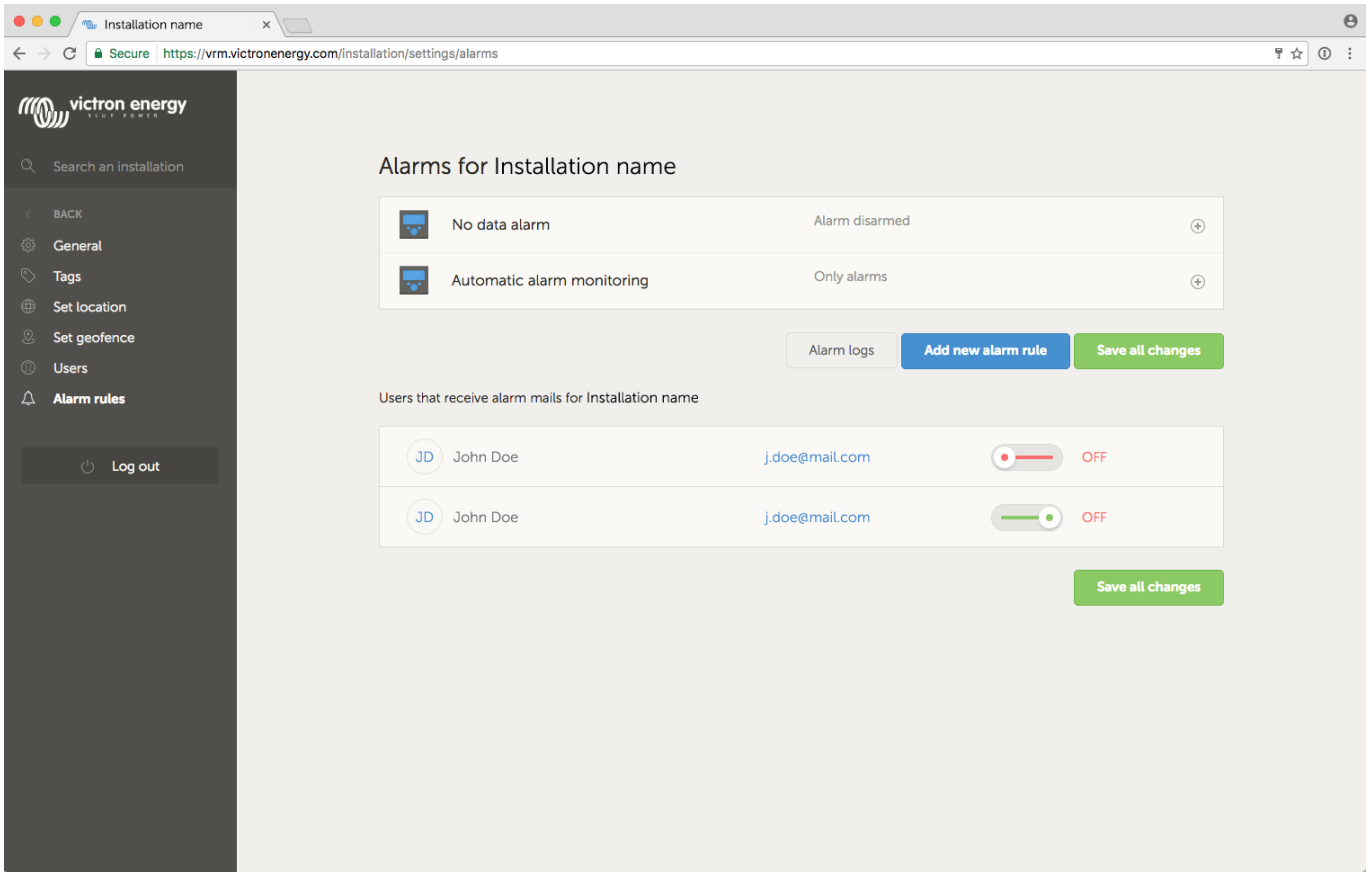
VRM Portal alarms and monitoring

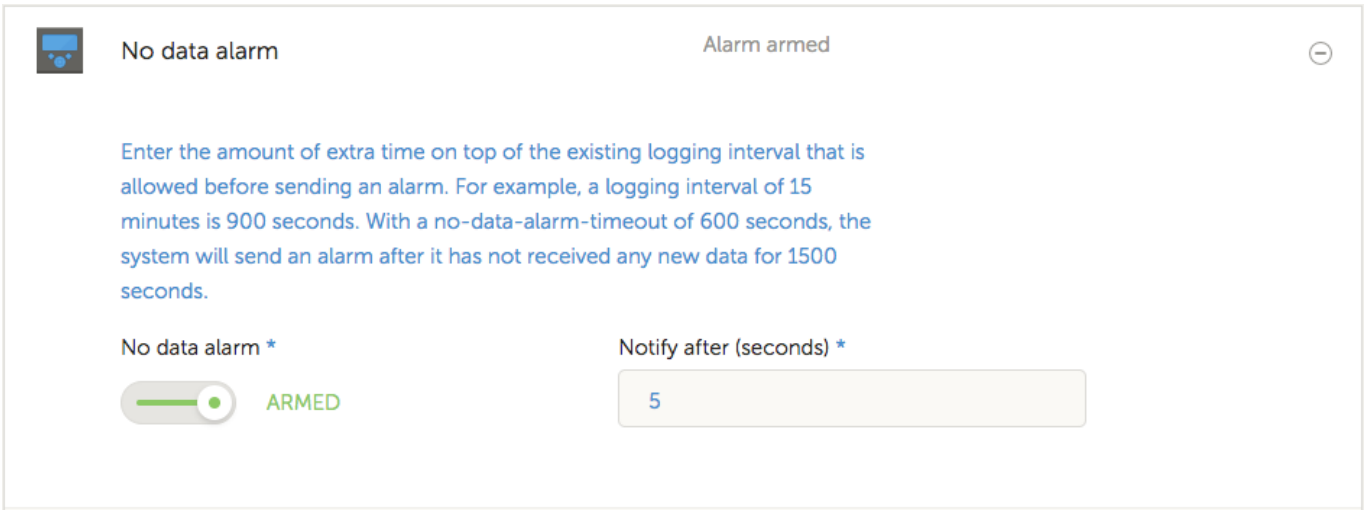
The VRM Portal constantly monitors and watches over your system and can also inform you by email if something is amiss. There are four categories of monitoring:

- The no data alarm: monitors the connection between the Portal and the Victron installation
