FILTRON BLUETOOTH +

BLUEBITS APP USER GUIDE

SMARTPHONE APPLICATION FOR SMART BACKFLUSHING

GOLDTEC
CONTROL SYSTEMS

Goldtec Control Systems Pty Ltd
Email: info@goldtecsystems.com.au
Web: www.goldtecsystems.com.au

Table of contents

.1 INTRODUCTION 2
.2 INSTALLING THE BLUEBITS APP 3
.3 SCANNING SCREEN 6
4. HOME SCREEN 8
.5 SETTINGS SCREEN - OUTPUTS 10
.6 SETTINGS SCREEN – DP SENSOR 12
.7 SETTINGS SCREEN - SYSTEM 14
.8 FLUSHING LOG SCREEN-ACCUMULATIONS 16
9. DAILY FLUSHING LOG SCREEN 17
10. HOURLY FLUSHING LOG SCREEN 18
.11 PREFERENCES SCREEN 19
12. OUTSTANDING SYSTEM ALARMS 20
13. REVISION HISTORY 21

1. INTRODUCTION

Talgil Computing and Control Ltd is happy to present a new series of professional backflushing controllers called **Filtron Bluetooth**.

Following the tradition of the well-known family of **Talgil's** backflushing controllers, the **Filtron BLE** offers professional features, simplicity of use, and uncompromised reliability. The **Filtron BLE** is available in **AC** and **DC** versions. It is equipped with a large customized graphic **LCD** and only 4 keys that leave the user no room for confusion. The **Filtron BLE** is suitable for gravel filters, disc filters, and screen filters.

The **Filtron BLE** provides an efficient and economical solution to manage filtration sites. There are several types of **Filtron BLE**. **Filtron 123** operates up to 3 Filters, **Filtron 1-10** operates up to 10 Filters, and **Filtron 20-30** operates up to 30 Filters. In addition, operating a Main valve, Alarm output, and Delay valve is an option. The **Filtron BLE** can be ordered with a **built-in Analog DP sensor** to read the actual DP value as well as trigger the flushing cycle by a preset value. The **Filtron BLE** includes 2 Digital Inputs for an external Digital DP sensor and a Pressure sensor (Pressostat).

In the new versions, Talgil company has developed an option to use Bluetooth communication with the backflushing controller using a smartphone application called **Bluebits**. The **Bluebits** app is supported by Android and iOS operating systems.

The **Bluebits** app allows a quick connection and offers an innovative interface for Programming, Monitoring, and Analyzing backflushing. The **Bluebits** allows planning the backflushing program and defining the backflushing network. The **Bluebits** displays 3 Backflushing counters, a Daily Flushing log, and an Hourly Flushing log for Analysis. The **Filtron BLE** returns the data in real time and helps to monitor the backflushing process.
For your convenience, the **Bluebits** is available in English, Hebrew, and Spanish.

Read on to learn about the **Bluebits** smartphone application for planning the flushing, defining the flushing network, monitoring the flushing, and obtaining statistical data.

Talgil Computing and Control Ltd wishes you success in working with the new **Filtron BLE, Blubits** app, and further down the road.

If you have any questions or need assistance, don't hesitate to drop us a message or leave a comment. Our team is always here to help.

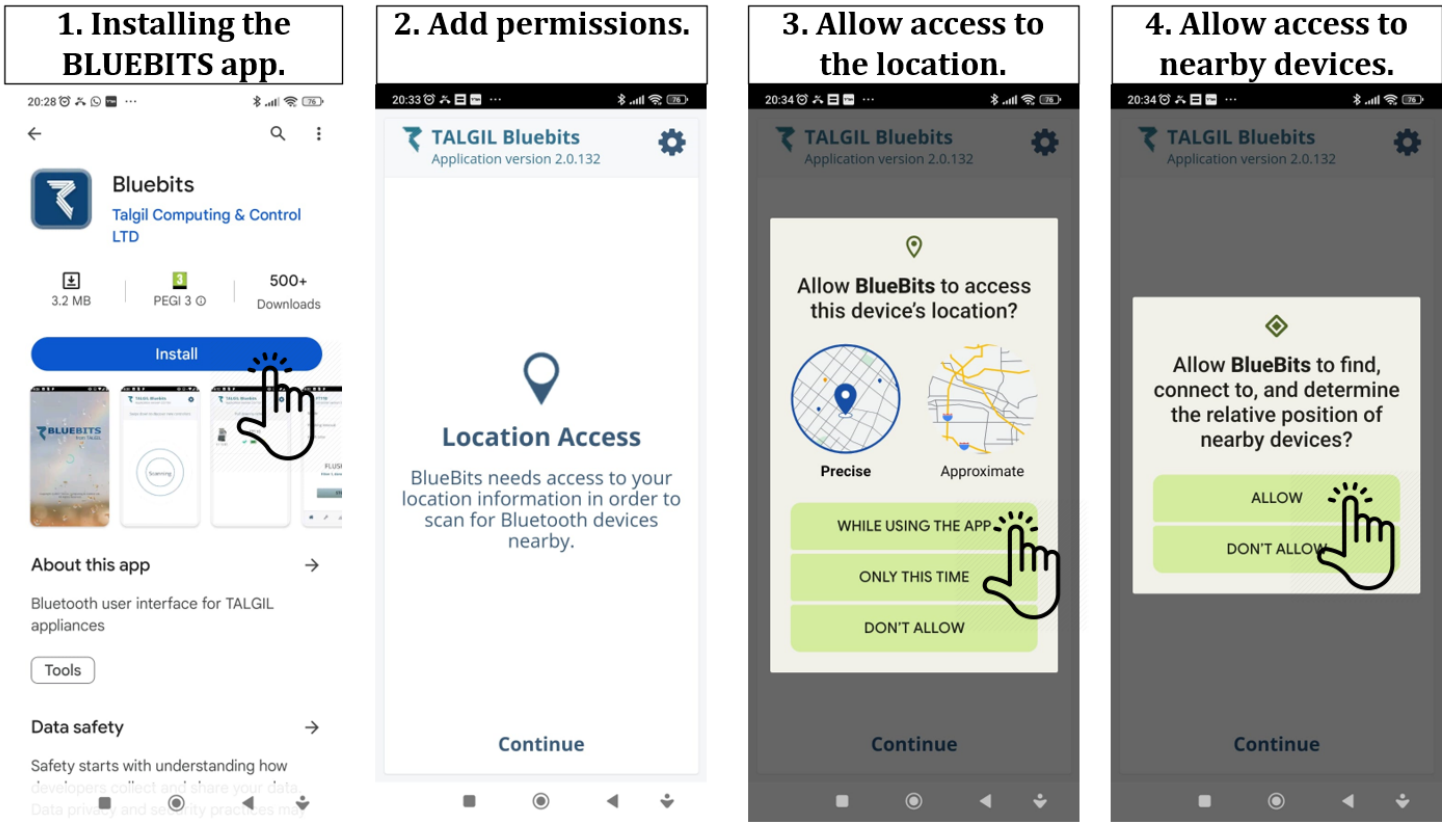
2. INSTALLING THE BLUEBITS APP

1. To start Bluetooth communication with the Filtron Bluetooth, download the **Bluebits** smartphone application. The **Bluebits** is supported by Android and iOS operating systems. To Download the Android version of **Bluebits**, navigate to **Google Play** and download the app: Bluebits - Apps on Google Play

(https://play.google.com/store/apps/details?id=com.talgil.bluebits&_pcampaignid=web_share)

2. After downloading the app, install the app and allow permissions and access to the Bluetooth and device location.
3. Allow access to the device location.
4. Allow access to nearby devices.

