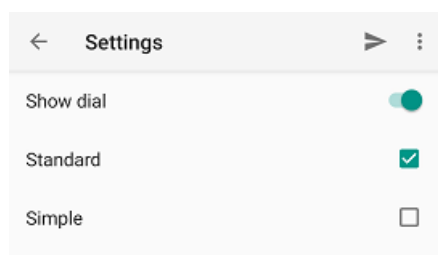
### 4.6.1 Background Options



Here you can set the watch face background. You can set simple color or use your own image. Image can contain also a custom dial (you can disable built-in dial in Dial Options). Image must be of size 360x360 pixels.



#### 4.6.2 Dial Options



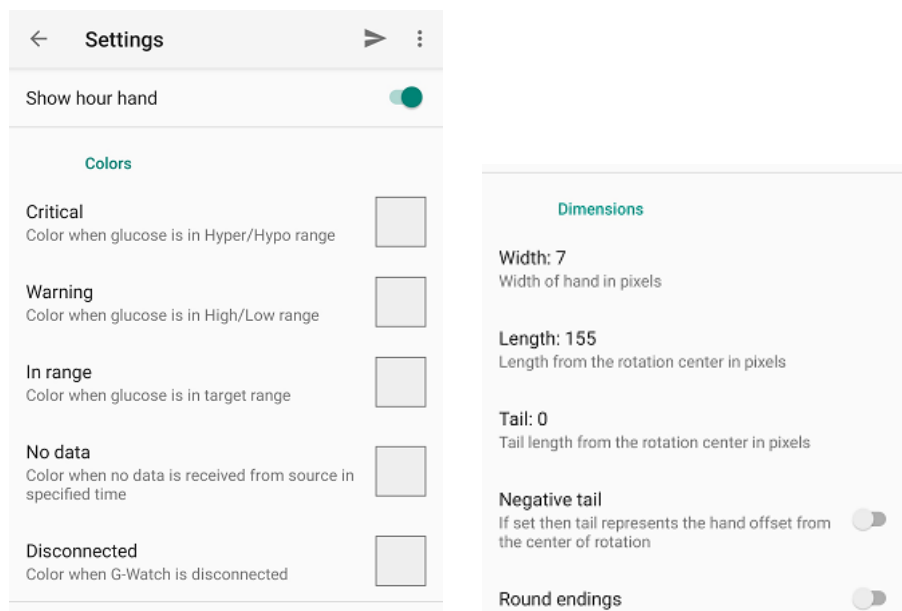
You can choose one of the predefined dials:

- standard detailed dial (default option)
- simple, more 'sporty' looking dial

Or you can hide the dial at all. This option is usually used when you have custom background.

#### 4.6.3 Hour Hand Settings

You can customize the look of hour hand here according to your needs.



If you want you can hide hour hand completely, e.g. if you use digital watch info panel.

Define your custom hour hand colors for each glucose level range, Offline and No data status.

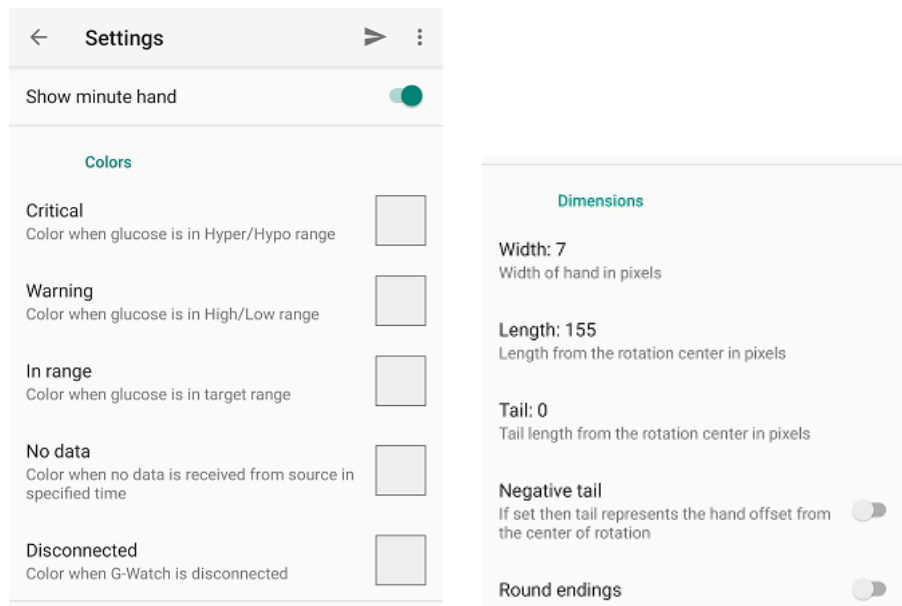
You can adjust hand dimensions and choose either rectangular or rounding endings. You can set hand's tail if you want.

