PumpFuse App User Manual

App version: 1.12 or older

1. Introduction

1.1 Purpose of the App

Welcome to the PumpFuse app! This app is designed to provide you with control and monitoring capabilities for your PumpFuse devices model **PF02** - Monitor & Protector and **PFM01** - Monitor. Ensure you read this user manual to harness the full potential of the PumpFuse app.

1.2 System Requirements

Before you begin, make sure your device meets the following system requirements:

Compatible with iOS 12.0 or later / Android 7.0 or later
Operating System: iOS / Android version

2. Getting Started

2.1 Download and Installation

Follow these steps to download and install the PumpFuse app:

- Open the App Store (iOS) or Google Play Store (Android).
- Search for "PumpFuse" and tap "Download."
- Once downloaded, open the app and follow on-screen instructions to install.

2.2 Connecting your PumpFuse device video.

2.3 Account Creation

There is no need to create a new account. Each PumpFuse device has a unique MAC address we use to manage it on your home WiFi network.

3. User Interface

3.1 Main Screen

The main screen displays real-time pump status, including current load and connection status.
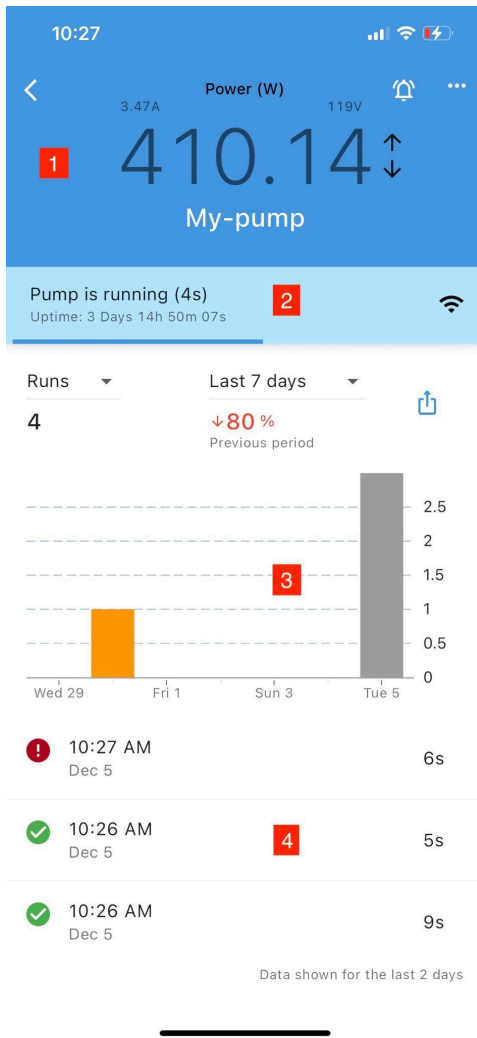
1. Real-time display
2. Status bar
3. Barchart
4. Usage log

3.1.1 Real-time display

The real-time display with expanded details is available exclusively when connected to your home WiFi network. Please note, you won't be able to view real-time wattage readings when you're not connected to this network.

1. Notifications & Alerts menu
2. Main menu
3. Current in Amps
4. Voltage
5. Wattage
6. Overload indicator
7. Underload indicator
8. Device name

3.1.2 Status bar

The status bar is showing the current state of your pump.

1. Cloud icon. Indicates that you are connected remotely
2. WiFi icon. Indicates that you are connected on WiFi network
3. Uptime. The time since the device was rebooted last.
4. Auto reset timeout progress indicator
5. Current pump status