- Automatic alarm monitoring: monitors a predefined list of parameters on all connected products
- Geofence: monitors location (requires a Color Control GX with a USB-GPS)
- User configurable alarms



1. No data alarm

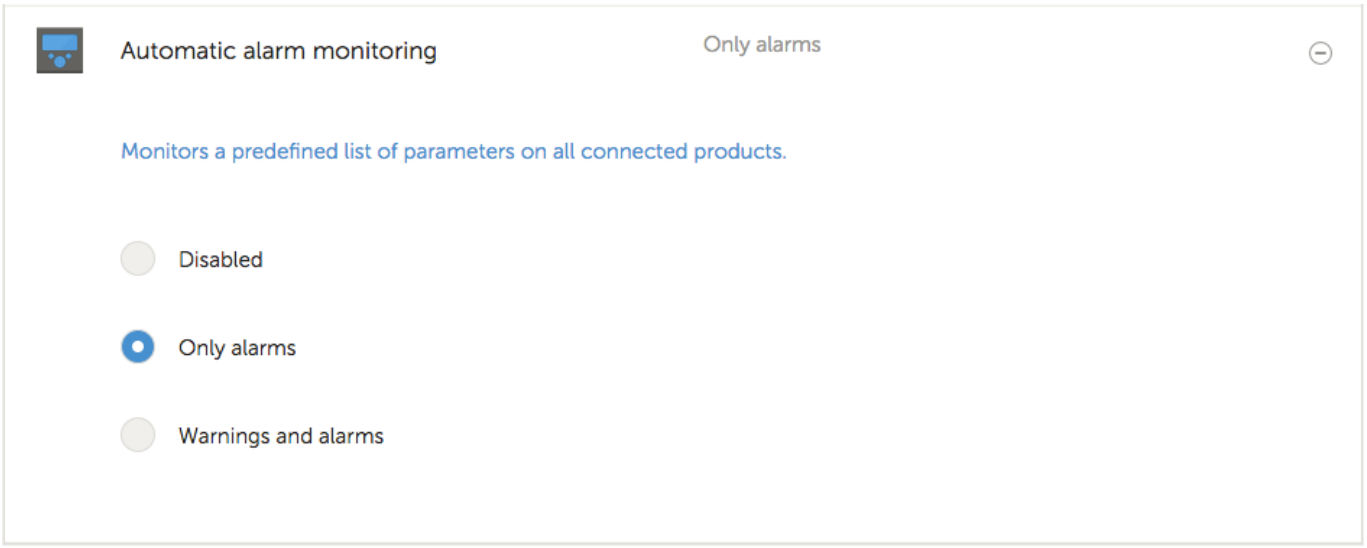
Typically used for land-based installations, such as off-grid farms and telecommunication installations.