Under good conditions, when the Filtron Bluetooth is visible, the maximum distance for Bluetooth communication is up to 60 meters. Turn on the **Filtron BLE** controller and start the **Bluebits** application. The **Bluebits** app will start scanning and display the discovered backflushing controllers in the vicinity. To connect to the backflushing controller, tap the controller. For more details, skip to the Scanning Screen in Chapter 3.



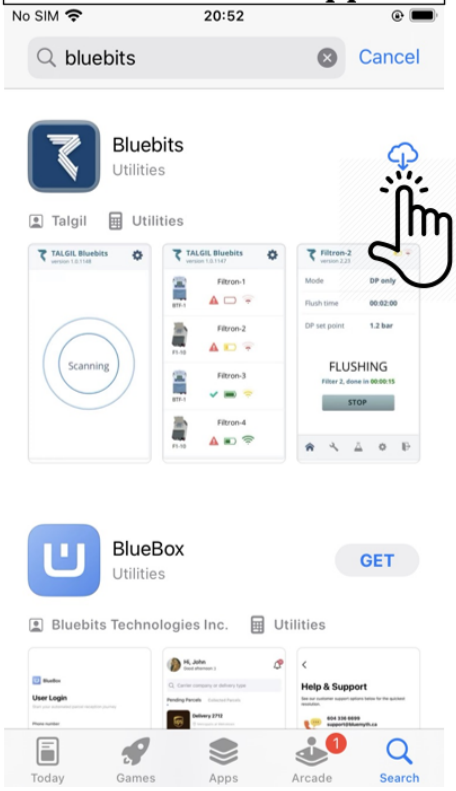
5. To Download the iOS version of **Bluebits**, navigate to the **App Store** and download the app: Bluebits on the App Store (apple.com)
(https://apps.apple.com/us/app/bluebits/id1181359007)

After downloading the app, install the app on your iPhone.

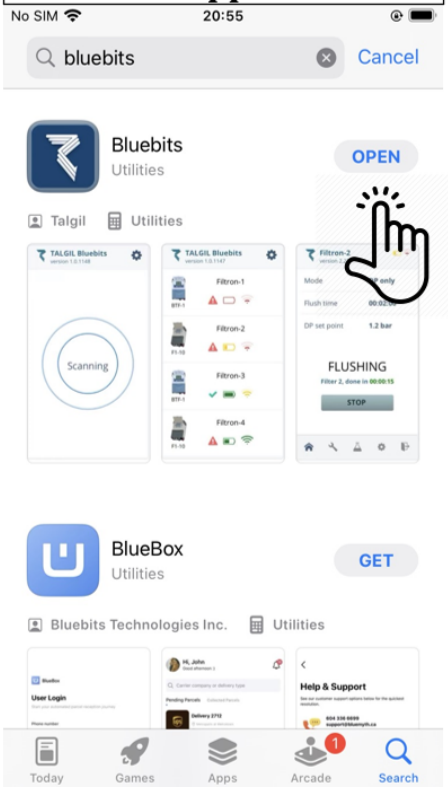
6. Start the BLUEBITS app.
7. Allow permission to the use the Bluetooth.

Under good conditions, when the **Filtron BLE** is visible, the maximum distance for Bluetooth communication is up to 60 meters. Turn on the Filtron Bluetooth controller and start the **Bluebits** application. The **Bluebits** app will start scanning and display the discovered backflushing controllers in the vicinity. To connect to the backflushing controller, tap the controller. For more details, skip to the Scanning Screen in Chapter 3.

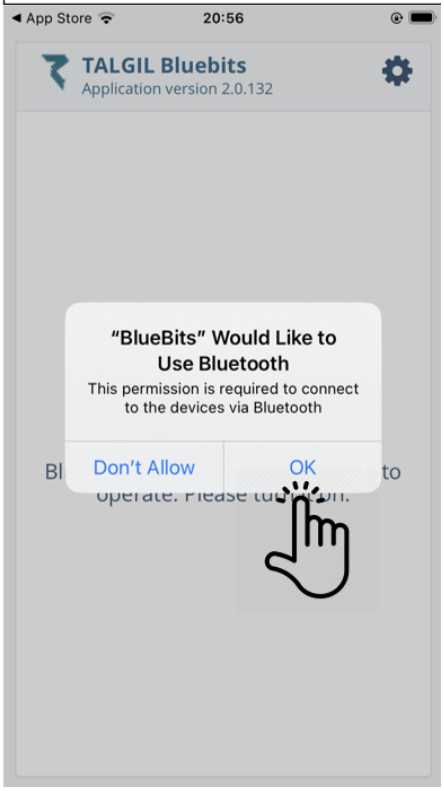
5. Download and Install the BLUEBITS app.



