



INSTALLATION INSTRUCTIONS

V1.2 November 2024

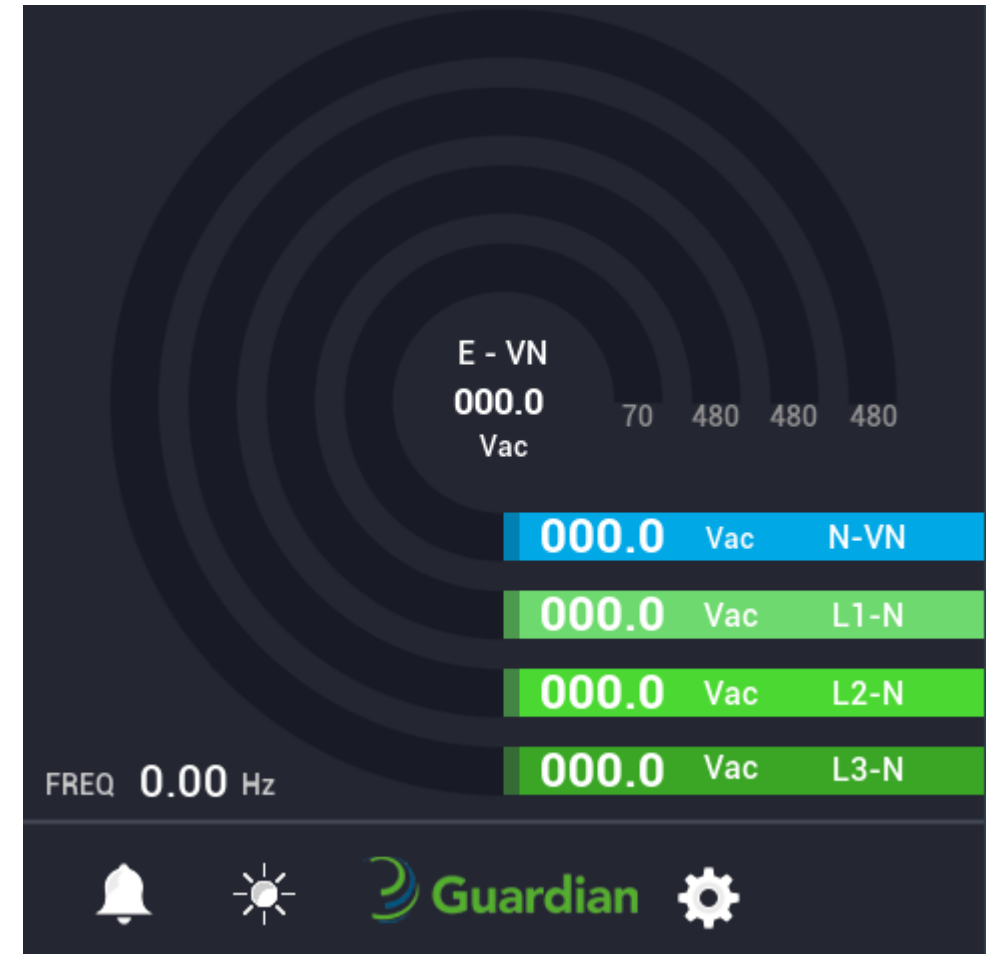
Firmware 006_001_23

SET UP

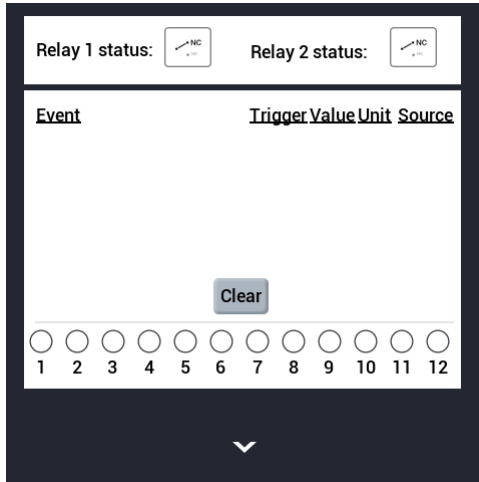
Refer to the Instructions for the required Wiring configuration

Do not connect the relay contacts until set up has been completed.

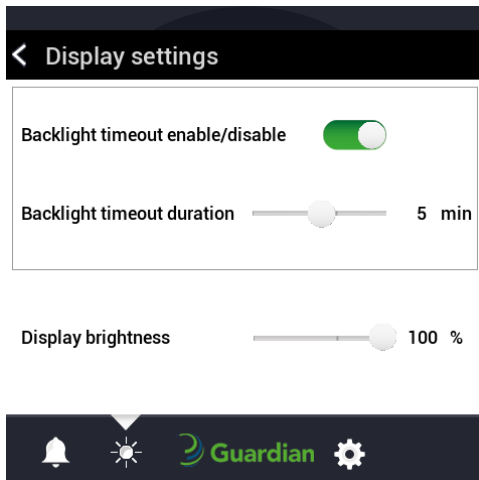
Once the unit has been energised, parameters can be configured to specific values or left as default settings.



MAIN SCREEN



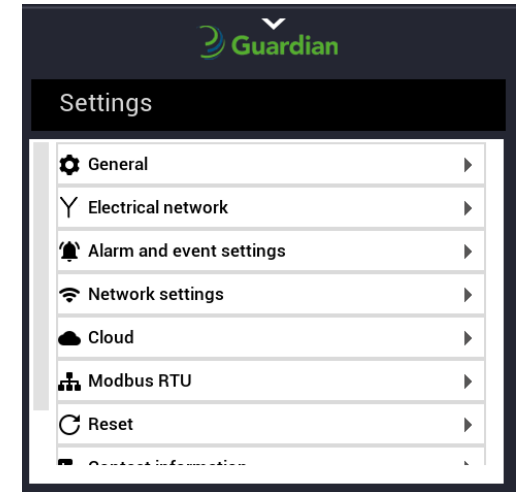
Events screen



Display settings

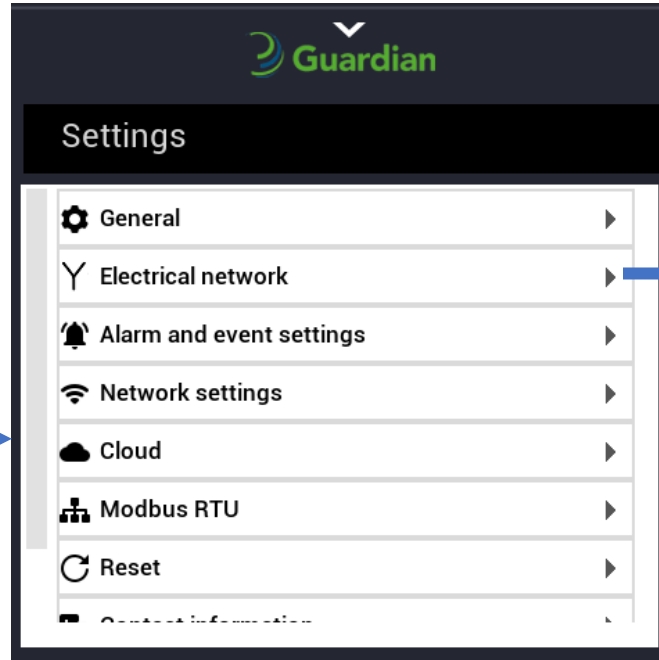


Screen lock
(Press and hold for 3 seconds)



Settings

SETTINGS SCREEN



Electrical network settings

Electrical network configure

| 1P2W | 1P2W+E | 1P3W | 3P4W | 3P3W |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Nominal network voltage: 400 Volts