2. Automatic alarm monitoring

Monitors a predefined list of parameters on all connected products. With this feature, it is no longer necessary to manually configure alarm rules for all the different parameters. An email will be sent if any of the parameters listed below enters an Alarm state, and optionally for Warnings too. A recovery email will be sent if the parameter returns to its normal value.

You can set the monitor to send an email alert for alarms only, for warnings and alarms, or disable it entirely. The default for new installations is Only alarms:



2.1 Parameters being watched by the Automatic alarm monitor

2.1.1 VE.Bus products (Multi, Inverter and Quattro)

- VE.Bus state
- VE.Bus Error
- Temperature alarm
- Low battery alarm

- Overload alarm
- AC Input phase rotation (for three phase systems)

2.1.2 BMV, Lynx Shunt VE.Can and other batteries

- High voltage alarm
- Low voltage alarm
- High starter-voltage alarm
- Low state-of-charge alarm
- Low battery temperature alarm (BMV-702 only)
- High battery temperature alarm (BMV-702 only)
- Mid-voltage alarm (BMV-702 only)
- Low fused-voltage alarm (Lynx Shunt only)
- High fused-voltage alarm (Lynx Shunt only)
- Fuse blown alarm (Lynx Shunt only)
- High internal-temperature alarm (Lynx Shunt only)
- Low starter-voltage alarm (Lynx Shunt only)
- High charge current alarm
- High discharge current alarm
- Cell imbalance alarm
- Internal failure alarm

2.1.3 Solar charger

- Charger fault
- Charge state
- Equalization pending
- Alarm condition
- Low voltage alarm
- High voltage alarm
- Error code

2.1.4 Skylla-i charger

- Charger fault
- Charge state
- Error
- Low voltage alarm
- High voltage alarm

2.1.5 Lynx Ion BMS

- Error code
- Error

2.1.6 Venus devices

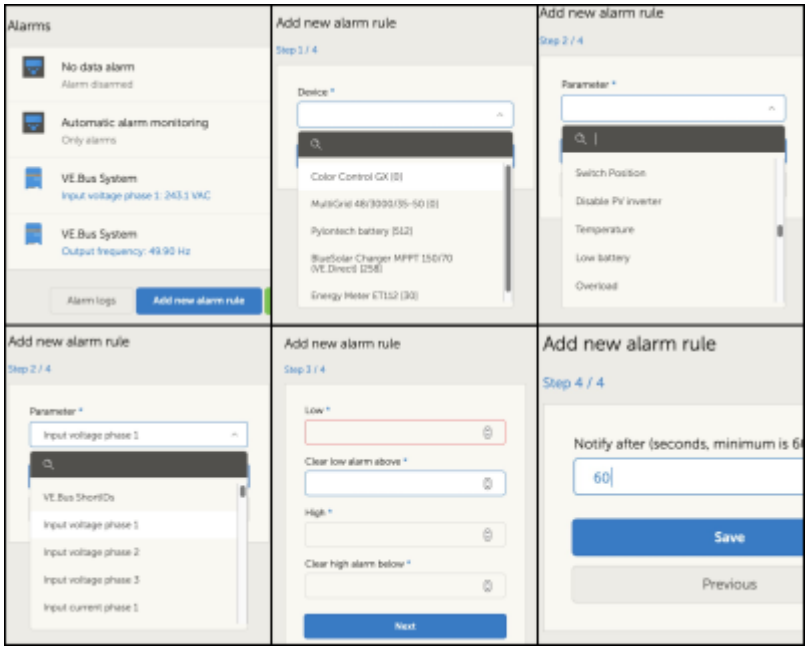
- Digital input

2.1.7 Generator start/stop

- Generator not detected at AC-input. See generator_start_stop for details

3. User configurable alarms

Advanced rules, including hysteresis can be configured for all parameters available in the VRM database.



3.1 How to properly configure high, low and their hysteresis

To understand what the hysteresis is, consider the following example: you want an alarm as soon as the battery voltage drops below 10 volt. And only when it rises again above 11.5 volts, you want the alarm to clear. These 11.5 V is the hysteresis.