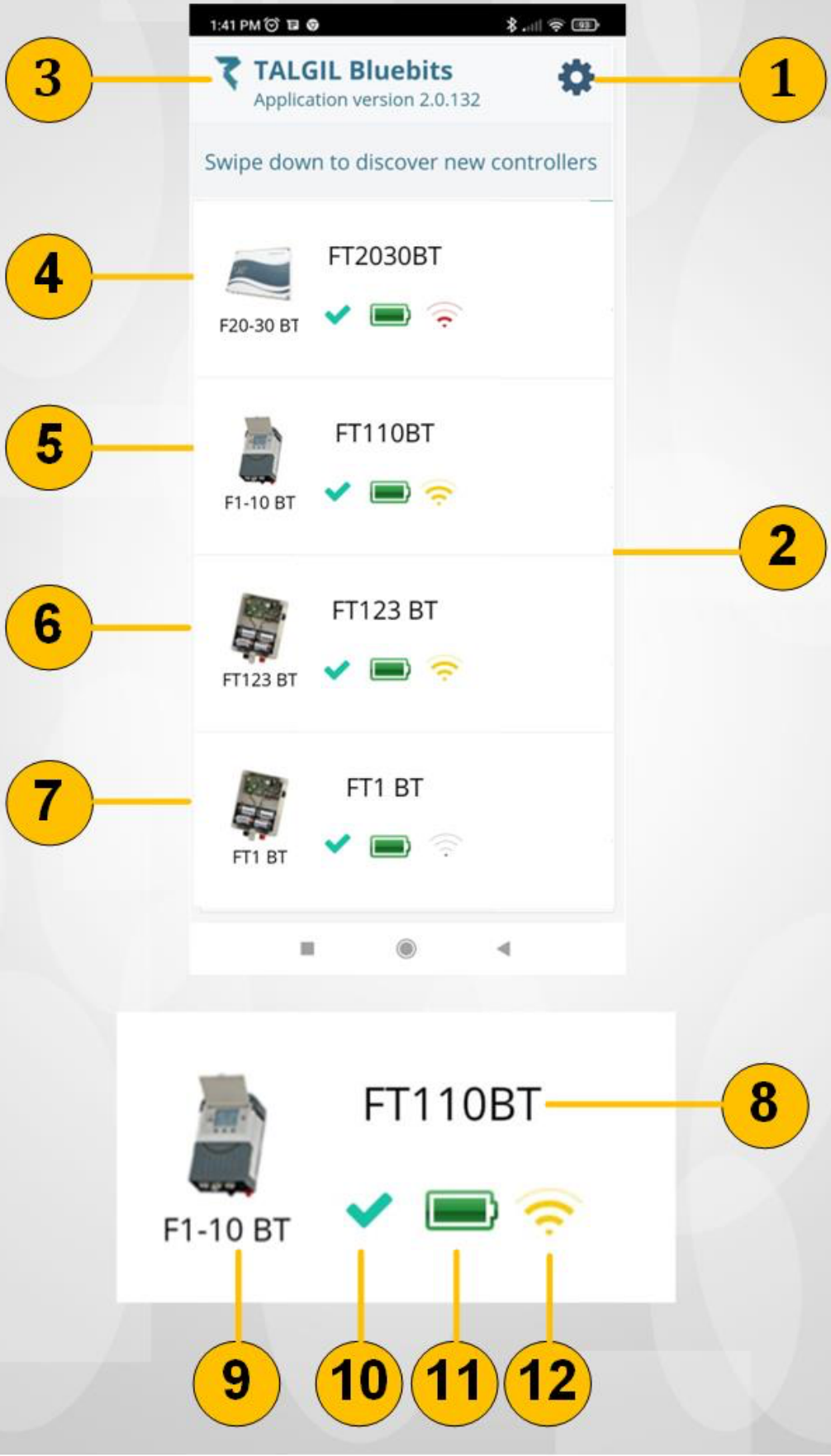
6. Start the BLUEBITS app.



7. Add permission to use the Bluetooth.



SCANNING SCREEN



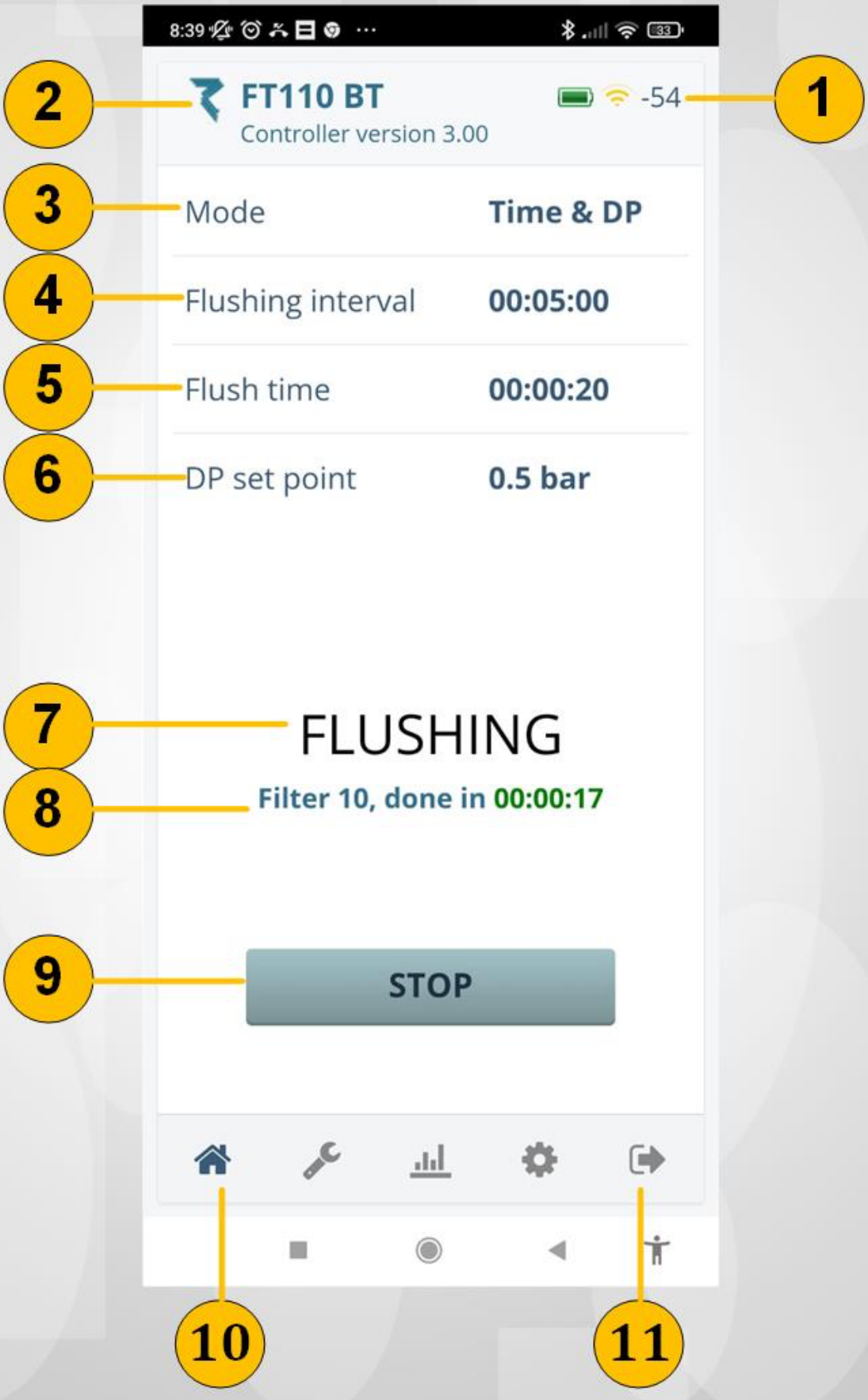
3. SCANNING SCREEN

To start the Bluetooth communication with the **Filtron BLE**, turn on the backflushing controller and start the **Bluebits** app on your smartphone. The **Bluebits** app will start scanning to find nearby backflushing controllers. The results will appear on the Scanning screen. The **Bluebits** app will display a list of discovered backflushing controllers in the vicinity. To discover new controllers, stand close to the controller (up to 60 meters with a line of sight) and swipe down the Scanning screen.