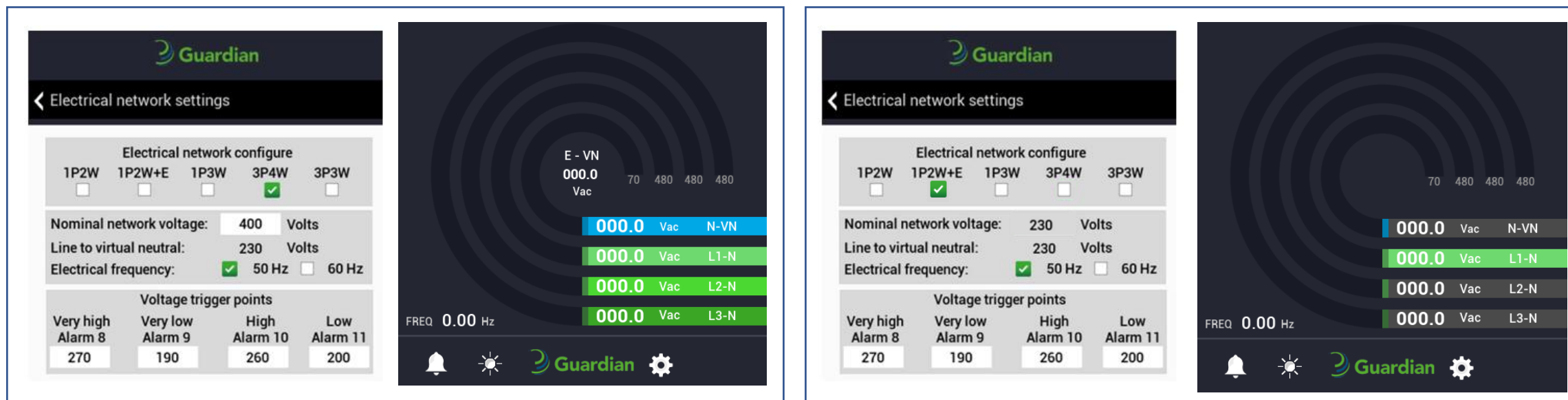
Line to virtual neutral: 230 Volts

Electrical frequency: ☒ 50 Hz ☐ 60 Hz

Voltage trigger points


| Very high Alarm 8 | Very low Alarm 9 | High Alarm 10 | Low Alarm 11 |
|----------------------|---------------------|------------------|-----------------|
| 270 | 190 | 260 | 200 |

ELECTRICAL NETWORK SETTINGS



- Select system electrical network choice.
- Selecting an electrical network configuration will change the main screen display information.
- 1P2W will show L1 to Neutral only.
- 1P2W + E will show L1 to Neutral and Earth to Neutral.
- 1P3W will show L1 to N, L2 to N, N to VN and E to VN.
- 3P4W will show L1 to N, L2 to N, L3 to N N to VN and Earth to VN.
- 3P3W will show L1 to VN, L2 to VN, L3 to VN and Earth to VN.

ELECTRICAL NETWORK SETTINGS



< Electrical network settings

Electrical network configure

| 1P2W | 1P2W+E | 1P3W | 3P4W | 3P3W |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

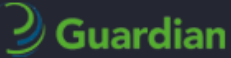
Nominal network voltage: 400 Volts

Line to virtual neutral: 230 Volts

Electrical frequency: ☒ 50 Hz ☐ 60 Hz

Voltage trigger points

| Very high Alarm 8 | Very low Alarm 9 | High Alarm 10 | Low Alarm 11 |
|-------------------|------------------|---------------|--------------|
| 270 | 190 | 260 | 200 |



< Electrical network settings

400

1PW2 ☐

3P3W ☐

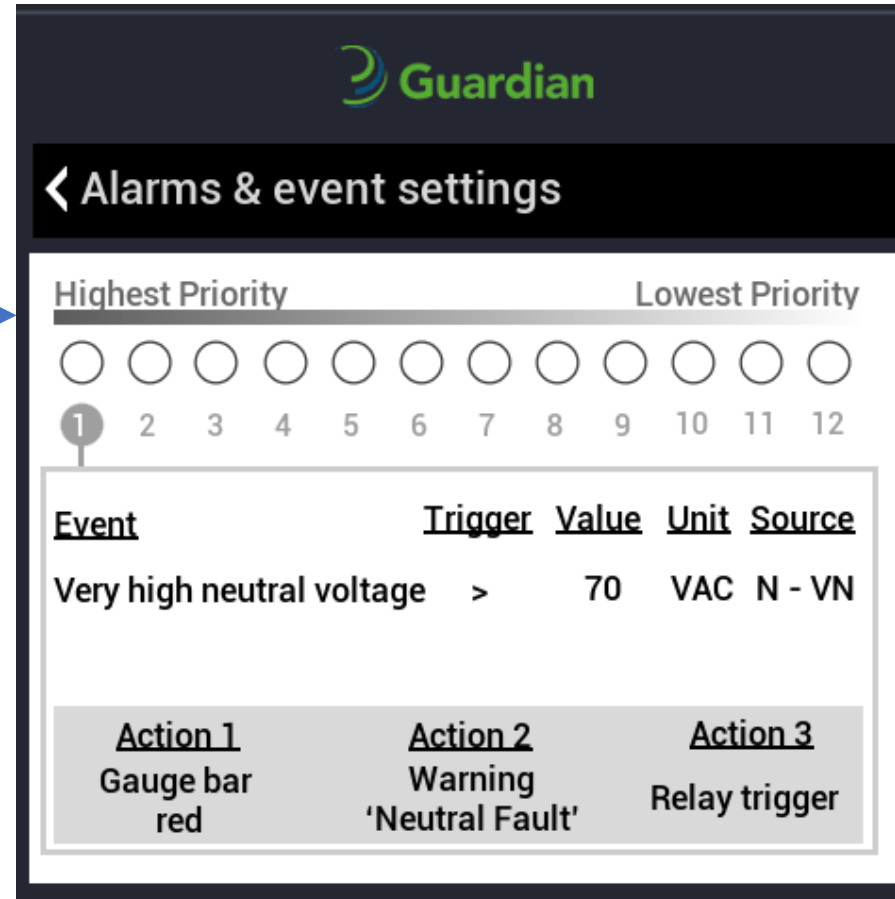
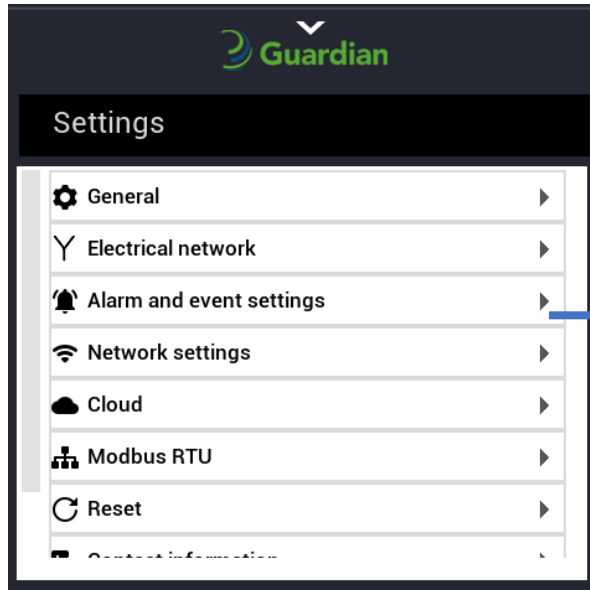
Nominal voltage

Nominal voltage

Cancel 0 Del Enter

- Select the nominal network voltage to edit the value.
- If number > 480 VAC "Out of range" will be displayed.
- Press cancel, to not make a change.
- Press enter to confirm change.
- The nominal line voltage will then be updated.
- Events related to the nominal network voltage, will update.

ALARMS AND EVENTS SETTINGS



- 13 event settings.
- Select the number to access the event of interest.
- The event with highest priority will trigger over lower priority.

CONFIGURABLE EVENTS

Event 2 - High neutral voltage (20v) Range from 1-65v N-VN No Relay/Relay Trigger

Event 4 - High earth voltage (20v) Range from 1-60v N-VN No Relay/Relay Trigger

Event 8 - Very high line voltage (260v) Range from 90v-270v No Relay/Relay Trigger

Event 9 - Very low line voltage (190v) Range from 90v-270v No Relay/Relay Trigger

Event 10 - High line voltage (250v) Range from 100v-260v Alert only

Event 11 - Low line voltage (200v) Range from 100v-260v Alert only

Event 12 - Frequency out of range (0.5hz) Range from 0.5-19.9hz No Relay/Relay Trigger

Please note, some events may not appear depending on your supply electrical network.