If you specify Negative tail then Tail dimension sets the offset of the hand from the center. Together with endings option you can create various shapes, e.g. if you set width=10, length=100, tail=40 and select Negative tail and Rounding ending options you can achieve the following hour hand shape:



#### 4.6.4 Minute Hand Settings

Here you can customize the look of minute hand as you like.



If you want you can hide minute hand completely, e.g. if you use digital watch info panel.

Define your custom minute hand colors for each glucose level range, Offline and No data status.

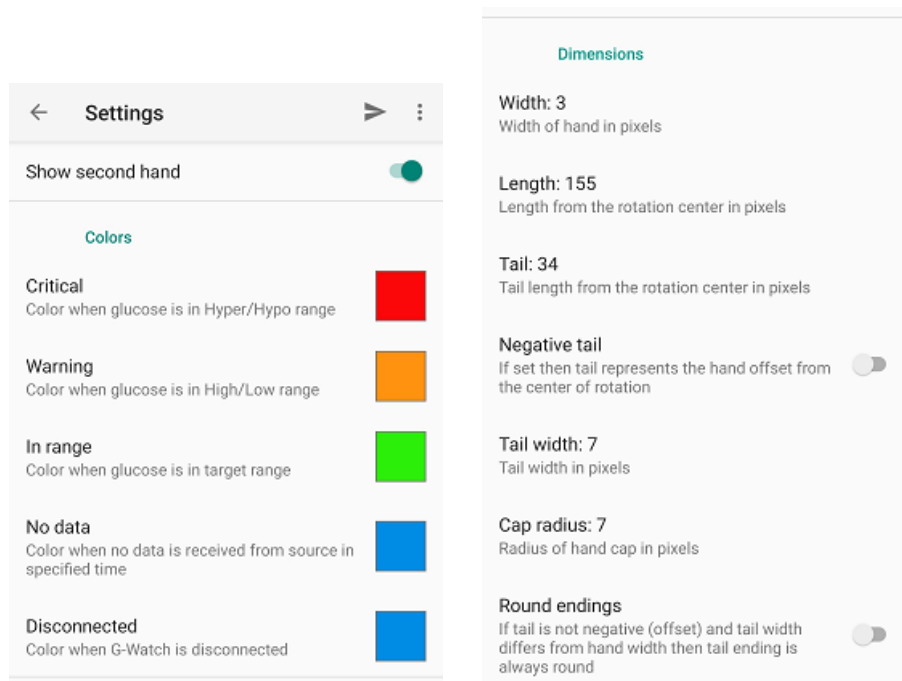
You can adjust hand dimensions and choose either rectangular or rounding endings. You can set hand's tail if you want.

If you specify Negative tail then Tail dimension sets the offset of the hand from the center. Together with endings option you can create various shapes, e.g. if you set width=6, length=150, tail=60 and select Negative tail and Rounding ending options you can achieve the following minute hand shape:



#### 4.6.5 Second Hand Settings

The second hand has the most configuration options from all watch hands. You can hide it and you can also specify the hands cap for it.



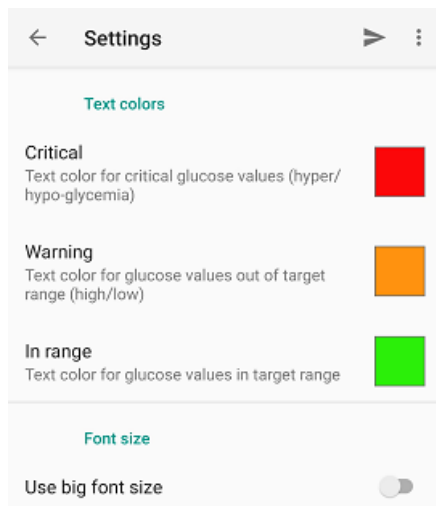
Define your custom second hand colors for each glucose level range, Offline and No data status.

You can adjust hand dimensions, define hands cap size and choose either rectangular or rounding endings. You can set hand's tail if you want.

If you specify Negative tail then Tail dimension sets the offset of the hand from the center. There will be also no cap drawn in this case. Together with endings option you can create various shapes, e.g. if you set width=12, length=158, tail=158 and select Negative tail and Rounding ending options you can achieve the following second hand shape (a circle of size 12 points with distance 152 points from the center of the watch screen):



#### 4.6.6 Glucose Panel Settings

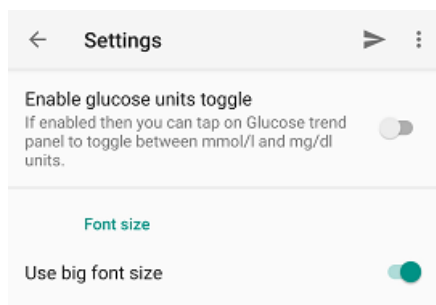


Here you can specify the color of the glucose value text for each glucose level range.