1. To change the display language or Font size, press the Preferences button (see pointer 1 on the Scanning screen).
2. The list of discovered backflushing controllers will appear on the Scanning screen. To connect to the backflushing controller, tap the desired controller. In the list.
3. The smartphone application name and version will appear at the top of the screen.
   The **Bluebits** app supports the following backflushing controllers:
4. **Filtron 20 30 BT.** 5. **Filtron 1-10 BT.** 6. **Filtron 123 BT.** 7. **FT1 BT.**
8. The controller's name appears on the screen. The user can change the controller's name in the Installation screen (See Chapter 7). The following data will appear under the controller's name: **9.** Controller model and image. **10.** The backflushing controller status (Normal, flushing with failure (Looping), or failure without flushing (Battery failure).
   11. Battery voltage level (high, normal, low, and very low).
   12. The Bluetooth signal (RSSI).

SYMBOL NAME	DESCRIPTION	ICON	COLOR
Reciving signal strength	Full reception		Green.
	Medium reception		Yellow.
	Low reception		Blue.
Device name	Frendly name	Filtron 1-10 BLE	
Device type	Controller type		
Controller state	Normal state		Green
	Warning		Blue
	Failure		Red
Batteries voltage level	Normal voltage		Green
	Medium voltage		Greenish
	Low voltage		Yellow
	Very low voltage		Red

Home screen


8:39
FT110 BT
Controller version 3.00
-54
Mode
Time & DP
Flushing interval
00:05:00
Flush time
00:00:20
DP set point
0.5 bar
FLUSHING
Filter 10, done in 00:00:17
STOP
1
2
3
4
5
6
7
8
9
10
11

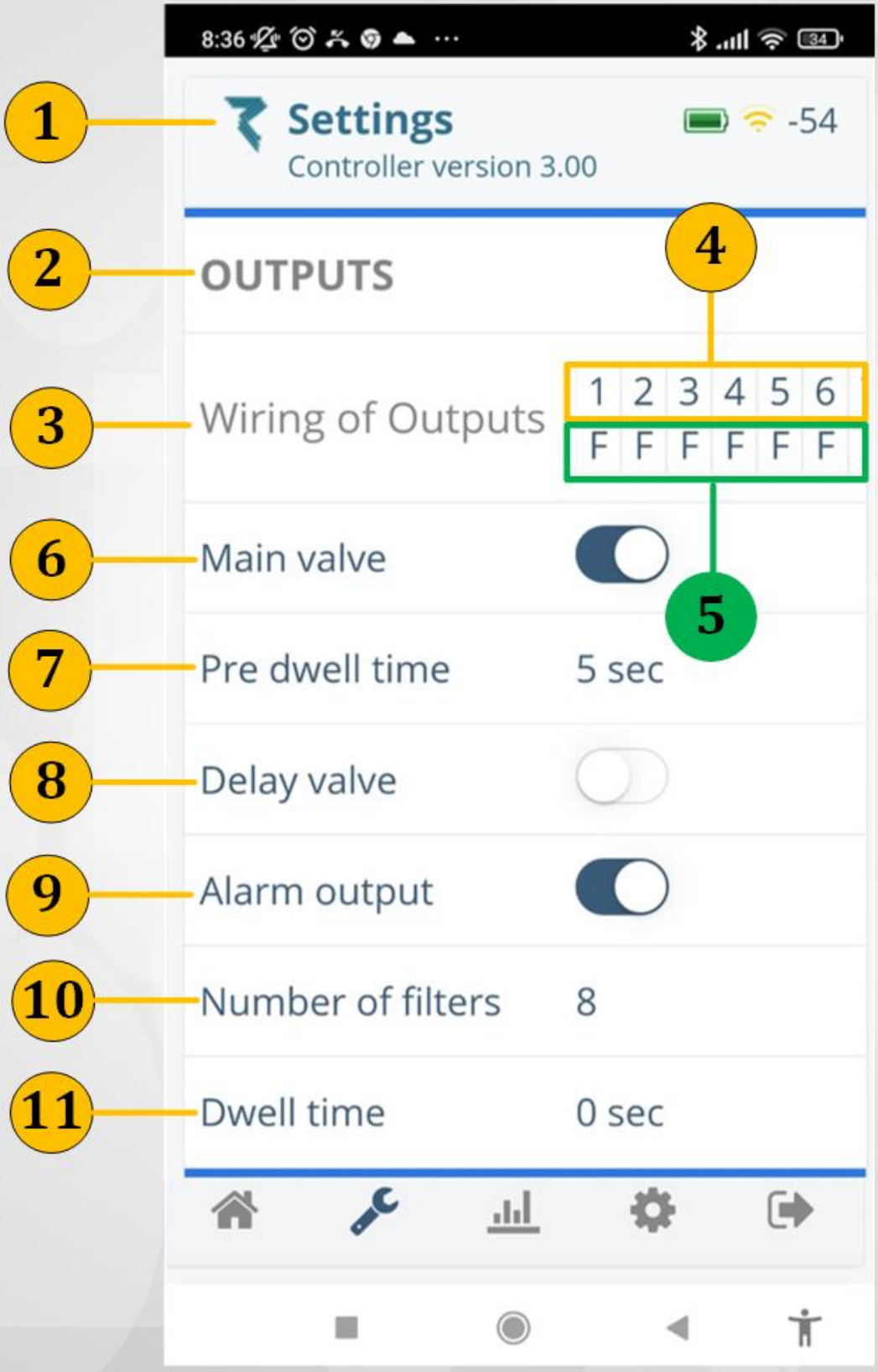
4. HOME SCREEN

1. The Home screen contains the settings for the flushing method and backflushing process. The Bluetooth signal strength and the Battery voltage level appear in the upper right corner (see pointer 1).
2. The controller's name and firmware version will appear in the upper left corner.
3. **Mode-** The controller's operating mode. Defines the trigger to start the flushing.
   There are three **Flushing modes**. To change the **Flushing mode**, tap the **Flushing mode** button and three **Flushing modes** will appear on the screen.
   3.1 **Suspended-** No flushing will take place.
   3.2 **DP only:**

- **External DP-** Flushing will be triggered by receiving a signal from an external Digital DP device that measures high DP pressure. The pulse type is Dry contact.
  Internal DP- Flushing will be triggered by measuring the **ACTUAL DP** which is equal to or higher than **DP SET**. The measured DP value is shown in parentheses in Red.
  3.3 **Time & DP-** Flushing will be triggered by measuring **ACTUAL DP** which is equal to or higher than **DP SET** or by Time interval Whichever comes first.