3.1.3 Barcharts

Barcharts section shows the pump's **Runs**, **Failures**, **Time** and **Wh** (watt per hour) values.
Time periods: Last 7 days, Last 30 days, Last 12 months, This week, This month, Year to date.
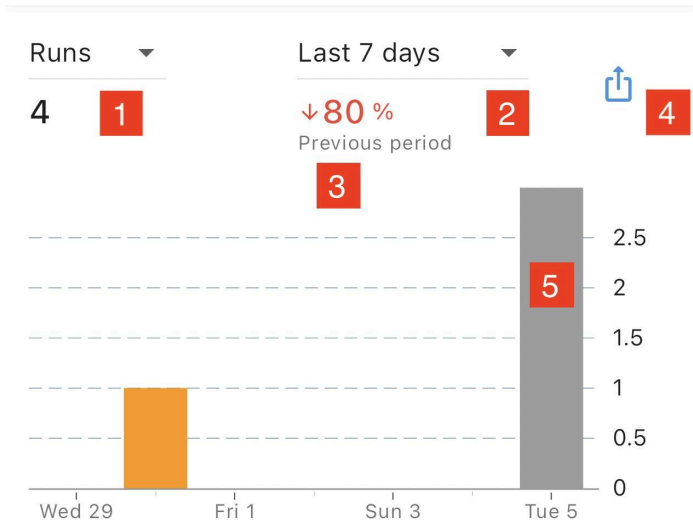
1. Aggregated by day or month pump's values: Runs, Failures, Time, Wh (watts per hour)
2. Time scale: Last 7 days, Last 30 days, Last 12 months, This week, This month, Year to date
3. Compared to the previous period in per cents; red color means the value is down, green color means the value is up
4. Email current barchart data
5. Intraday bar is colored gray, orange bars are for the data in the past

3.1.4 Usage log

Usage log keeps track of each pump run up to the last 2 days.

1. Red icon means Alert on Failure happened
2. Yellow icon means the load exceeded max limit of 1800W
3. Green icons means the pump run was normal

Tap on the log entry to see the power graph of the pump. MEAN is an average value in Watts, SD stands for a standard deviation.

The graph shows duration of the run, High and Low range in green(if Alert on failure is enabled). It also shows the initial delay time and the last detected power value.
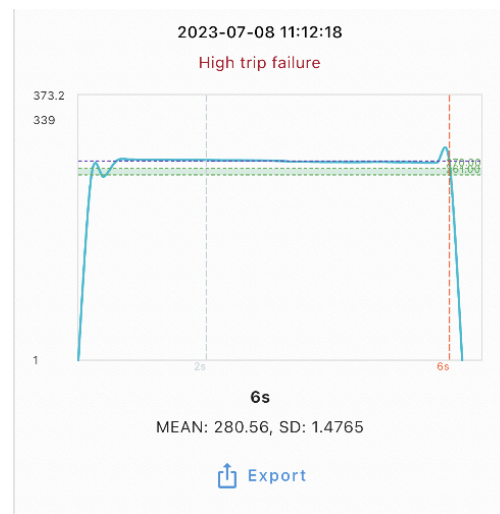
3.2 My Devices screen

You can monitor and control multiple PumpFuse devices from our app. Just go to "My devices" screen and tap "+" or the menu option "Add device" and follow the setup wizard.

1. WiFi icon means that this device connected to the app via local WiFi network "blue3"
2. The name of WiFi network
3. Cloud icon means the this device connected to the app via the Internet
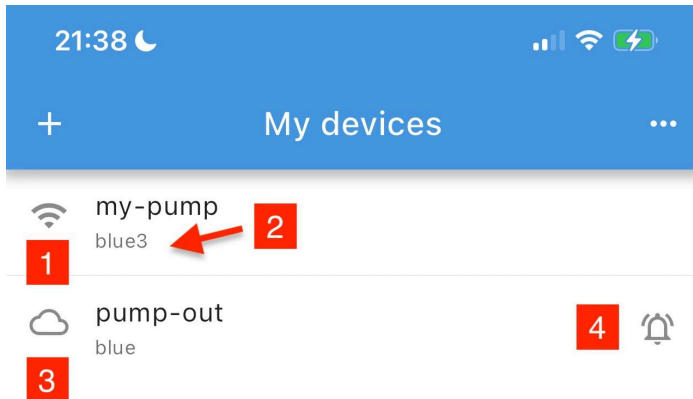4. The bell icon means that there is at least one Alert/Notification enabled

4. Features and Functions

4.1 Connect to PumpFuse device

Go to the device list in the app and tap the "Add device" menu option.

4.2 Notifications & Alerts

- **Notifications and Alerts** in the PumpFuse app are both types of push notifications that users can receive on their Android or iOS devices. Users will receive these as pop-up notifications, even if the PumpFuse app is not actively open, provided they have subscribed to these notifications and enabled push notifications on their smartphone.

- **Notifications** are automatically recorded in the Notification history log. These include important system events and updates.