Note that this color is also used for text of delta and units in Glucose Trend Panel.

You can also set bigger font for the glucose value if it is needed.

#### 4.6.7 Glucose Trend Panel Settings



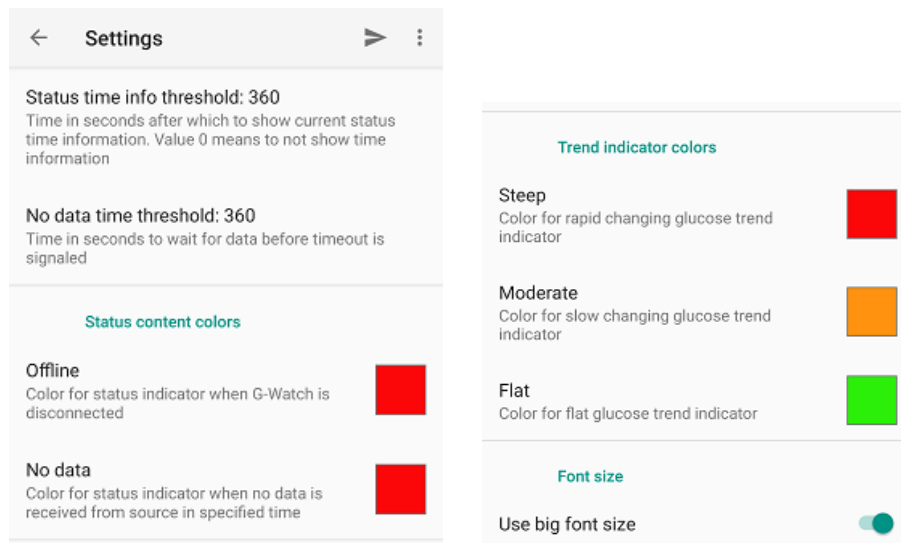
Fast glucose units toggling feature enables you to change glucose units for the watch face by tapping on the Glucose Trend Panel. The feature is initially disabled from G-Watch App version 1.2. You can enable this feature here if you find it useful.

Glucose Trend Panel content is always drawn with the same color as text in Glucose Panel. See previous chapter for color settings.

If you have problems to read the glucose delta value you can set bigger font for the Glucose Trend Panel text.



#### 4.6.8 Status Panel Settings



Status time info threshold defines number of seconds to wait till the elapsed time is displayed next to the Offline or No data status. Set it to 0 to not show elapsed time at all.

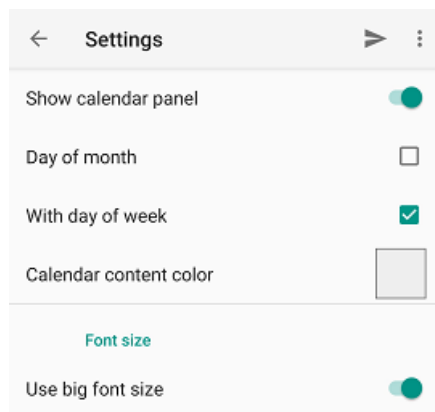
No data time threshold specifies how long to wait from the last glucose value reception (timestamp) till the No data indicator (red drop) is displayed in Status Panel.

You can also customize the color of Offline and No data status indicator and its time info.

And you can define your own colors for glucose trend indicator here.

You can also select bigger font for elapsed time info.

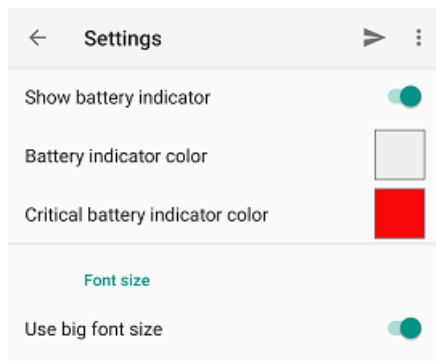
#### 4.6.9 Calendar Panel Settings



Specify whether you want to show the date info on the watch face. You can select to show also the day of week or only together with the day of month. Or you can define your custom color for Calendar Panel content.

You can also set bigger font for date info if it is needed.