4. **Flushing interval-** When the flushing mode is **Time & DP** the period between one flushing cycle to the next flushing cycle is defined as the **Flushing interval**.
5. **Flush time-** defines the Flushing time of every filter in the system.
6. **DP set point-** Defines the DP value in which the measured Analog DP value is equal to or higher than the **DP SET** will trigger one flush cycle. The **DP set point** appears when an Analog DP sensor is connected to the controller. When there is no Analog DP, the controller uses the Digital DP input. When a close contact is detected at the Digital DP inputs (External DP), the application will display **DP ON.** Otherwise, the application will display **DP OFF**. At the end of the flushing process triggered by DP, the remaining time for the next backflushing cycle is updated to the **Flushing interval** period.
7. The current status of the backflushing controller is displayed in the center of the screen. The statuses are Suspended, Idle (waiting for high differential pressure), Flushing, Main valve delay, Delay between filters, Waiting DP (DP delay), Between cycles, Looping, and Battery failure (Very low battery voltage).
8. The remaining time of the current status.
9. Action button. Used to Start or Stop flushing manually.
10. At the lower part of the screen, there are Navigation buttons to skip between the screens. The navigation buttons are **Home**, **Settings**, **Flushing Log**, and **Preferences**.
11. To close the application, press the **Exit** button.

SETTINGS SCREEN-OUTPUTS

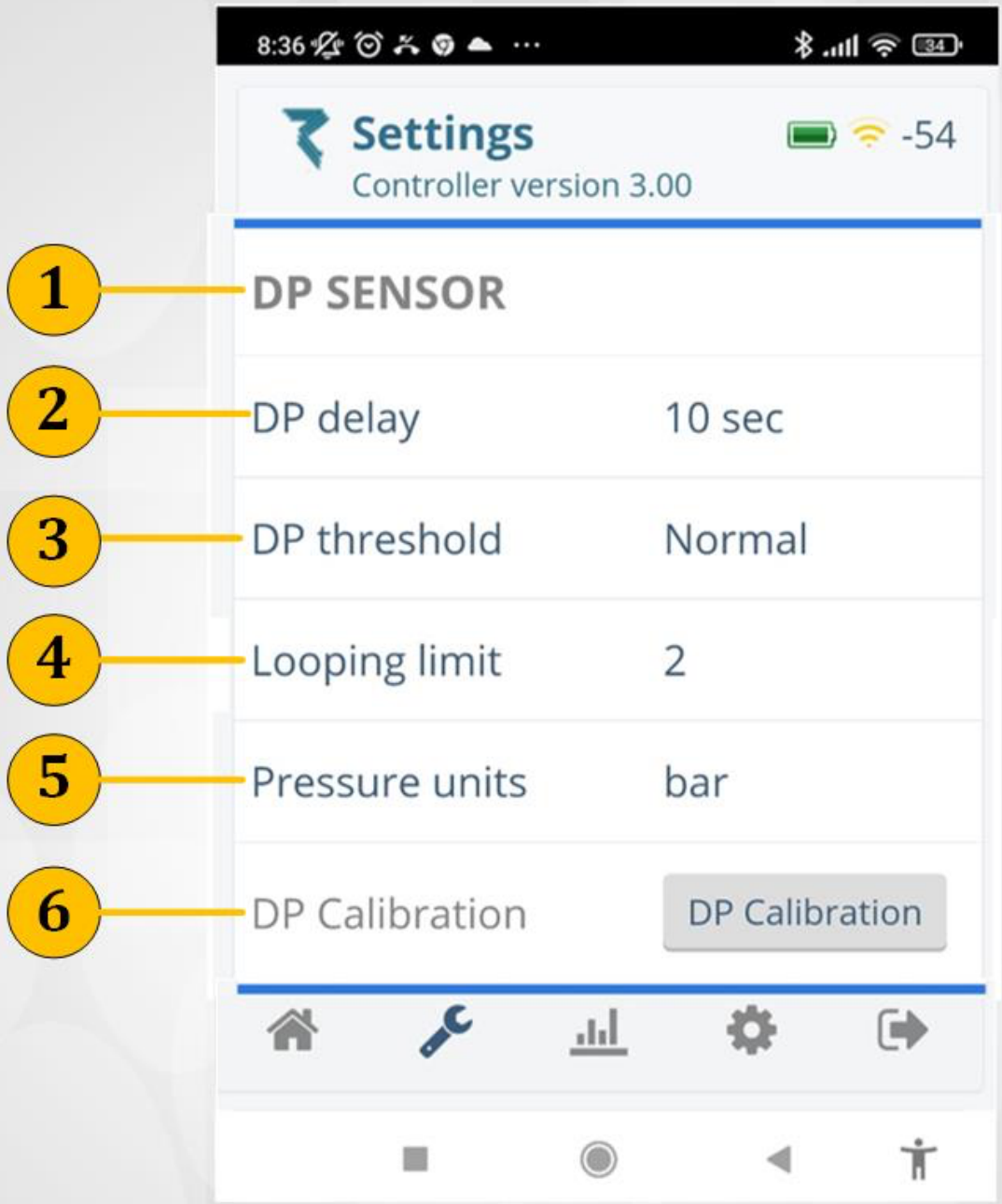


5. SETTINGS SCREEN - OUTPUTS

1. The Settings screen contains information about the flushing network and the necessary settings for the backflushing process. The screen is divided into three parts: Settings of Outputs, Settings of DP sensor, and System settings.
2. The upper part of the Settings screen shows the settings of the **OUTPUTS**.
3. **Wiring of Outputs-** The Outputs map of wiring. Specifies the Output number and Output type according to the configuration. **Swipe to the left to see more Outputs**.
4. The output number in the Outputs terminal block.
5. Outputs type according to the configuration where: **F** is a **Filter**, **A** is a dedicated output for **Alarm**, **D** is a **Delay valve**, and **M** is a **Main Valve**.
6. **Main valve-** Use the Main valve button to Enable/Disable the Main valve. Use the Outputs map to see the output number used for the Main valve. It is marked as **M**. The Main valve is active during the flushing.
7. **Pre-dwell time-** When the Main valve is Enabled, there is an option to define a delay. When using the Pre dwell time, when starting the backflushing, first, the Main valve will open. After the Pre dwell time, the first Filter will open too. It can be used to create a water pressure before flushing.
8. **Delay valve-** Use the Delay valve button to Enable/Disable the Delay valve. Use the Outputs map to see the output number used for the Delay valve. It is marked as **D**. The Delay valve is active while the Filter is active. When the Delay valve is Enabled, there is an option to define a delay. When using a Delay for the Delay valve, when starting the backflushing, when the Filter is active, the Delay valve will open after this Delay time.
9. **Alarm output-** Use the Alarm output button to Enable/Disable the Alarm. Use the Outputs map to see the output number used for the Alarm. It is marked as **A**. The Alarm output is active when detecting a Looping or when detecting Battery failure (In DC controllers).
10. **Number of filters-** Specifies the number of filters according to the number of Output cards connected to the controller and the configuration. When a Main valve, Delay valve, or Alarm is defined, the number of Filters reduces. The user can reduce the number of filters to disable the last filter.
    It is forbidden to disconnect or connect output cards or a Step-Up card to the controller when it is energized!