ALARMS AND EVENTS SETTINGS

Guardian

< Alarms & event settings

Highest Priority Lowest Priority

1 2 3 4 5 6 7 8 9 10 11 12

| Event | Trigger | Value | Unit | Source |
|-------------------------|---------|-------|------|----------------------------|
| Very high line voltage | > | 260 | VAC | L1 - N L2 - N L3 - N |
| Line to neutral voltage | | | | |

Action 1: Gauge bar red

Action 2: Warning: Very High Line Voltage

Action 3: Relay Trigger

Guardian

< Alarms & event settings

Highest Priority Lowest Priority

1 2 3 4 5 6 7 8 9 10 11 12

| Event | Trigger | Value | Unit | Source |
|-------------------------|---------|-------|------|----------------------------|
| Very high line voltage | > | 260 | VAC | L1 - N L2 - N L3 - N |
| Line to neutral voltage | | | | |

Action 1: Gauge bar red

Action 2: Relay Trigger (OFF/ON toggle with red X icon)

Action 3: Relay Trigger

- Select the box value “Relay Trigger”. To toggle the relay ON or OFF
- Press the “X” button to close the keypad.
- Events 8, 9, 10 and 11 are effected by the electrical network nominal voltage.

To Amend the voltage value revert back to the electrical network settings.

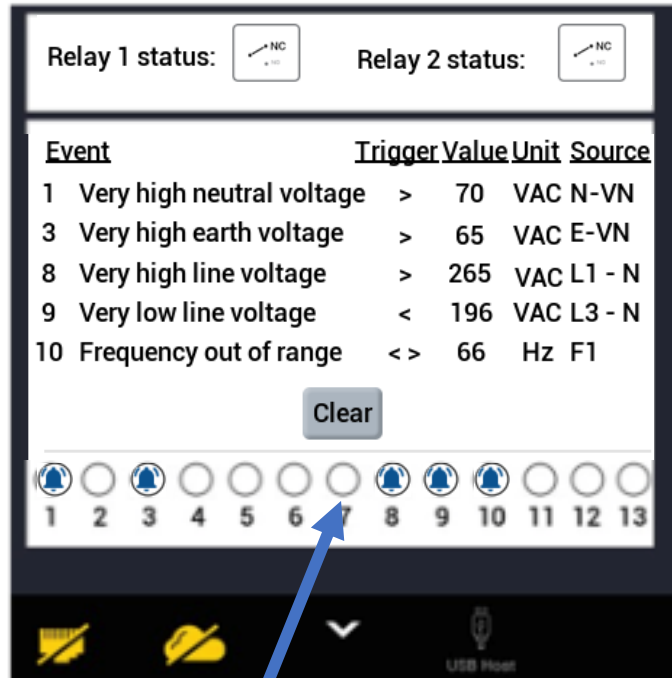
When all the configurable values have been checked or amended from default, connect the relays.

EVENTS EXPLANATION

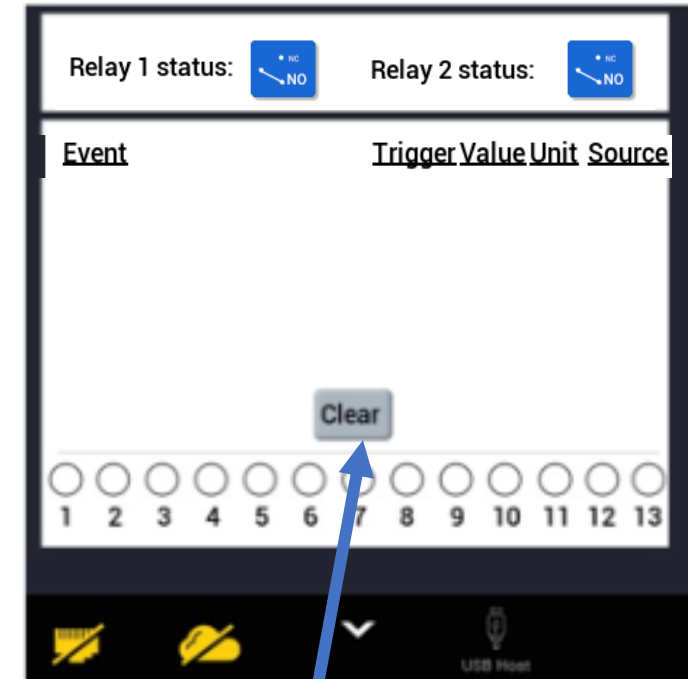
- Event 1 - Very high neutral voltage (Relay Trigger)
- Event 2 - High neutral voltage (Range from 1-65v N-VN No Relay/Relay Trigger)
- Event 3 - Very high earth voltage (No Relay/Relay Trigger)
- Event 4 - High earth voltage (Range from 1-60v N-VN No Relay Trigger)
- Event 5 - Voltage overline range (Relay Trigger)
- Event 6 - Loss of Phase (No Relay/Relay Trigger)
- Event 7 - Frequency out of range (No Relay/Relay Trigger)
- Event 8 - Very high line voltage (Range from 90v-270v, No Relay/Relay Trigger)
- Event 9 - Very low line voltage (Range from 90v-270v, No Relay/Relay Trigger)
- Event 10 - High line voltage (Range from 100v-260v, Alert only)
- Event 11 - Low line voltage (Range from 100v-260v, Alert only)
- Event 12 - Frequency out of range (Range Margin from 0.5 - 19.9hz, No Relay/Relay Trigger)
- Event 13 – Phase voltage imbalance (Imbalance of 3% to any other phase, Alert only)

Please note, some events may not appear depending on your supply electrical network.