- **Alerts**, while also delivered as push notifications, are not recorded in the Notification history log. Instead, the information related to Alerts can be found in the PumpFuse Usage log. Alerts typically relate to the operational status of the pump, such as start, stop, idle conditions, or failure conditions.

Both Notifications and Alerts depend on a WiFi and Internet connection to transmit messages from the PumpFuse device to the cloud servers, and subsequently to the user's phone. This ensures users are informed about their pump's status in real-time, enhancing the monitoring and maintenance of their pump systems.

This system allows users to stay updated about their pump's status and any important system events, ensuring they don't miss critical alerts even if they miss the initial pop-up notification.

4.2.1 Notify on Connect

As soon as the device is online and connected to the Internet it sends "Hello!" message to the app.

4.2.2 Notify on Shutdown

The alert is sent when the PumpFuse fails to "ping" our services longer than 17 minutes. Check that there is no power outage and the Internet/WiFi connection is good.

4.2.3 Notify on Overtime

The alert is sent when the PumpFuse detects continuous load for at least 15 minutes. If the load continues over 45 minutes you will get at least 3 alerts (every 15 minutes).

4.2.4 Notification History

All notifications 4.2.1, 4.2.2, 4.2.3 will be logged. The data shown for the last 2 days.

4.2.5 Alert on Start

The alert is sent when the pump starts working.

4.2.6 Alert on Finish

The alert is sent when the pump stops working.

4.2.7 Alert on Idle

Alert on Idle

Idle timeout (s)

60 ⓘ

Save

Disable alert on idle

An alert is sent either 10 or 60 minutes after the last pump run on PumpFuse model **PF02**.

For PumpFuse model **PFM01**, you can set a custom "Idle timeout" in seconds.

This setting can only be adjusted when connected to the PumpFuse device on your local WiFi network.

4.2.8 Alert on Failure

An Alert on Failure is triggered if the load power goes above or below the set High or Low Trip values for a specified duration, as determined by the High or Low Trip Delay parameter.

If the Auto Reset parameter is more than 0, the Alert on Failure will reset, restarting load monitoring. If it's set to 0, you must press the device button or app Reset button.

These settings are adjustable only when connected to the PumpFuse device on your local WiFi network.

Use "Autofill from last pump run" to modify Low/High trip points within ±10% of the average value from the last pump run for a reasonable operational range.

"Max runtime" If set greater than 0 (zero) the Alert on Failure will be triggered after these many seconds. Set to 0 (zero) to disable it.

Select "Set to defaults" to restore values to reasonable defaults.

4.3 Difference between PumpFuse PF02 and PFM01 models

Model	Switching Relay	Max runtime	Alert on Idle	Min power
PF02 Protector & Monitor	The relay will disconnect the load on the Alert on Failure.	-	10m or 60m	-
PFM01 Monitor	No relay inside. The load is always connected to power.	Available	Custom in seconds	Available

4.4 Device Settings
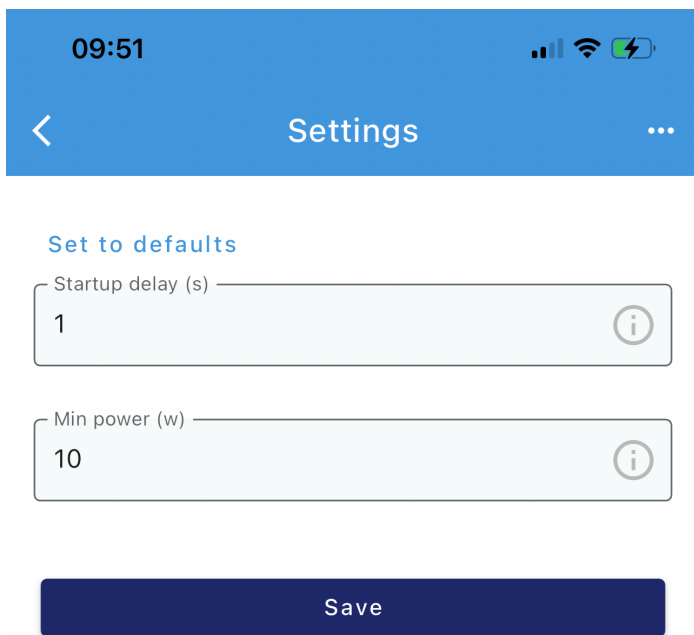
- Set "Startup delay (s)" in seconds to avoid false errors triggered by startup inductive load power spike.