A properly configured alarm rule meets the following criteria:

- The low hysteresis should be equal to or higher that the low alarm threshold
- The high hysteresis should be equal to or lower than the high alarm threshold
- The low hysteresis should be lower than the high alarm threshold (otherwise a high alarm will be triggered as soon as the low alarm is cleared)
- The high hysteresis should be higher than the low alarm threshold

Note November 2014: after rereading the exact meaning of hysteresis, I see that this is the concept. And not the right word for the value at which to clear an alarm. We'll rename these items on the and then also this text shortly: Low hysteresis → Clear low alarm above High hysteresis → Clear high alarm

below

3.2 Receiving and alarm on mains failure

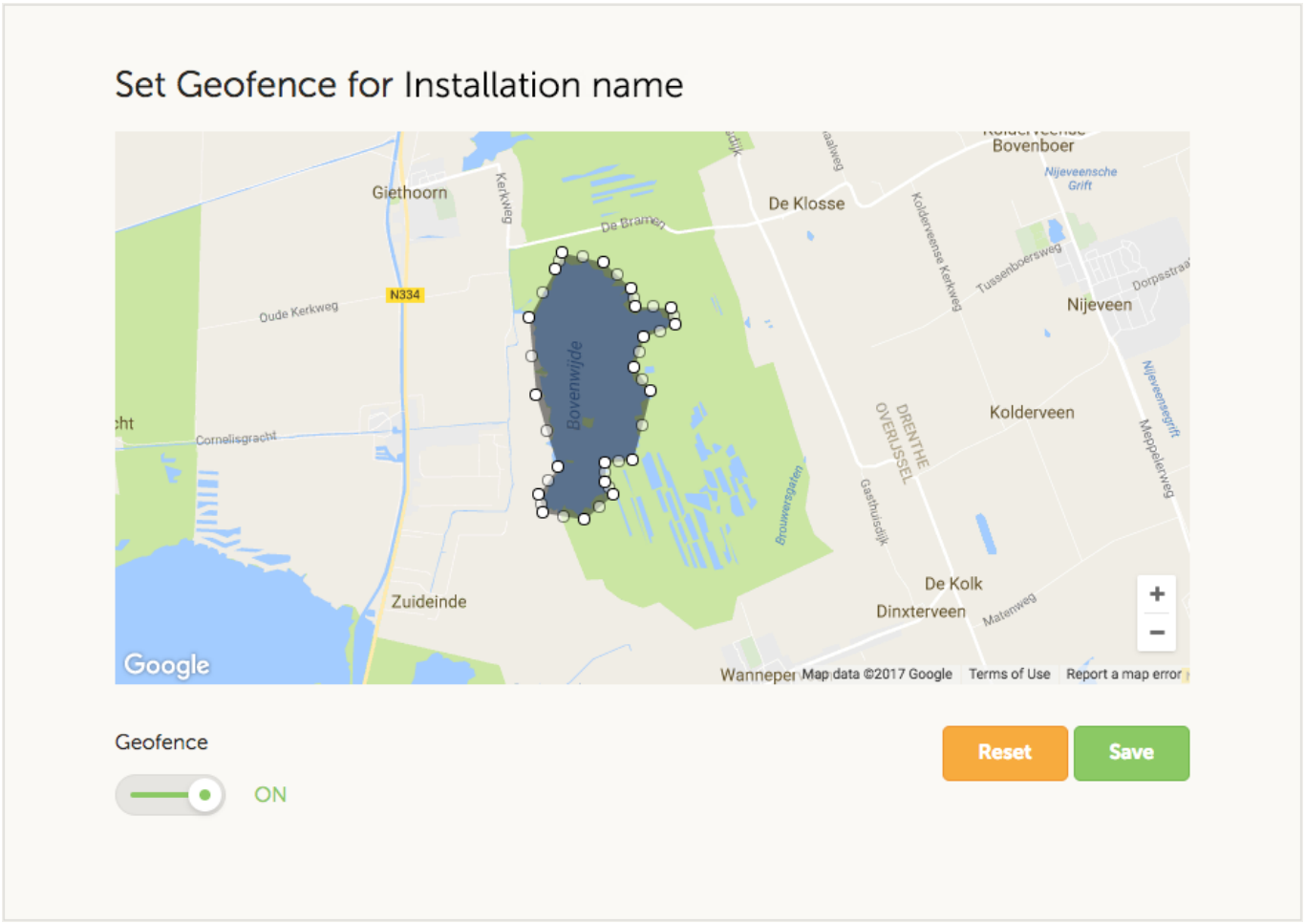
This is an alarm typically wanted in a backup system.