EVENTS SCREEN EXAMPLE



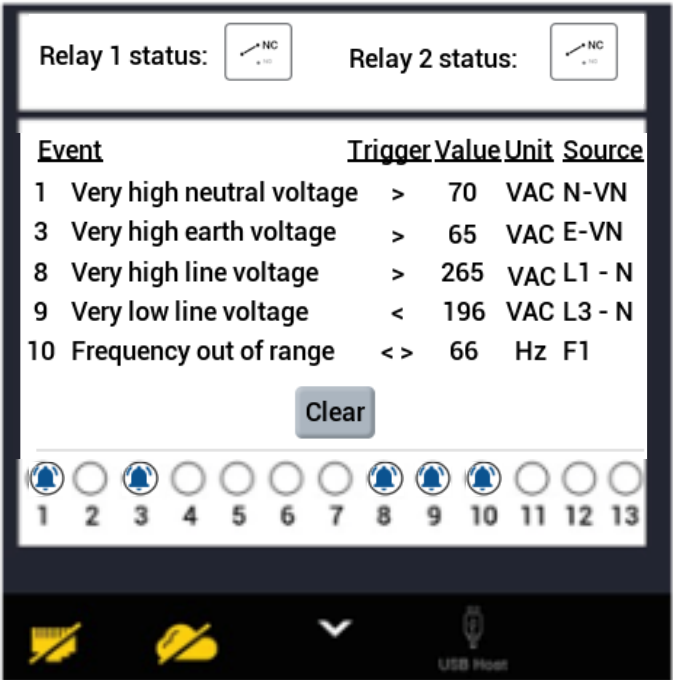
Events that have been triggered



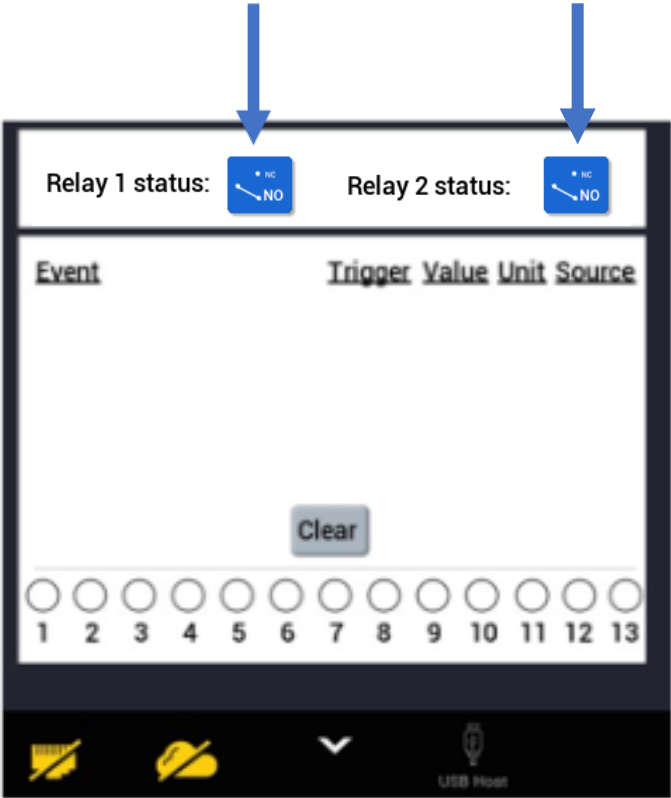
Events can be cleared here

FAULT CONDITIONS

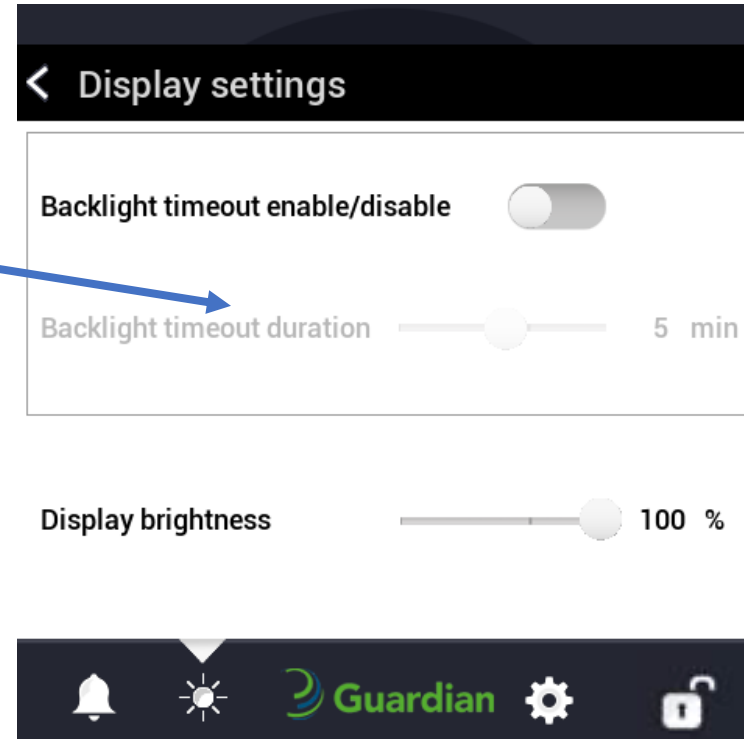
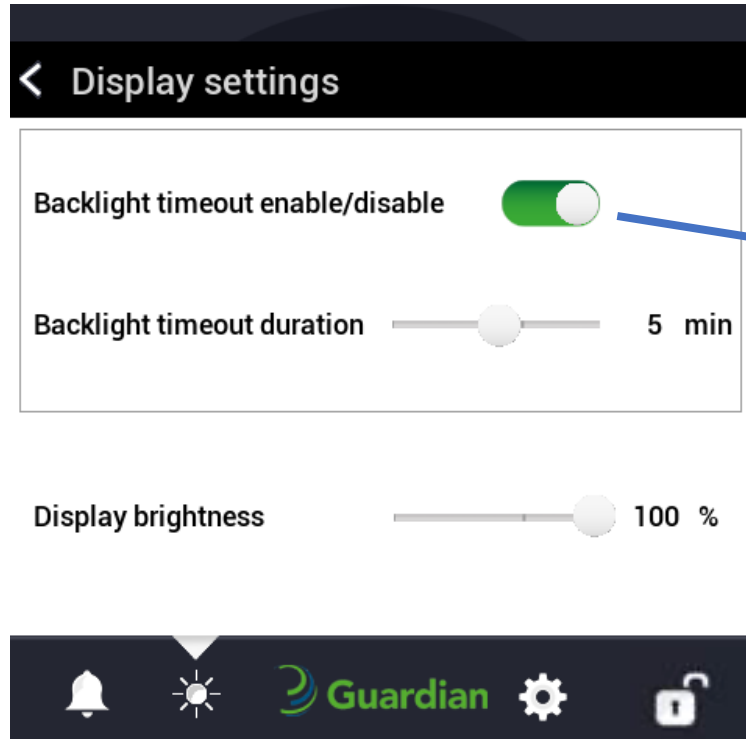
When a fault has been detected the Guardian will Switch both relays to the NC state, in turn switching The connected contactor or UV Device off.



Once a detected fault has cleared, the Guardian will wait a further 3 minutes before changing the Relay status to NO state.



DISPLAY SETTINGS



- Backlight timeout switch will enable or disable access to the time duration.
- Drag the scroll bars to change the settings.

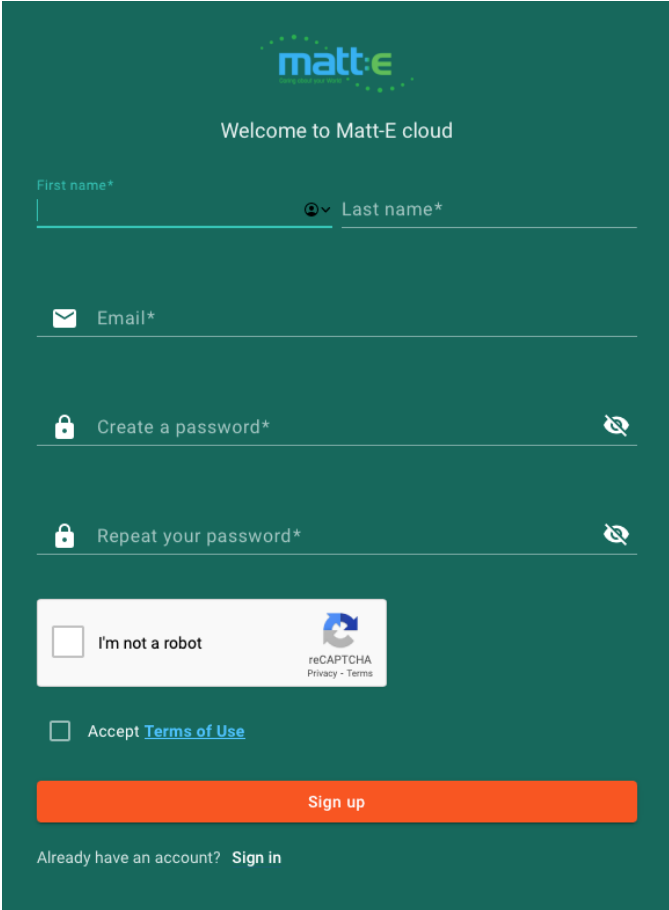
Claiming a device

Create an account on the sign up page of the cloud.

cloud.matt-e.com/login is the URL, click on the sign up button on this page.

Enter your information to create an account in the relative field.

Verify your email address from your chosen email platform.



The screenshot shows the Matt-E cloud sign-up page. At the top, the Matt-E logo is displayed with the text "Welcome to Matt-E cloud" below it. The form fields include: "First name*" and "Last name*" (with a dropdown arrow), "Email*" (with an envelope icon), "Create a password*" (with a lock icon and an eye icon to toggle visibility), and "Repeat your password*" (with a lock icon and an eye icon to toggle visibility). Below the password fields is a reCAPTCHA section with the text "I'm not a robot" and a checkbox. To the right of the checkbox is the reCAPTCHA logo and the text "reCAPTCHA Privacy - Terms". Below the reCAPTCHA section is a checkbox labeled "Accept [Terms of Use](#)". At the bottom of the form is a large orange "Sign up" button. Below the button, the text "Already have an account? [Sign in](#)" is displayed.