- Set "Min power (w)" in watts as the minimum power threshold for detecting load (useful with pump battery backup generators).

  This parameter is only available in PumpFuse model PFM01.

These parameters can only be changed while you are connected to the PumpFuse device on your local WiFi network.

Tap "Set to defaults" to restore the value to reasonable defaults.

4.5 Upgrade firmware

If you observe a red dot beside this option in the menu, it indicates the presence of a firmware upgrade for the PumpFuse device.

4.6 Rename device

Use this option to rename your device. This will only work on the local WiFi network.

4.7 Share device

Should your friend have the PumpFuse app on their smartphone, you can email them a link for your linked device. Upon clicking the link on their smartphone, they will receive a prompt requesting your home WiFi network password. Once you provide the password, they can remotely connect to your PumpFuse device.

https://pumpfuse.com/share?mac=XXXXX

4.8 Clear History

Deletes your usage log and barchart history records. Sometimes, you will need to clear history a few times as the barchart data is sometimes locked for a few hours.

4.9 Forget device

This will remove the device from the list of devices on your app.

4.10 Send Feedback

Send us a message with your questions or suggestions. For convenience we include your device name and firmware/app versions into the message body.
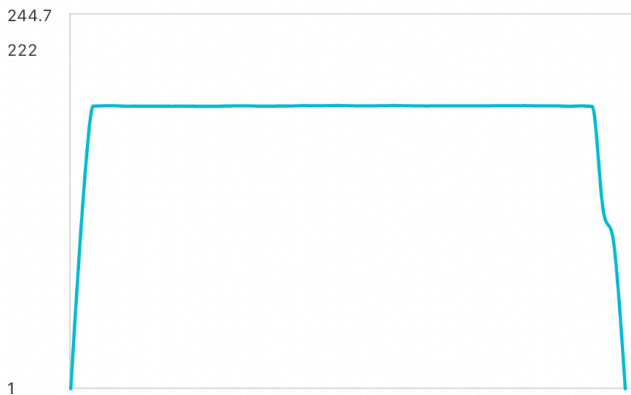
4.11 Export Data
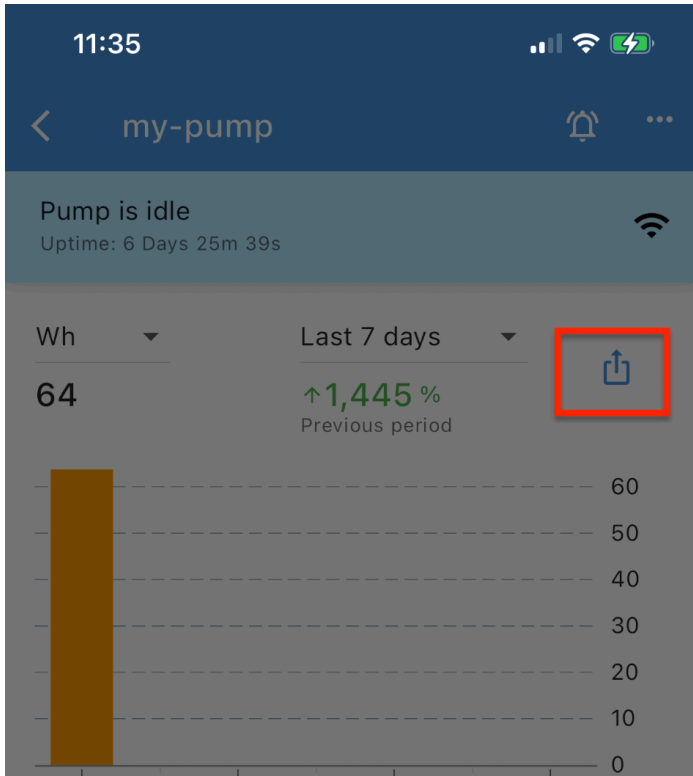
The export buttons are available on the barchart and power line charts.

Tap on the icon button it will create an email with chart data embedded in the body of the email.