#### 4.6.10 Battery Panel Settings



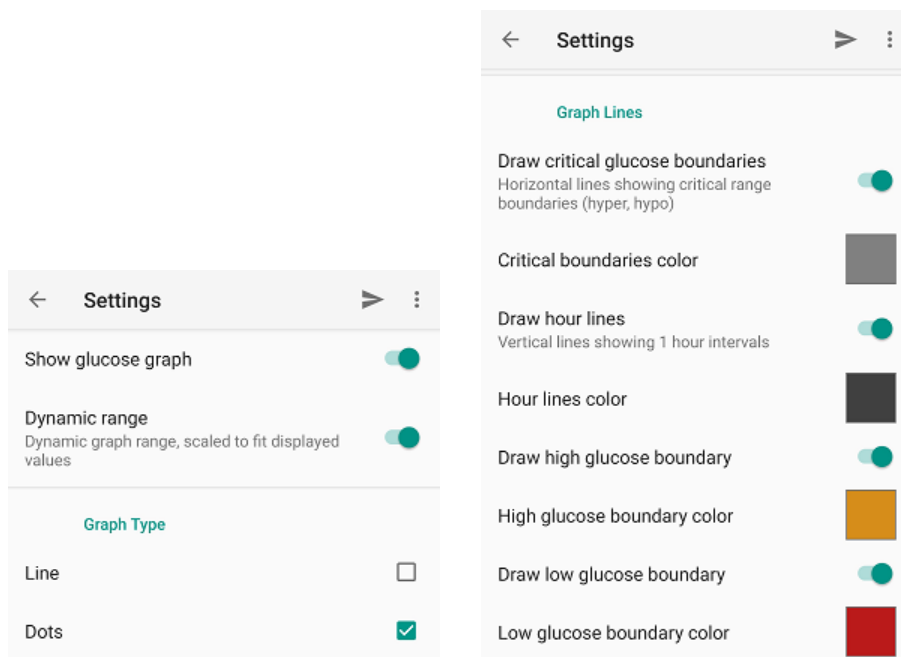
Specify whether you want to show the battery indicator on the watch face. The battery indicator is automatically hidden if you enable any of the info area content (Glucose graph, AAPS Panel) to not collide with info area content.

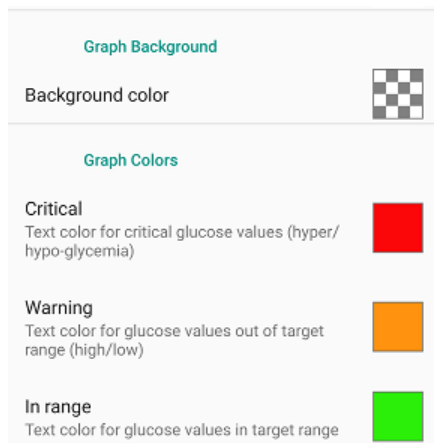
You can customize battery indicator colors. Configured colors are used for both battery icon and battery level info text.

You can also set bigger font for battery level info text.

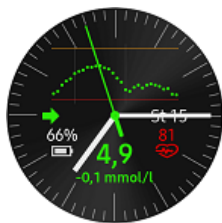
#### 4.6.11 Glucose Graph Settings

In Glucose Graph settings screen you can switch on the graph, select the graph type and customize the graph appearance.



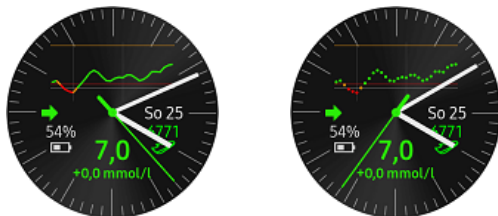


If you switch on graph the battery indicator is automatically hidden from watch face to not collide with graph content. It is recommended to not show battery indicator when horizontal lines for critical range boundaries are shown. You can use secondary battery in the Sensor area instead. However, if you want to you can any time enable battery indicator again, see Battery Panel Settings.



If you enable also another info area panel then you can toggle between them by tapping the center of watch face screen. Panels will be switched on refresh for the next second.