MATT-E CLOUD HUB



DEVICE LIST

Status

Name ↑

Last Update Time

No entities found

Items per page: 10

1 - 0 of 0

|< < > >|

Welcome
to the **Guardian** cloud



Guardian v1

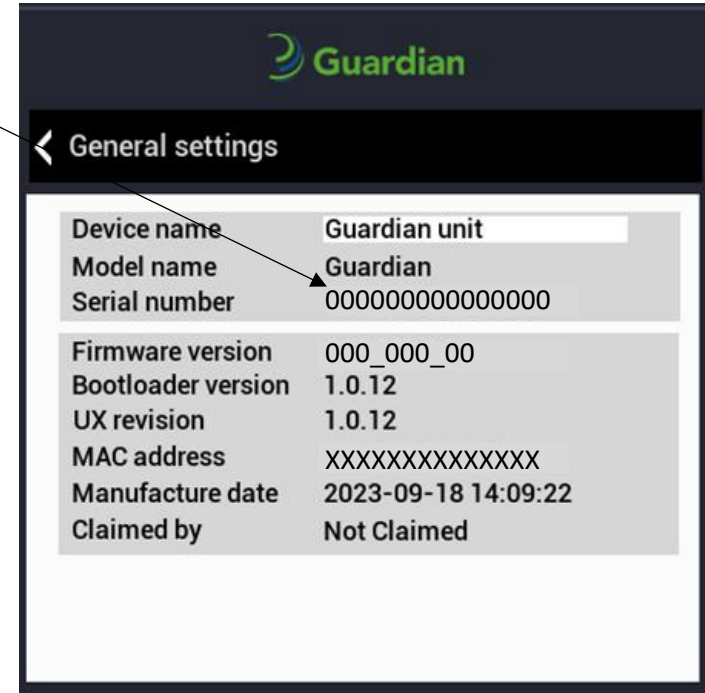
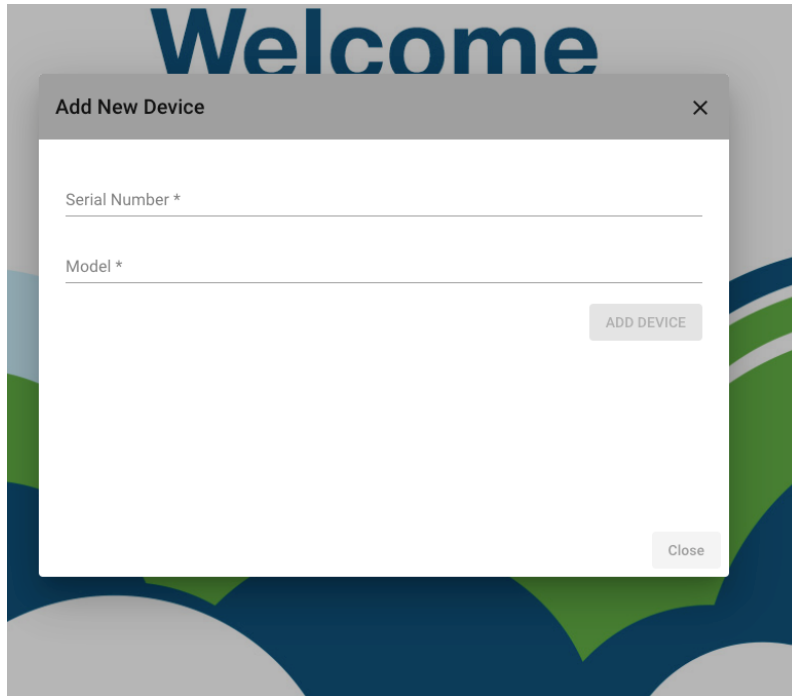


CLAIM THE DEVICE

To claim a device, click on the + icon in the device list. You will be asked to enter a serial number and a model.

The model will always be 'Guardian' (case sensitive)

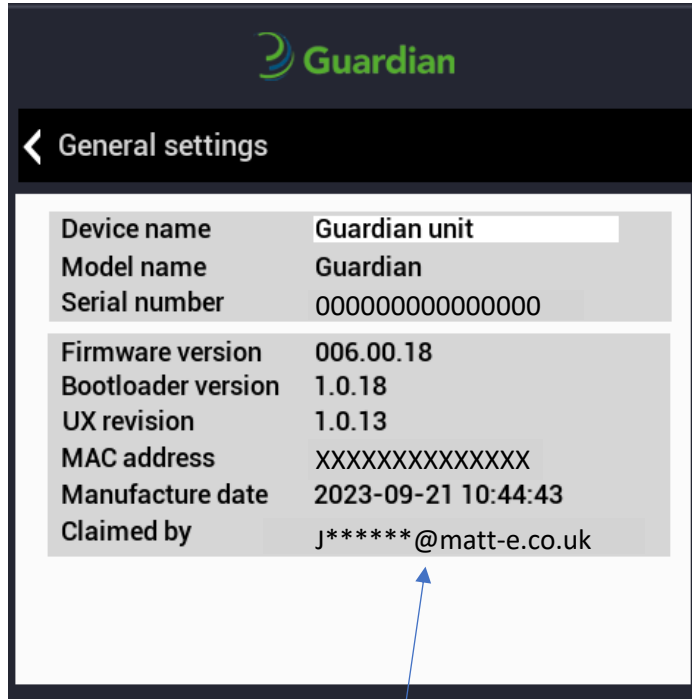
The serial numbers can be taken from the device (on the device, go to settings > general settings)



| | |
|--------------------|---------------------|
| Device name | Guardian unit |
| Model name | Guardian |
| Serial number | 0000000000000000 |
| Firmware version | 000_000_00 |
| Bootloader version | 1.0.12 |
| UX revision | 1.0.12 |
| MAC address | XXXXXXXXXXXXXX |
| Manufacture date | 2023-09-18 14:09:22 |
| Claimed by | Not Claimed |

Click "Add Device"

CLAIMED DEVICE



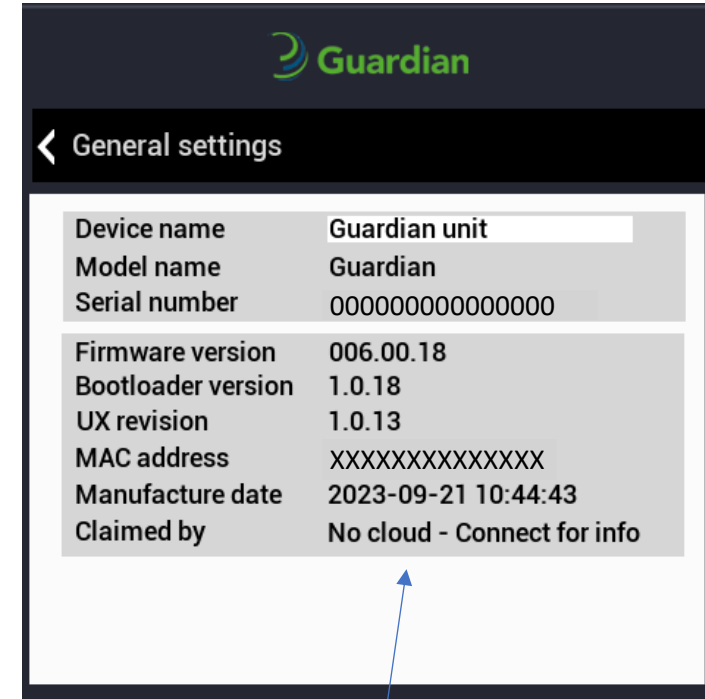
Guardian

< General settings

| | |
|--------------------|---------------------|
| Device name | Guardian unit |
| Model name | Guardian |
| Serial number | 0000000000000000 |
| Firmware version | 006.00.18 |
| Bootloader version | 1.0.18 |
| UX revision | 1.0.13 |
| MAC address | XXXXXXXXXXXXXX |
| Manufacture date | 2023-09-21 10:44:43 |
| Claimed by | j*****@matt-e.co.uk |

A blue arrow points from the email address in the 'Claimed by' field to the caption below.

Confirmation of a claimed unit



Guardian

< General settings


| | |
|--------------------|-----------------------------|
| Device name | Guardian unit |
| Model name | Guardian |
| Serial number | 0000000000000000 |
| Firmware version | 006.00.18 |
| Bootloader version | 1.0.18 |
| UX revision | 1.0.13 |
| MAC address | XXXXXXXXXXXXXX |
| Manufacture date | 2023-09-21 10:44:43 |
| Claimed by | No cloud - Connect for info |

A blue arrow points from the 'No cloud - Connect for info' status in the 'Claimed by' field to the caption below.