5. Troubleshooting

5.1 Common Issues

My PumpFuse keeps going offline. What should I do?
Ensure the device is closer to the router and consider creating a 2.4GHz guest WiFi network.
Rebooting your WiFi router might stabilize the connection. Make sure you do not have too many
IOT devices on the same WiFi network (10+ could be too many for some routers).

I cannot send feedback or export data via email on iOS.
Try installing the native iOS email app as a default email handler. Outlook and Google emails
are not considered default email handlers on iOS.

How to reset the device to the Factory settings?
Press and hold the LED button for at least 6-10 seconds until it is flashing twice rapidly. You
can now reconnect to it using the "Add device" menu option on the device list screen.

Why do I get "Alert on Failure" so often?

2023-07-08 11:12:18
High trip failure

373.2
339

6s
MEAN: 280.56, SD: 1.4765

Export
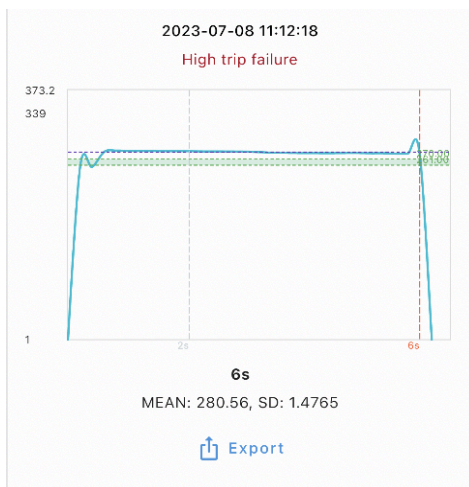
Alert on Failure settings. Make sure the
Low/High trip points are set to a reasonable
range for your typical pump mean value
(about 10-15% above and below the mean
value).

You can get the mean value if you tap on the
last green entry in the usage log you will see
the mean value at the bottom of the chart.

Tap "Autofill from last pump run" to adjust the
Low/High trip points with -/+ 10% of the mean
(average) value of the last pump run.

Why is my usage log has only one entry?
The usage log shows the data for the last 2 days of activity. So if you had a gap of a few days in
your pump runs and the next run happens it will clear the old entries and add a new one to the
log.

16 common Android notification problems
https://www.androidpolice.com/android-notification-problems-fixes

I cannot find my device on my local WiFi network during the "Add device" setup wizard.
There are a number of reasons you cannot find device during the setup wizard:

- Wrong password or WiFi name entered (case sensitive)
- No internet connection
- WiFi Router does not support 2.4GHz
- The device is too far from the WiFi router
- WiFi mesh/Guest network blocks the device
- You configured the device with one WiFi network credential but during the setup your smartphone connected to another WiFi network
- Your WiFi router could be saturated with too many IOT devices

Try disconnecting IOT devices from your WiFi router that you do not use and see if it helps.

Make sure you allow the PumpFuse app to access Local Network from the Settings on your smartphone.

Reset your device to the factory settings - press and hold the LED indicator button for 10 seconds.

Go to the "Add device" setup wizard and make sure you selected the right LED light status, see 5.5 table.

5.2 Error Messages

Could not connect to the device. Make sure you are on the home WiFi network.
Please connect your phone to the same WiFi network your PumpFuse device is connected to.

Push notifications disabled
Go to your phone's settings and make sure you have enabled Push notifications for the PumpFuse app.

5.3 LED light indicator status

LED light	Status
Flashing twice rapidly	Ready to connect. The device is not configured.
Half a second "On", half a second "Off"	Connecting to home WiFi network.

Solid light	The device is connected through the home WiFi network to the Internet.
Solid light interrupted briefly every 3 seconds	When the device is connected to the home WiFi but fails to push the last message to the server (e.g. the Internet was not available) or when WiFi connection is poor. The device will auto-recover in a few seconds.
Fast flashing	Firmware upgrade is in-progress.

6. Frequently Asked Questions (FAQs)

Q: Will PumpFuse notify me in case of a power outage or if the outlet trips?
A: Yes, PumpFuse can alert you in such scenarios. Simply enable the "Notify on Shutdown" option in the Notifications & Alerts menu, and you will receive a push notification approximately 17 minutes after the PumpFuse device is disconnected from the Internet.

Q: How do I change the Wi-Fi network on my PumpFuse?