Two graph types / modes are supported: line and dots

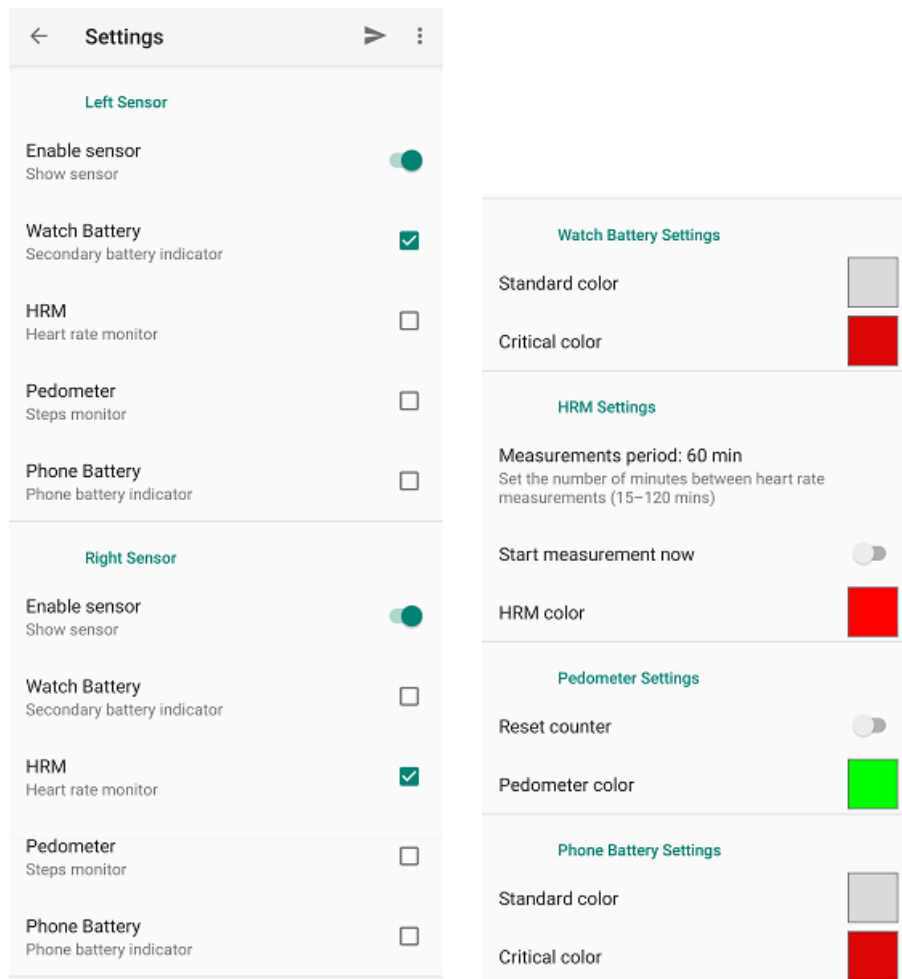


You can select whether to draw glucose level boundaries for individual ranges and select an appropriate color for them. You can also select whether to show vertical lines representing hour intervals.

Graph background color can be also customized and also with its transparency.

You can adjust colors for line/dots to use for various glucose levels.

#### 4.6.12 Sensor Areas Settings



Left and right sensor areas are configured individually. You can choose one of the four content options or hide content at all.

Note that only watch sensors are used to measure current HRM and Pedometer status - Samsung Health API is not used and collected results may (and probably will) differ. Samsung Health collects data from various sources and also requires connection to Samsung Health account.

##### 4.6.12.1 Secondary Battery Indicator

It shows current battery status. It is useful when Battery Panel is hidden due to other watch face configuration options used (Watch Graph, AAPS panel, Digital Watch panel, etc...).

You can set custom colors for normal and critical battery status similar to Battery Panel configuration.

##### 4.6.12.2 Heart Beat Monitor

You can adjust period for measurements from 15 to 120 minutes, default is 60 mins. Note that Tizen OS can delay or dismiss the scheduled measurement according to the device conditions (e.g. in deep sleep status). If watch is not on the wrist the measurement is skipped.

You can also start immediate measurement. Switch it on and send configuration to watch as for other options, trigger will be switched off automatically after successful delivery to watch. Measurement will start in a moment. Again, the start can be delayed or totally dismissed by Tizen OS, e.g. if you try to start measurement too many times.

And you can set custom color for HRM content.

#### 4.6.12.3 Pedometer

After watch face installation the pedometer counter is initialized to 0 and then every midnight it is reset to 0 again. It works as a daily step counter.

However, you can reset the counter to 0 if you want to count steps during some activity. Counter will be automatically reset at midnight again.

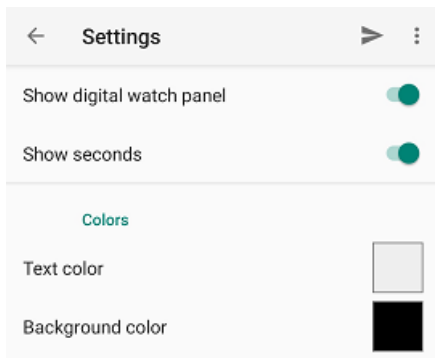
#### 4.6.12.4 Phone Battery Indicator

It shows current phone battery status. If enabled then phone sends its battery status every time it is changed.

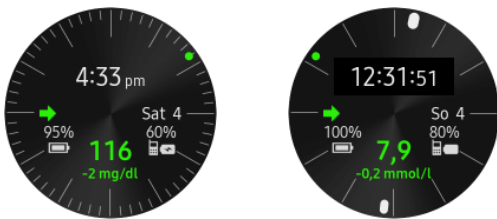
You can set custom colors for normal and critical battery status similar to Secondary Battery Indicator configuration.

### 4.6.13 Digital Watch Panel

Digital watch info panel shows digital time.