To set it up:

1. Start adding an alarm
2. Select the Multi (or Quattro) as the device on which you want to monitor a a parameter.
3. Select the VE.Bus State as the parameter.
4. Set the Inverter state as 'Armed'. You might want to add Off and Error there as well.
5. Set the notification time to 300 seconds, i.e. 5 minutes.

4. Geofence

Typically used for rental vehicles and boats. The example below shows a Geofence that will give an alert when the boat leaves the lake. An alarm will also be generated when the location data is no longer being received, for example when the GPS receiver is unplugged. Use this in combination with the No data alarm for full coverage.



5. Email rate limiter

Under certain conditions, some installations can hover near a warning or alarm condition. This can yield a flow of redundant e-mail messages, leading to user alarm fatigue and spam false positives, not to mention an overflowing inbox.

In case the system detects that this is going on, it will send one last email out. Which contains a warning that due to rate limiting it will stop sending out new emails.

In case the flood of alarms ceases, the system will automatically resume sending out e-mails after 24 hours.

The rate limiter can also be reset manually on the VRM Portal: go to the installation, then 'Settings and alarm rules'. In case the rate limiter is active, you'll see this:

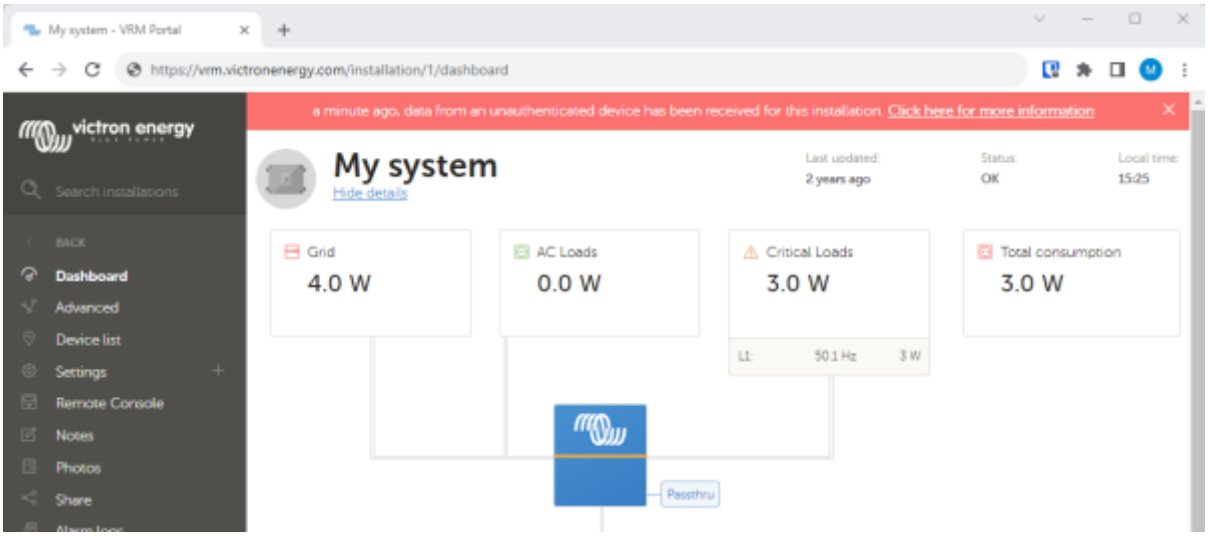


6. VRM Error messages

Data from unauthenticated device has been received

When transmitting data to the VRM Portal, the device sending the data needs to authenticate itself against VRM. It does this using VRM Authentication tokens.

If either one of those tokens does not match the ones stored in the VRM back-end, then the transmitted data is rejected by VRM, and an error message is shown on the VRM portal. The error message looks like this:



These are the causes:

1. GX device has been reset to factory defaults, using the venus-data.tgz file as instructed in the manuals. For older GX devices, CCGX, Venus GX, Octo GX, and also older batches of Cerbo GX as well as older batches of MP-II GX and ES-II GX, this will lead to this error message on VRM.
2. Hacker trying to send false data to VRM.
3. GX device storage corruption (data partition).
4. RaspberryPi that has a new sdcard or is re-imaged.

For “1. GX device factory reset” as well as for “4. RaspberryPi”, the solution is to reset the tokens, using the Reset Tokens button in General → Settings.

It is thereafter not needed to restart the GX device.

If that does not resolve it, contact your Victron dealer.

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