Confirmation of a claimed unit but
The connection has been lost

VIEW DEVICES

Once logged in the home page lists the connected devices on the left hand side.



| status | Enabled | Name ↑ | Last Update Time |
|--------|---------|------------|---------------------|
| ALARM | YES | Guardian 1 | 24/04/2023,11:31:16 |
| ON | YES | Guardian 2 | 24/04/2023,11:31:04 |
| ON | YES | Guardian 3 | 24/04/2023,11:31:04 |

1 - 3 of 3

matt:e

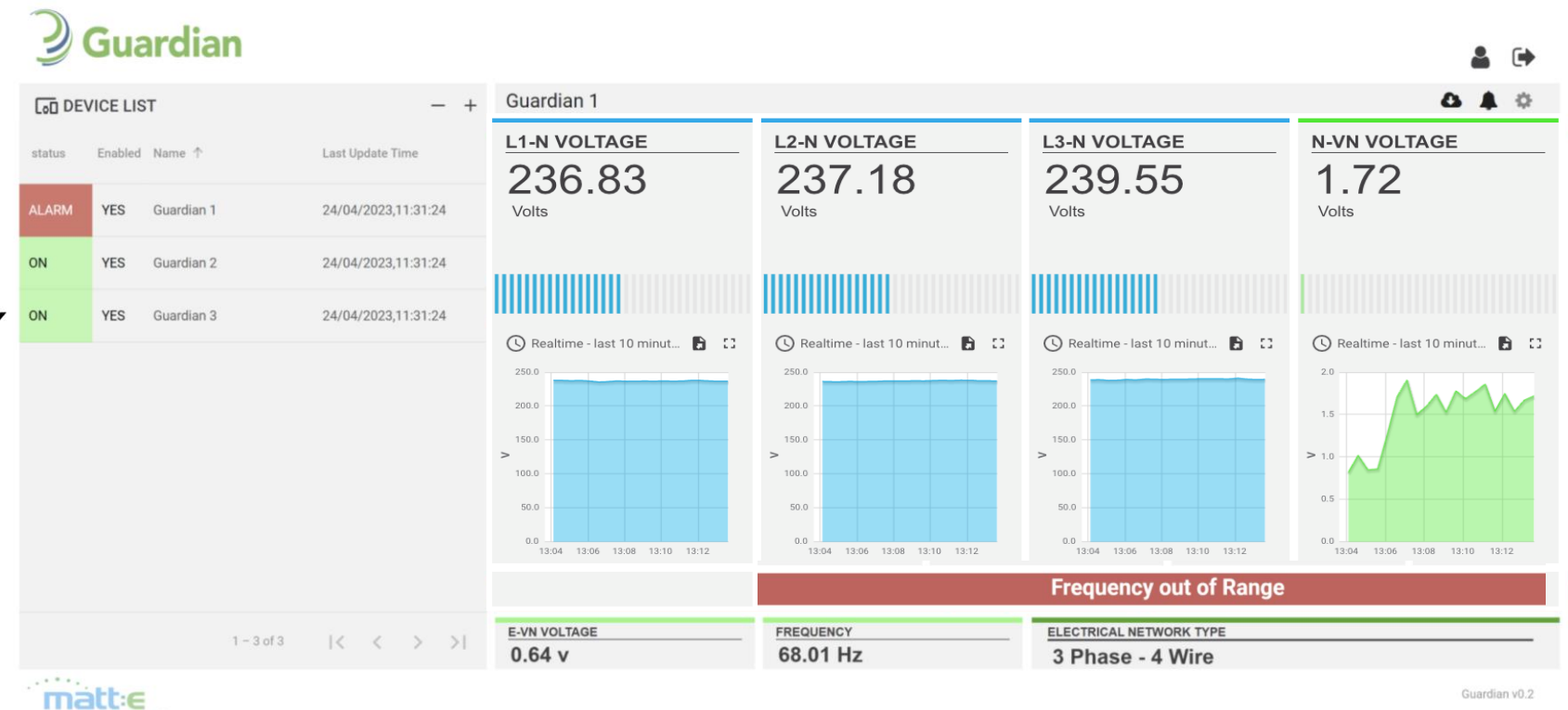
Welcome
to the **Guardian** cloud



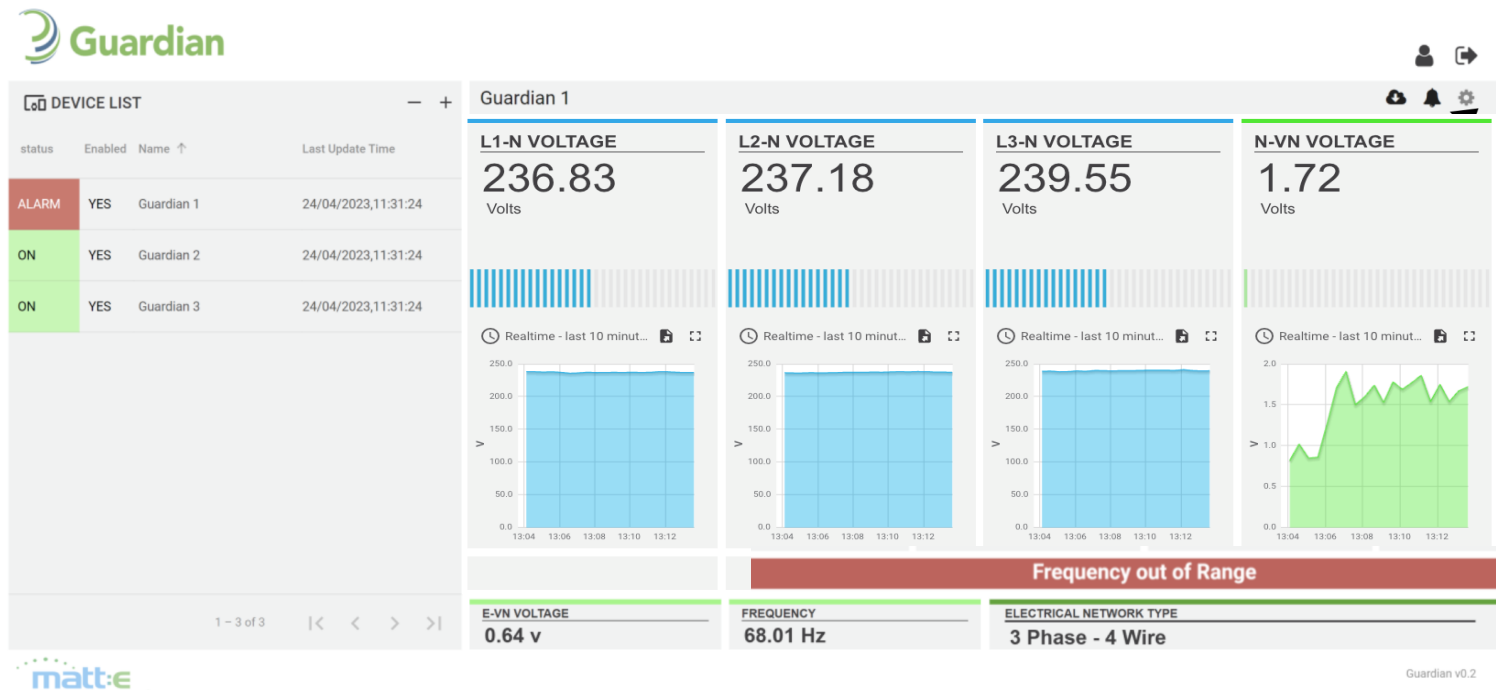
Guardian v0.2

DEVICE HOME SCREEN

Click on one of the connected devices to see the measured values.