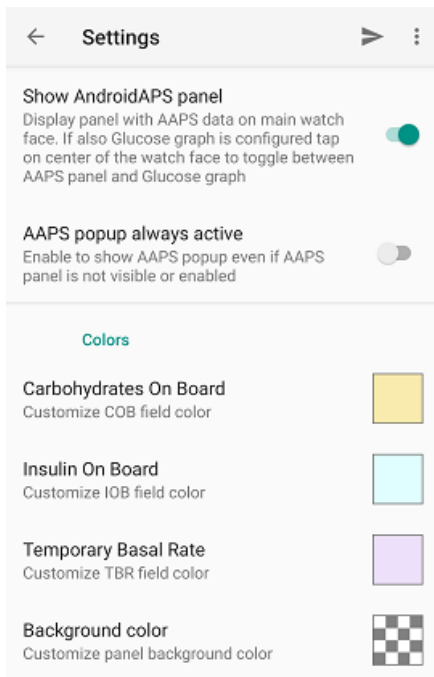
You can hide seconds part of the time and set color of panel text and background. It is also recommended to hide or at least minimize watch hands when this panel is used.



Whether a 12- or 24-hour format is used it depends on system (watch, resp. mobile) settings. You have to switch digital watch panel off and on to reflect 12/24-hour format change in system settings.

#### 4.6.14 AndroidAPS Data Panel Settings

In AndroidAPS (AAPS) data panel settings screen you can show and customize info panel showing status from AAPS.

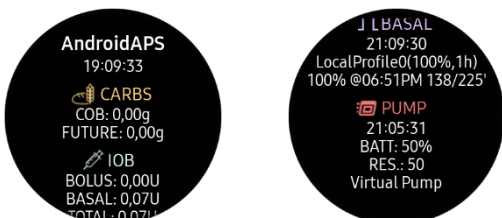


You must have selected AndroidAPS app as a data source app to receive status data. AAPS status is sent on every IOB, COB, Loop or pump status change in AAPS.



Because of limited AAPS info panel size it cannot display all the data received from AAPS. To see additional status data tap on AAPS info panel to show AAPS popup. You can enable to show AAPS pop-up if you tap on info area regardless of the currently displayed info panel.

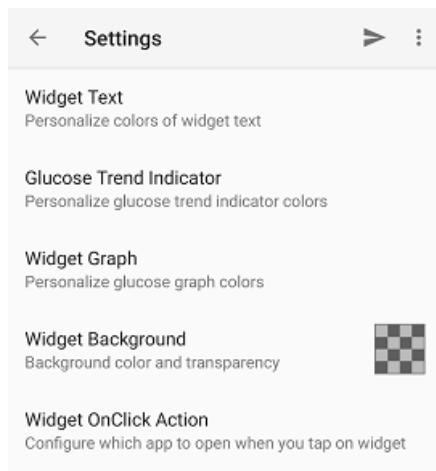
Use finger to scroll down and up in the pop-up. Tap pop-up to close it otherwise it stays opened for 20s.



**Required AndroidAPS DataBroadcastPlugin will be officially available in AndroidAPS version 2.7. Currently it is available only at development branch (dev).**

## 4.7 App Widget Settings

Main configuration screen for Android app widget.



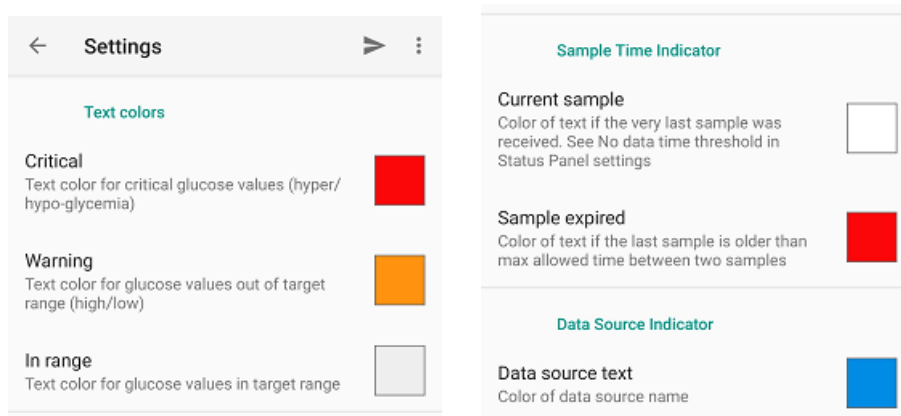
Widget settings are grouped into sub-sections by relevance.

In the main widget configuration screen, you can set widget background and its transparency. The default value is semi-transparent black.



### 4.7.1 Widget Text Settings

In this configuration you can customize colors for all widget texts fields.