11. **Dwell time-** Defines the delay time when finishing flushing one filter to start flushing the next filter. It can be used to create a water pressure before opening the next filter.

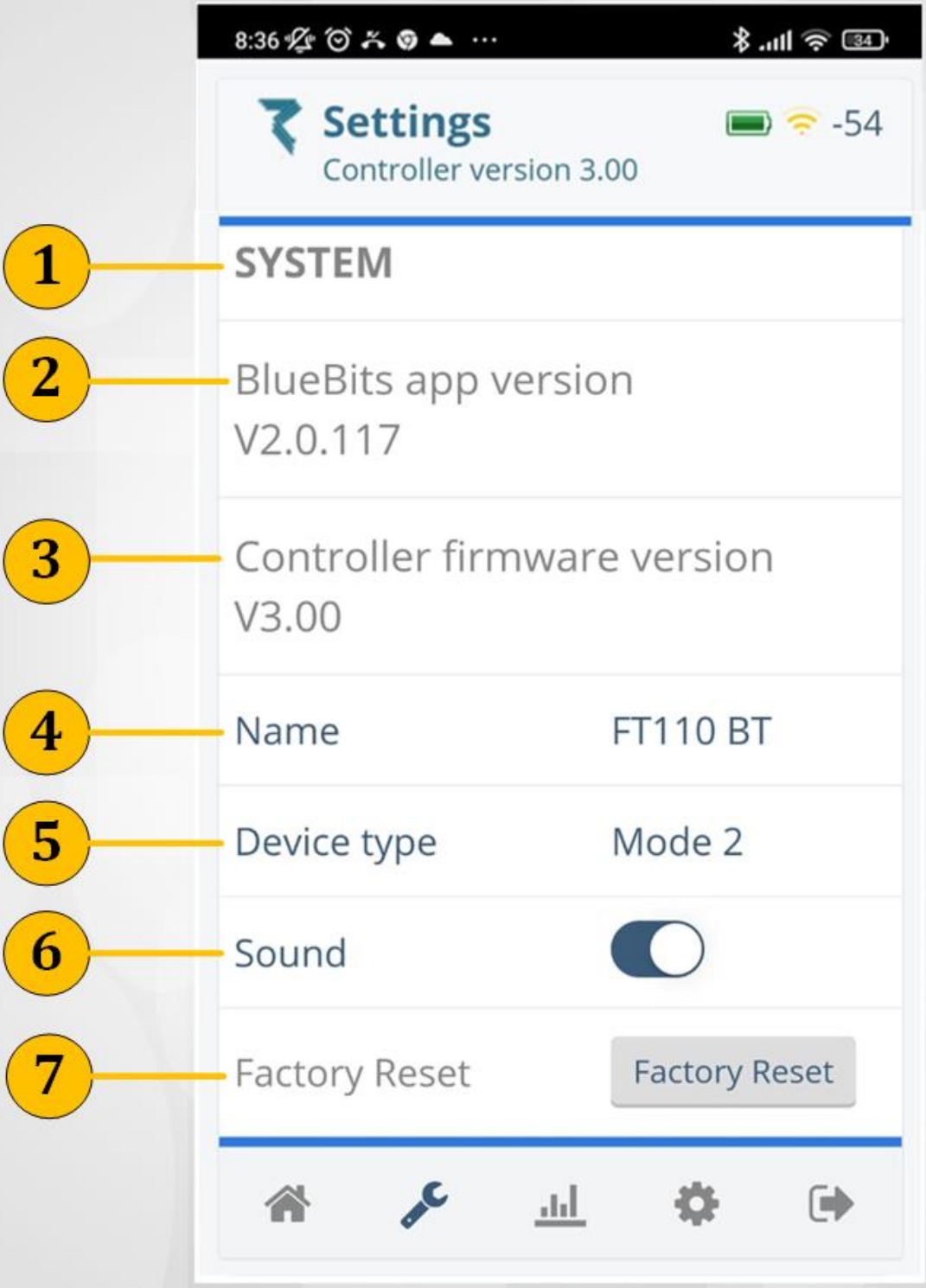
SETTINGS SCREEN-DP SENSOR



6. SETTINGS SCREEN – DP SENSOR

1. **DP Sensor**- Defines the settings of the DP sensor and the behavior of the **Filtron BLE** backflushing controller while using a DP sensor. The **Filtron BLE** supports an Analog differential pressure sensor (built-in Analog DP sensor from Talgil) and an external Digital DP sensor (Dry contact). The DP sensor screen is updated according to the DP sensor type.
2. **DP delay-** Defines the delay time from the moment a high DP value is detected until the start of the flushing process. The delay time is used as the delay time until the DP stabilizes.
   The DP Delay is used at the end of the flushing process. When the flushing process ends, the Filtron ignores the DP sensor for this time. After the DP delay time, the Filtron reads the DP sensor again.
3. **DP threshold-** Defines the range of the Analog DP sensor to be used as DP SET. There are two options. By default, the threshold is Normal. The user can increase the range to Double as described below.
   Normal Threshold- The **DP SET** range is 0-1 bar or 0 to 15 psi.
   Double Threshold- The **DP SET** range is 0-2 bar or 0 to 30 psi.
   The DP Threshold is displayed when an Analog DP sensor is connected to the **Filtron BLE**.
4. **Looping limit-** Defines the maximum number of consecutive flushing cycles allowed. When the consecutive number of flushing cycles is equal to the **Looping limit**, the flushing status will change to **LOOPING**. When detecting a **LOOPING**, the **Filtron BLE** ignores the DP Sensor. When the mode is **Time & DP**, It will continue to work by Time only. The Filtron clears the **LOOPING** Alarm when the DP value decreases below the DP SET value. To clear the **LOOPING** Alarm manually, Disconnect the DP Sensor or Reset the **Filtron BLE**.
5. **Pressure units-** Defines the Units of the DP sensor. It is used in the measured DP value and for the DP SET. This option is displayed when an Analog DP sensor is connected to the Filtron BLE. The units are **bar** and **psi**.
6. **DP calibration-** Calibration of the **Filtron BLE** with the DP sensor. This option is displayed when an Analog DP sensor is connected to the **Filtron BLE**. To start the calibration process, disconnect the high-pressure (upstream) and low-pressure (downstream) command pipes. Wait a few seconds and press the DP Calibration button. At the end of the calibration process, the **Bluebits** application will display the results of the calibration process. When the calibration is failed, try again.