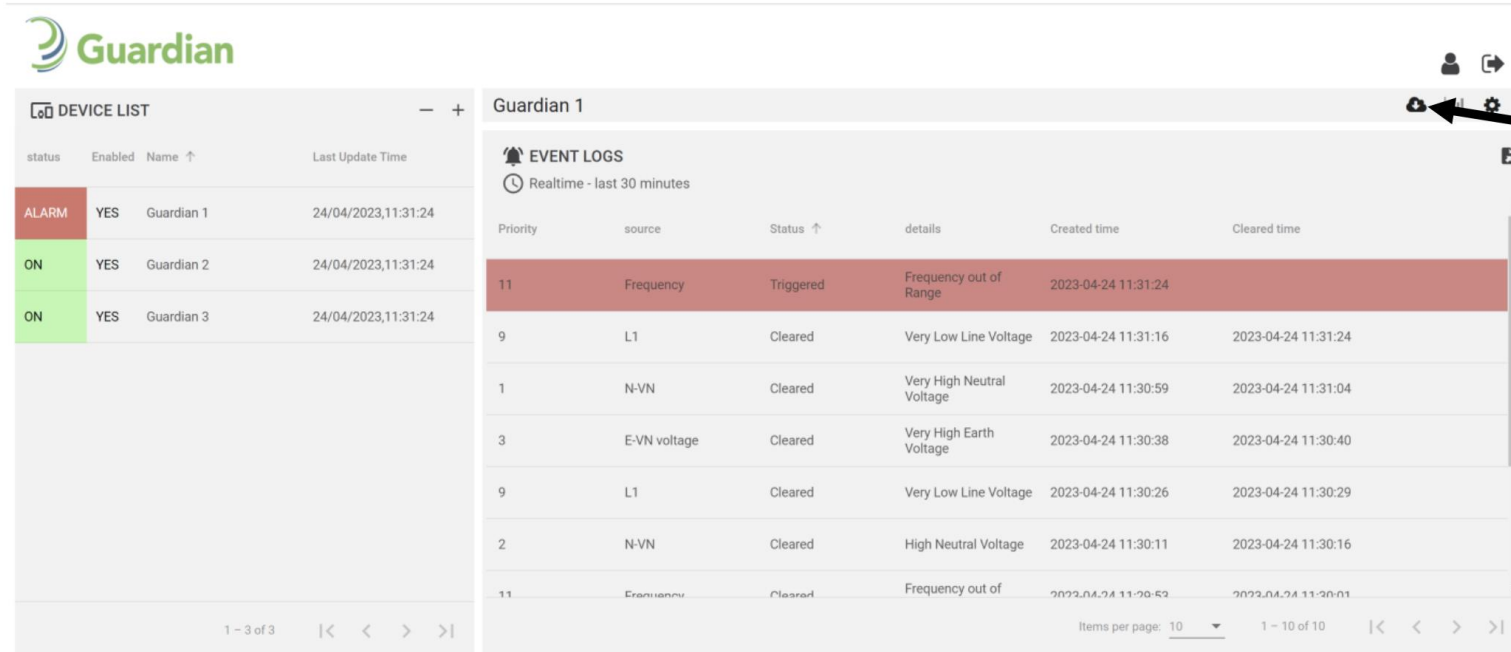


EVENTS LOG



Click on the bell icon to show the event log as below.

DOWNLOAD EVENTS



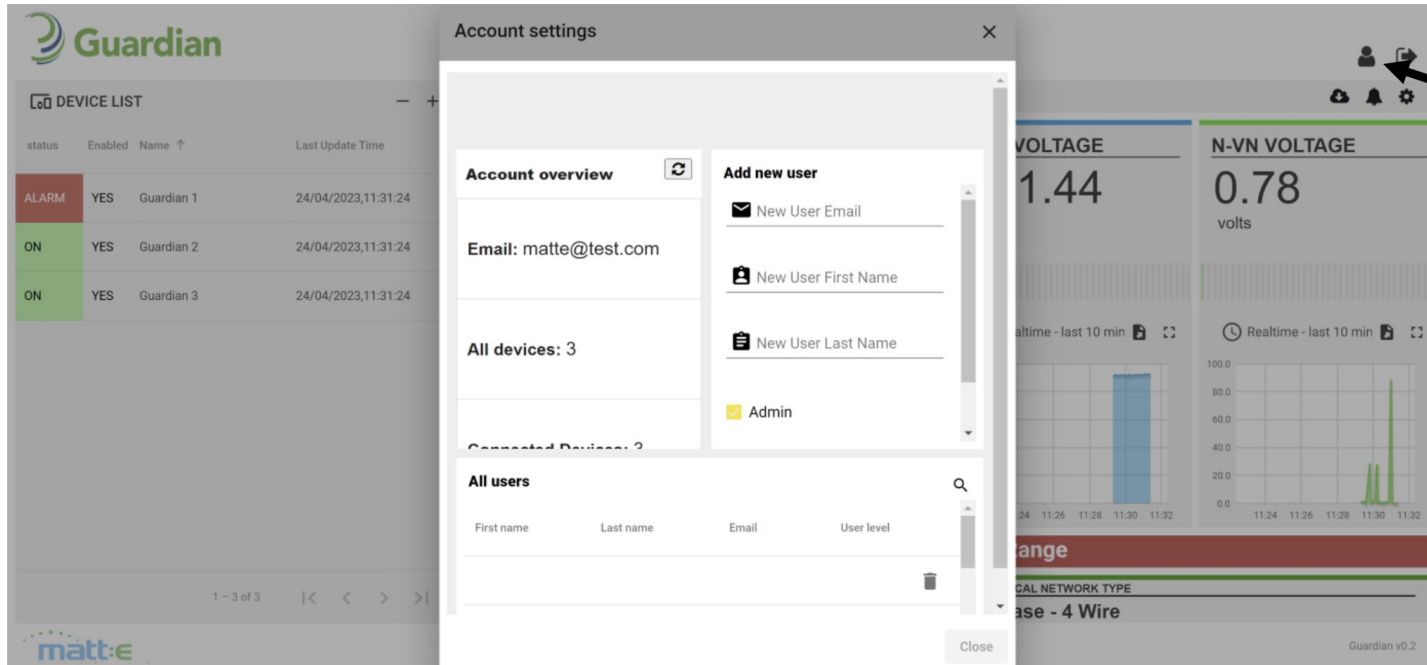
The screenshot displays the Guardian web interface. On the left is a 'DEVICE LIST' table. The main area shows 'Guardian 1' with an 'EVENT LOGS' section. The Event Logs table lists various events with columns for Priority, source, Status, details, Created time, and Cleared time. A callout box with an arrow points to the download icon (a document with a downward arrow) located in the top right corner of the Event Logs panel.

| status | Enabled | Name ↑ | Last Update Time |
|--------|---------|------------|---------------------|
| ALARM | YES | Guardian 1 | 24/04/2023,11:31:24 |
| ON | YES | Guardian 2 | 24/04/2023,11:31:24 |
| ON | YES | Guardian 3 | 24/04/2023,11:31:24 |

| Priority | source | Status ↑ | details | Created time | Cleared time |
|----------|--------------|-----------|---------------------------|---------------------|---------------------|
| 11 | Frequency | Triggered | Frequency out of Range | 2023-04-24 11:31:24 | |
| 9 | L1 | Cleared | Very Low Line Voltage | 2023-04-24 11:31:16 | 2023-04-24 11:31:24 |
| 1 | N-VN | Cleared | Very High Neutral Voltage | 2023-04-24 11:30:59 | 2023-04-24 11:31:04 |
| 3 | E-VN voltage | Cleared | Very High Earth Voltage | 2023-04-24 11:30:38 | 2023-04-24 11:30:40 |
| 9 | L1 | Cleared | Very Low Line Voltage | 2023-04-24 11:30:26 | 2023-04-24 11:30:29 |
| 2 | N-VN | Cleared | High Neutral Voltage | 2023-04-24 11:30:11 | 2023-04-24 11:30:16 |
| 11 | Frequency | Cleared | Frequency out of | 2023-04-24 11:30:53 | 2023-04-24 11:30:01 |