A: To change the Wi-Fi network, perform a factory reset by holding the button for 6-10 seconds. Afterward, go to the list of connected devices in the app, select "Add device" from the menu, and follow the setup wizard.

Q: I want to export more data for analysis, especially regarding power consumption. How can I do this?

A: We offer a Looker Studio dashboard as a subscription service for in-depth data access. Email sales@pumpfuse.com.

Q: Can I use PumpFuse for a second sump pump without interference?

A: Absolutely, you can have multiple PumpFuse devices on your network. To add a new device, go to the device list menu, tap "Add device," and follow the setup wizard.

Q: Will my pump still run if the PumpFuse goes offline?

A: Yes, the pump will continue to run even if the PumpFuse devices cannot connect to Wi-Fi or the internet.

Q: What's the difference between the PumpFuse Monitor and Protector (PF02) and PumpFuse Monitor (PFM01)?

A: The PumpFuse Monitor (PFM01) will only monitor the pump without the feature of disconnecting it. Also it will have configurable Alert on Idle parameters and Min Power settings (designed to work with battery backup systems). While PumpFuse Protector (PF02) has a mechanical relay inside, Protector Monitor has no relay and if it fails for any reason it will keep the pump connected to the power source.

Q: Can you configure multiple devices to monitor pumps using different phones?

A: To monitor pumps using different phones, follow these steps: If you're on the same Home WiFi, install the app on the second phone, access the menu, and click "Add device," then follow the installation wizard. Alternatively, if you want to share the device connection with a phone outside your Home WiFi, choose "Share" from the device menu, email the link to the other smartphone, and open the link to establish the connection. As a security measure, you'll be asked for your WiFi password once during this process.

Q: Can I give someone else access to view my pump activity?

A: Ask your field to install the PumpFuse app. Tap the "Share" menu option in the app, email the device link to your friend. When your friend opens the link the device will be added to the list of devices. Let them know your WiFi password as they will be prompted for it as a security measure.

Q: How can I achieve a time dosing effect with the PumpFuse device (Model FP02 only)?

A: You can achieve a time dosing effect by adjusting the PumpFuse protection parameters as follows:

1. Enable protection and switch to manual override.
2. Set the "high trip" lower than the typical power of your running pump.
3. Set the "high trip delay" to 180 seconds (3 minutes).
4. Set "auto reset" to 1620 seconds (27 minutes).

With these settings, when your pump runs, it will trip the high point, and the device will stop the pump in 3 minutes due to the "high trip delay." After that, the Auto reset feature will wait for 27 minutes before reconnecting your pump to power.

Q: Does the PumpFuse monitor keep track of the frequency a pump runs?

A: Yes, the PumpFuse device maintains a comprehensive log of each pump run. It aggregates this information on a daily, weekly, and monthly basis, allowing you to compare the pump's performance across different time periods.

Q: Can I monitor the information when I am away from my home?

A: Absolutely. You have the flexibility to remotely access the current status of your pump, review the usage log, and view statistical data even when you are away from your home WiFi network. This feature provides convenient monitoring and peace of mind, regardless of your location.

7. Glossary

Idle timeout
Idle timeout in seconds. Alerts on idle after the load stops.

Low trip point
Low trip point in watts to send Alert on Failure (and stop for model PF02) the pump on loss of load condition.

Low trip delay
Low trip delay in seconds to avoid nuisance trips from short loss of load.

High trip point
High trip point in watts to send Alert on Failure (and stop for model PF02) the pump on overload condition.

High trip delay
High trip delay in seconds to avoid nuisance trips from short overloads.

Max runtime
Maximum time for load to run before it is stopped.

Pump Load
The current load on the pump, measured in watts.

Trip Point
The predefined limit at which the app triggers an alert.

Startup delay
Startup delay in seconds. To avoid false error triggering we ignore the pump power reading during the startup delay

Min power
Minimum power threshold for detecting load (useful with pump battery backup generators).

Max runtime
Maximum time for load to run before Alert on Failure is sent (and it is stopped for model PF02).

Auto reset

Auto reset in seconds. If set to "0" the auto reset is disabled.

Idle timeout
Idle timeout in seconds. Alerts on idle after the load stops.

8. Contact Information

For further assistance, contact PumpFuse support at sales@pumpfuse.com. For more information about PumpFuse, visit us at: https://www.pumpfuse.com