SETTINGS SCREEN-SYSTEM



7. SETTINGS SCREEN - SYSTEM

1. **SYSTEM-** System settings are used for administrative needs, troubleshooting, and for technical support.

2. The **Bluebits** smartphone application version appears on the System screen. The app version is updated from time to time. Make sure that you are using the latest version.

3. The Controller firmware version is the version of the **Filtron BLE**.

4. **Name-** Display the **Filtron BLE** controller name. To edit the controller name, tap the name and enter the new controller name. The controller name is limited to 8 letters or numbers in English. The controller name will appear on the Scanning screen.

5. **Device type-** Specifies the controller mode. The Standard **Filtron BLE** mode is 0. The other modes work differently. The mode defines a special flushing process.
   The Device type cannot be changed via the Bluebits app.

6. **Sound-** Use the Sound button to Enable/Disable the controller Sound.
   When the Sound is enabled, the **Filtron BLE** sound is described below:
   1. When the **Filtron BLE** LCD is OFF and no failures - 2 beeps every 20 sec.
   2. When the **Filtron BLE** LCD is OFF with failures - 3 beeps every 20 sec.
   3. When connecting with the **Bluebits app** and no failures - 1 beep every 3 sec.
   4. 3. When connecting with the **Bluebits app** with failures - 3 beeps every 3 sec.

7. **Factory reset-** Reset to factory settings allows the user to reset the parameters to default. The settings and data on the Home screen and Settings screen will change to the default settings. The data on the Flushing log screen will be cleared.

SETTINGS - FULL SCREEN

8. FLUSHING LOG SCREEN-ACCUMULATIONS

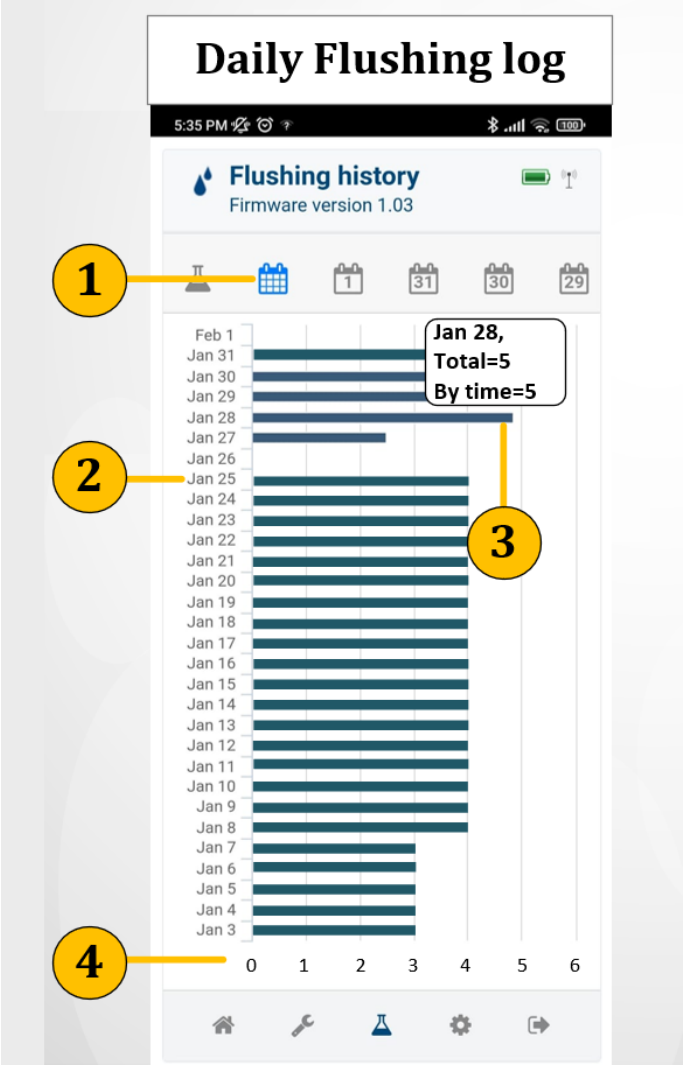
The Flushing log screen includes 3 counters and statistical data about the flushing processes.

1. At the upper part of the screen, the Bluebits app shows the Accumulations button. Press the Accumulations button to see the Counters. There are three types of counters: Flushing by **Time**, by **DP**, and **Manually**.
2. **Count of starts by time-** Specifies how many times the flushing was triggered by time.
3. **DP starts count-** Specifies how many times the flushing was triggered by detecting a high DP value.
4. **Manual starts count-** Specifies how many times the flushing was triggered manually.
5. To clear the Counters, tap the **CLEAR COUNTERS** button.

9. DAILY FLUSHING LOG SCREEN

The Bluebits app displays **Daily** and **Hourly Flushing log** graphs that indicate the total number of backflushing cycles per Day and Hour. The Flushing log consists of Row charts. The Row chart length (From left to right) specifies how many backflushing cycles the **Filtron BLE** controller performed.