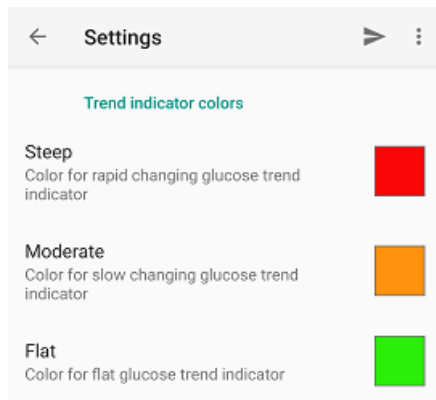
You can set custom color for current glucose value and delta with units for every glucose level range.

You can also set custom colors for elapsed time info displayed in the top left part of the widget. This text field has two states - normal when the glucose value is not older than No data status threshold and error state indicated that last glucose sample is older than required. See also Status Panel Settings for status thresholds configuration.

You can also set custom color for data source text field in the upper right part of the widget. The default value is blue.

### 4.7.2 Widget Trend Indicator Settings

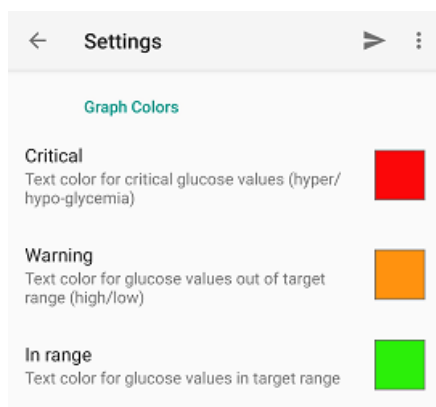
In this section you can set colors for glucose trend arrow indicator.



Default values are the same as colors for watch face glucose value field.

### 4.7.3 Widget Graph Settings

This section defines colors or widget graph dots showing values of glucose level for the last 2.5 hours.



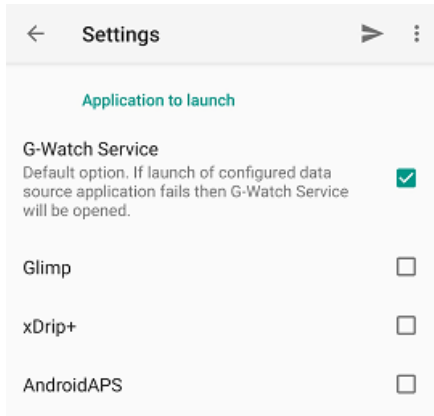
Default values are the same as colors for watch face glucose value field.



#### 4.7.4 Widget OnClick Action Settings

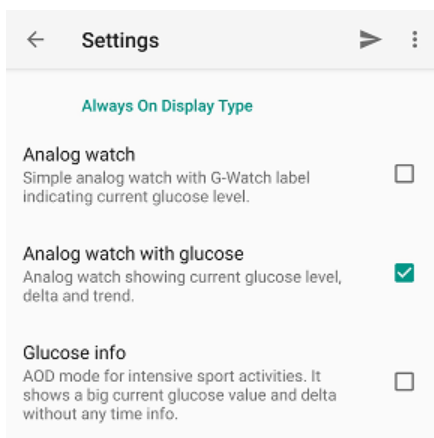
This widget configuration section defines what should happen if you click (tap) on the widget.

In defaults if you tap on widget the G-Watch mobile app is opened. You can change this behavior to open one of the data source apps. If the selected app cannot be opened for some reason, e.g. it is not installed, then G-Watch mobile is opened instead



#### 4.8 Watch Always On Display Settings

You can select one of the three supported ambient modes, see picture below.



To show ambient mode screen you must enable Always On Display feature on your watch in system menu. Refer to watch user manual for details.

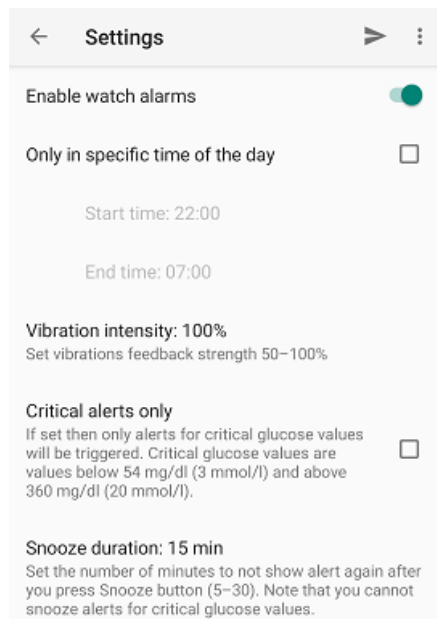
In ambient mode the screen is redrawn only once per minute so glucose value or range color may be delayed a bit.

Also, to prevent the display from being damaged the content is moved to slightly different position every minute. See watch user manual for details.

Older Galaxy Gear watch models support only 'low resolution' mode with very limited color palette and resolution, so the ambient screen appearance may not be so good as it is on newer Galaxy watch models.