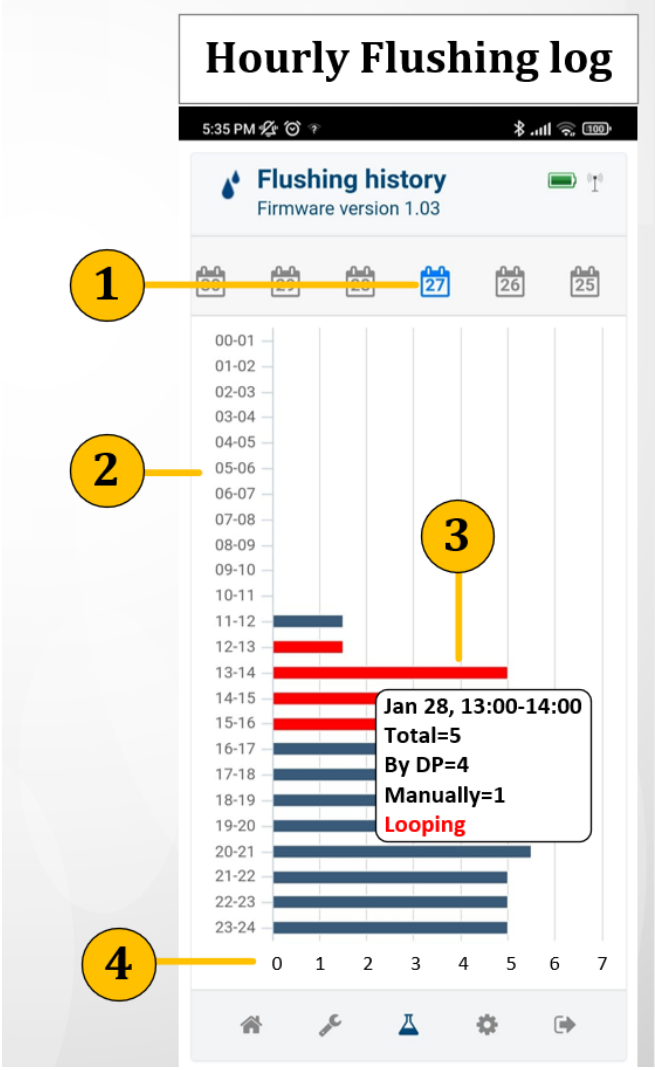
1. Tap the **Daily Flushing log** button to display how many backflushing cycles were performed every day in the last 30 days.
2. To see data on a specific date, find the Date in the list of the last 30 days in the **Daily Flushing log**. The Row chart next to the date specifies how many backflushing cycles were performed on this day.
3. To see more data, tap the row chart. The Bluebits app will show how many backflushing cycles were performed on this day, and how many times it was triggered by Time, by DP, or Manually.
4. The length of a Row chart specifies the number of backflushing cycles that were performed on this day.



10. HOURLY FLUSHING LOG SCREEN

The Bluebits app displays **Daily** and **Hourly Flushing log** graphs that indicate the total number of backflushing cycles per Day and Hour. The Flushing log consists of Row charts. The Row chart length (From left to right) specifies how many backflushing cycles the **Filtron BLE** controller performed.

1. Select the Day from the list of the last 14 days. Tap the day to display the **Hourly Flushing log.**
2. To see data on a specific hour, find the hour in the list of the 24 hours in the **Hourly Flushing log.** The Row chart next to the hour specifies how many backflushing cycles were performed at this hour.
3. To see more data, tap the row chart. The Bluebits app will show how many backflushing cycles were performed at this hour, and how many times it was triggered by time, by DP, or Manually. When the Row chart is red, it indicates a Failure (Looping).
4. The length of a Row chart specifies the number of backflushing cycles that were performed at this hour.



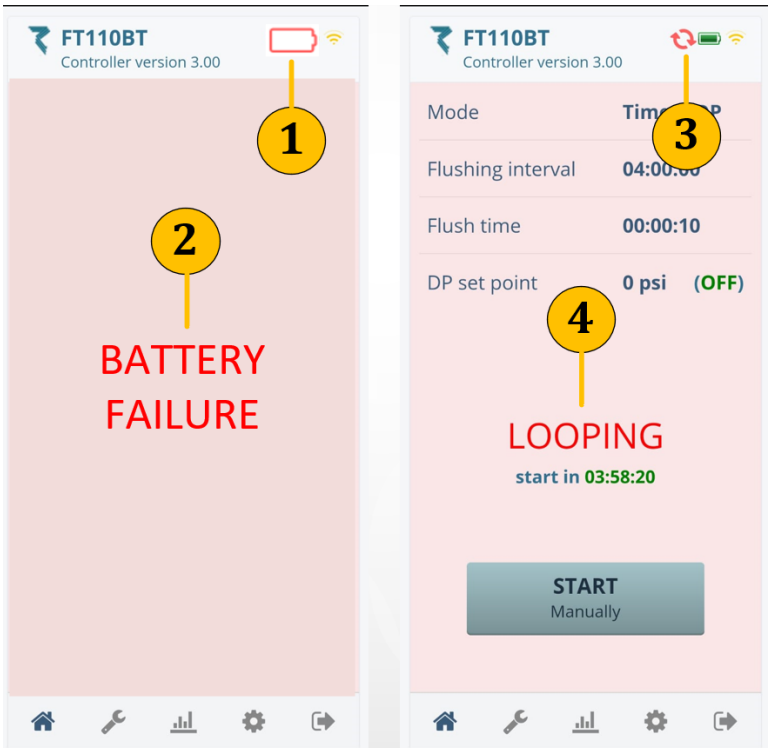
11. PREFERENCES SCREEN

1. The **Preferences** screen allows adjustment of the display. This is the last screen in the Bluebits app.
2. **Preferred language**- The language in which the Bluebits app is currently displayed.
   The language in which the application is displayed does not depend on the language set on the smartphone. The default language is English. To change the language, tap the current language and select the desired language.
   The supported languages are English, Hebrew, and Spanish.
3. **Font size-** The font size in which the Bluebits app is displayed. It is used to change the size of the Text, Icons, and Buttons. To change the font size, tap the current font size and select the desired font size. The options are: Normal, 140%, 160%, 180%, and 200%.
4. **Advanced-** Enabling advanced features for debugging and troubleshooting. Used for developers.

12. OUTSTANDING SYSTEM ALARMS

The **Filtron BLE** announces failures during the backflushing process. The information about failures appears on the Scanning screen, Home screen, and on the upper part of the screen**.** The controller informs about **BATTERY FAILURE** and **LOOPING.**

1. **BATTERY FAILURE** -When a **Very low battery voltage** has been detected, the **Low battery** symbol will appear in the upper right corner.
2. In addition, the application will display a **BATTERY FAILURE** status and will freeze the controller activity. The **BATTERY FAILURE** alarm is accompanied by a special sound every 20 seconds. To avoid planning backflushing, the application does not show the Home screen. The controller will exit from this state when the user repairs the batteries.
3. While detecting Looping, a small icon of Looping will appear on the upper part of the screen.
4. **Looping**- A **Looping** failure rises when the controller detects consecutive backflushing cycles that reach the **Looping limit** value which is defined on the **Settings - DP Sensor** screen in Chapter 6. When detecting a **LOOPING**, the Blubits app shows the Looping status on the Home screen. The **Filtron BLE** ignores the DP Sensor. When the mode is **Time & DP**, It will continue to work by Time only. The Filtron clears the **LOOPING** Alarm when the DP value decreases below the DP SET value. To clear the **LOOPING** Alarm manually, Disconnect the DP Sensor or Reset the **Filtron BLE**.
   It is possible to start the flushing manually while Looping.



13. REVISION HISTORY

The table below describes the changes which have been made to this document.

Date	Change	Description
December 4, 2023		Write the quick user manual.

GOLDTEC
CONTROL SYSTEMS

Website: https://goldtecsystems.com. au/

Facebook: @Goldtec Control Systems

LinkedIn: @Goldtec Control Systems