## 4.9 Watch Alarms Settings

Configure the watch alarms to be warned if received blood glucose values enters critical values.



Watch alarms can be enabled only in specific time of the day when you do not want to disturb people around with noisy mobile alarms, e.g. in the night.

Watch alarm is activated if a received blood glucose value is equal and below hypoglycemia threshold level or equal and above hyperglycemia threshold level. See Glucose Levels configuration for further details about thresholds.

When an alarm is activated it displays a pop-up showing the actual blood glucose value and the watch vibrates with characteristic pattern.



To dismiss the active alarm, press the "X" button. To snooze the alarms for the configured snooze time, press the "zZ" button. Otherwise, the alarm will be automatically cancelled after 1 minute.

Alarm vibration intensity can be adjusted according to your needs (50 - 100%).

Check the Critical alerts only option if you want to be warned only if the actual glucose value drops below 54 mg/dl (3 mmol/l) or it rises above 360 mg/dl (20 mmol/l). Critical alarms have no snooze button and last for 2.5 minutes. SOS vibration pattern is used for critical alarms.



## 5 Troubleshooting

If you have an issue with the app, please read solutions in this chapter to solve your problem. If you cannot find any solution here, please contact me on email or fb. Provide as much details as possible.

You can also read a github xDrip thread issue #460, maybe you find a solution there:

<https://github.com/NightscoutFoundation/xDrip/issues/460>

### 5.1 Reinstallation is not needed

I saw that many people use to reinstall the app if they encounter an issue. This is not needed and should be used only as the last possibility if nothing else helps.

Always try to re-apply the whole configuration to the watch first.

If nothing else helps try to restart mobile phone and watch.

### 5.2 Always upgrade in pair

Always keep the latest version of both mobile app and watch face. If you update only one from the two components it will work but the new and changed features won't be available.

To be able to use all features of the app it is required to update both mobile app and watch face. If you receive a notification of mobile app update always check if there is also a new version of watch face available and vice versa.

The first two parts of version of mobile app and watch face should always match. The 3<sup>rd</sup> part (if present) is used for bugfix sub-version identification only, e.g. V1.2 and V1.2.1 are of the same major and minor version having the same features implemented.

### 5.3 No data from source app

*Symptoms:*

Packet Console does not show any incoming packet for more than 6 minutes.

*Possible solutions:*

1. Check if source app has data from sensor
2. Check Data Source app configuration in G-Watch App. Reapply configuration by pressing Send (arrow) button on toolbar or select Send All Values option from dropdown menu. Wait for confirmation message 'Configuration applied'.
3. Check data source app settings, see also chapter Data Source Selection

## 5.4 No connection with watch face

### *Symptoms:*

Mobile app shows disconnected status.

### *Possible solutions:*

1. Try to force reconnect, see chapter Connect Watch Face for details
2. Disconnect Bluetooth and connect it again. Use mobile system settings or watch connection settings
3. Open Galaxy Wearable app and check connection with watch. Try to disconnect watch and connect it again
4. If nothing else helps try to restart the watch and mobile phone

## 5.5 Watch doesn't receive data after some time

### *Symptoms:*

Mobile phone G-Watch app is running ok, the watch is showing data. But after some time of mobile phone inactivity watch stops to show new values and No data status icon is indicating data miss.

### *Possible solutions:*

1. Check if G-Watch mobile app is excluded from battery optimization. Refer to your mobile phone manual or Android OS manual how to disable battery optimization for apps. It is recommended to disable battery optimization also for data source app, Galaxy Wearable app and its Gear plugin, and also for Bluetooth system app if possible.
2. Open Packet Console window and let it opened while put mobile into inactivity. When the issue occurs again wake up mobile phone and look at received packets if they were received all the time during inactivity. If not then check if data source app is excluded from battery optimization.

## 5.6 Configuration is not applied

### *Symptoms:*

Required configuration option doesn't work.

### *Possible solutions:*

1. Check if you have the same version of mobile app and watch face installed.
2. Reapply configuration by pressing Send (arrow) button on toolbar or select Send All Values option from dropdown menu. Wait for confirmation message 'Configuration applied'.
3. Try to change it to another value, confirm and send the configuration to watch and then change it back to the required value again. Always check the confirmation message if configuration was successfully sent to watch.

## 5.7 Watch doesn't receive data even if it is connected and glucose values are collected

### *Symptoms:*

Mobile phone G-Watch app is running, it shows green "CONNECTED" status, Packet console shows incoming packets and packets are regularly sent to watch. But the watch shows No data status icon and glucose value is not updated. Force reconnect action doesn't help.

### *Possible solutions:*

1. Disconnect Bluetooth and connect it again. Use mobile system settings or watch connection settings
2. Open Packet Console window, re-establish connection with watch (use Force reconnect if needed) and send the last glucose value to watch.