This log can be downloaded here as an excel file

SET UP USER DETAILS



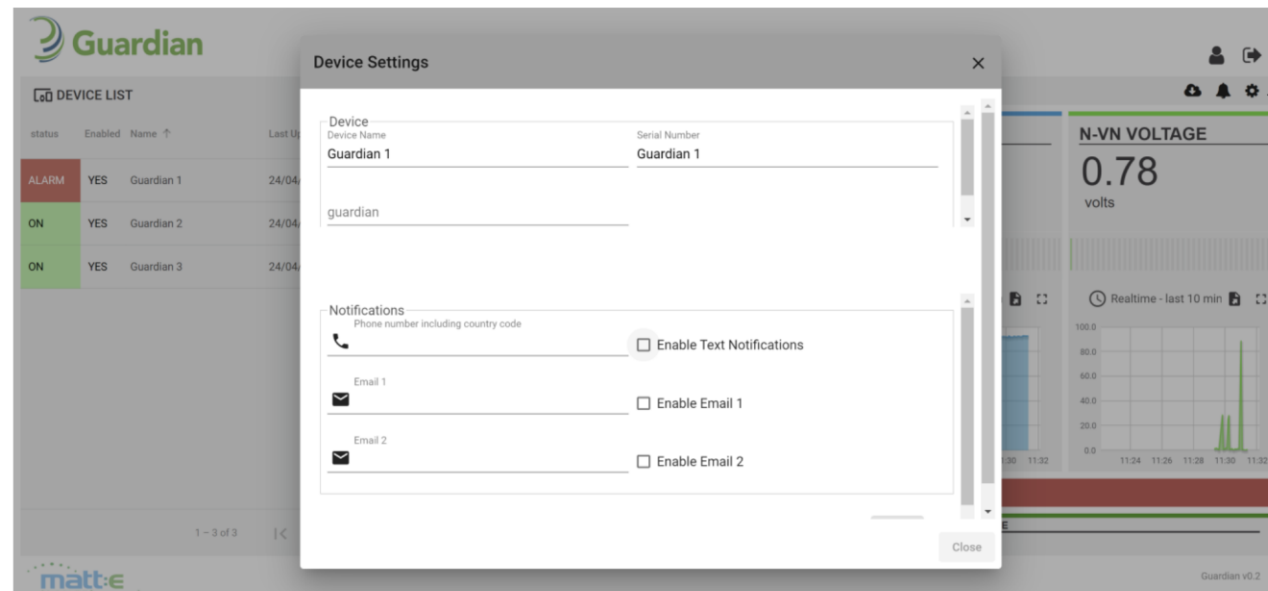
The user icon allows you to set a new user. Enter the contact name and email address. You can also select if you want them to be admin or read only email

DEVICE NOTIFICATION SET UP

To receive notification of the events via text and/or email enter your details in the Device Settings

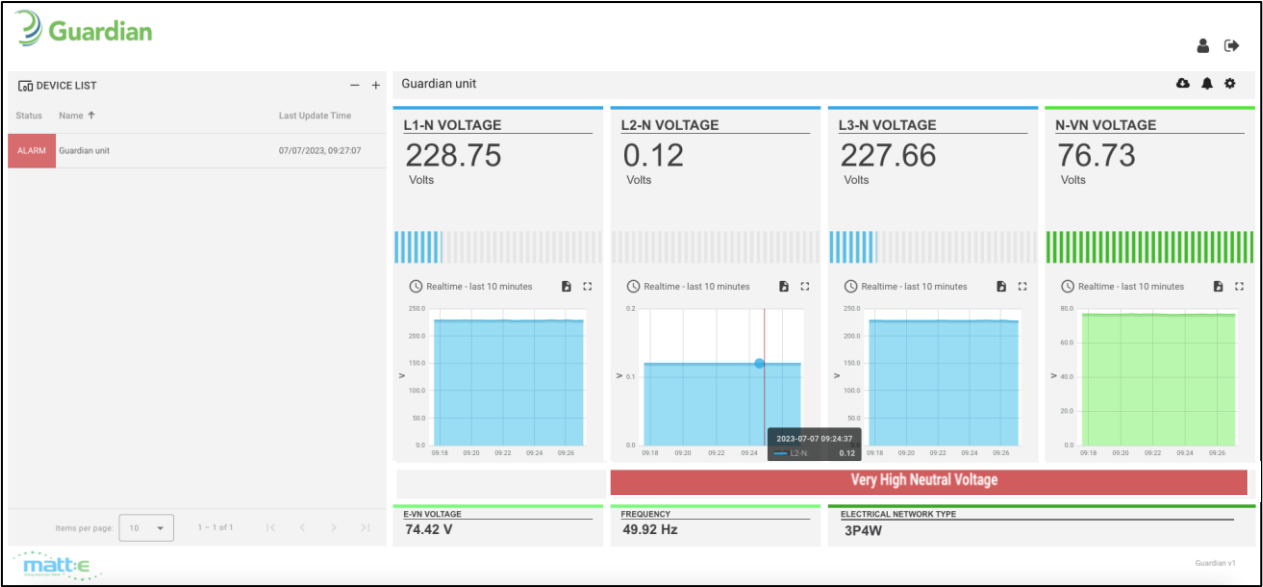
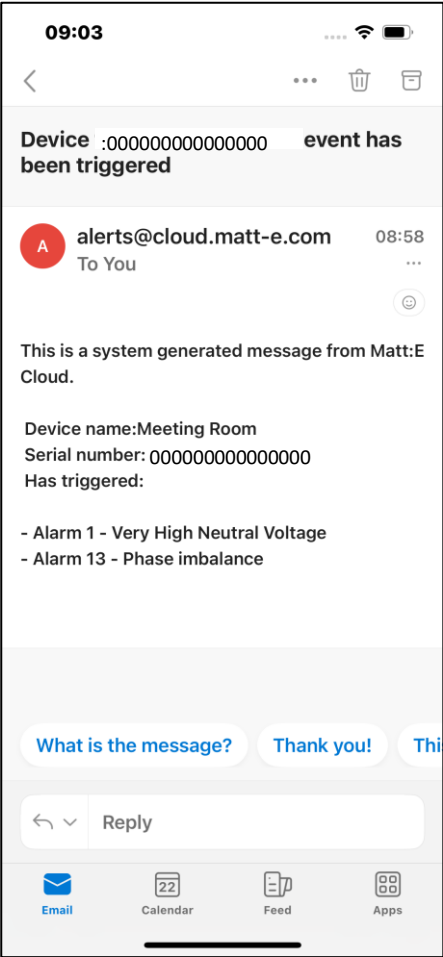
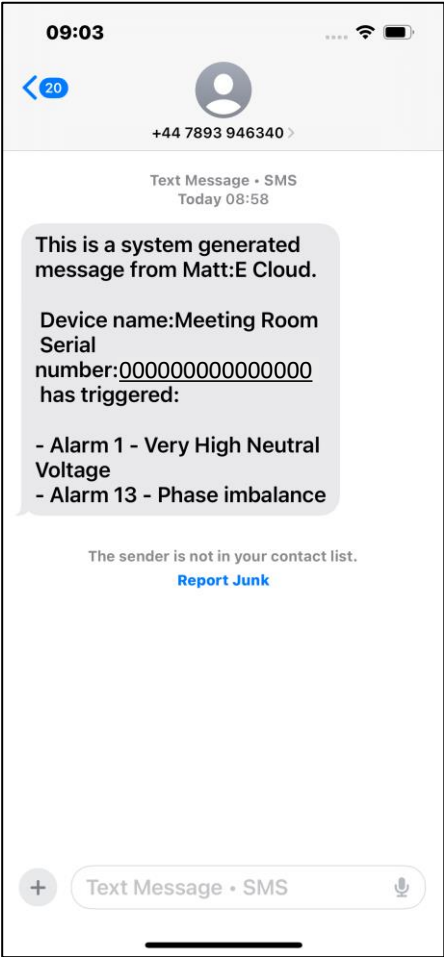
Ensure to select the “Enable” box to the right.

For the text alerts ensure to use the country code. +44 (UK) for example.



Click on the cog to enter the device settings page. Here you can enter the details for the contact in the event that a fault is detected.

EVENT NOTIFICATIONS



REMOTE STOP

Remote stop function is only toggled via the Portal - Device settings. This function is used to remotely Switch the NO/NC of both relays.

To Activate the remote stop, select “Activate Remote Stop” And confirm the change. (Both relays will return to the NC state)

To Deactivate the remote stop, select “Deactivate Remote Stop” And confirm the change. (Both relays will return to the NO state)

The notification of remote stop being activated shows on the Guardian device.

The confirmation is also shown on the General settings.

The screenshot shows the 'Device Settings' page with a modal dialog at the top asking for confirmation to change the remote stop status. Below the dialog, there are input fields for 'Phone number including country code', 'Email 1', and 'Email 2', each with a corresponding 'Enable' checkbox. The 'Remote stop Status' section at the bottom indicates 'Remote stop is not activated - connected load is not isolated' and features a green 'Activate remote stop' button. A 'Close' button is visible in the bottom right corner.

This panel shows the 'Remote stop Status' with the text 'Remote stop is activated - connected load is isolated'. A red 'Deactivate remote stop' button is prominently displayed in the center.

The Guardian device screen displays a 'Remote stop notification' with the message 'The remote stop has been: Activated'. It prompts the user to 'Press "OK" to close notification' and includes a green 'OK' button.

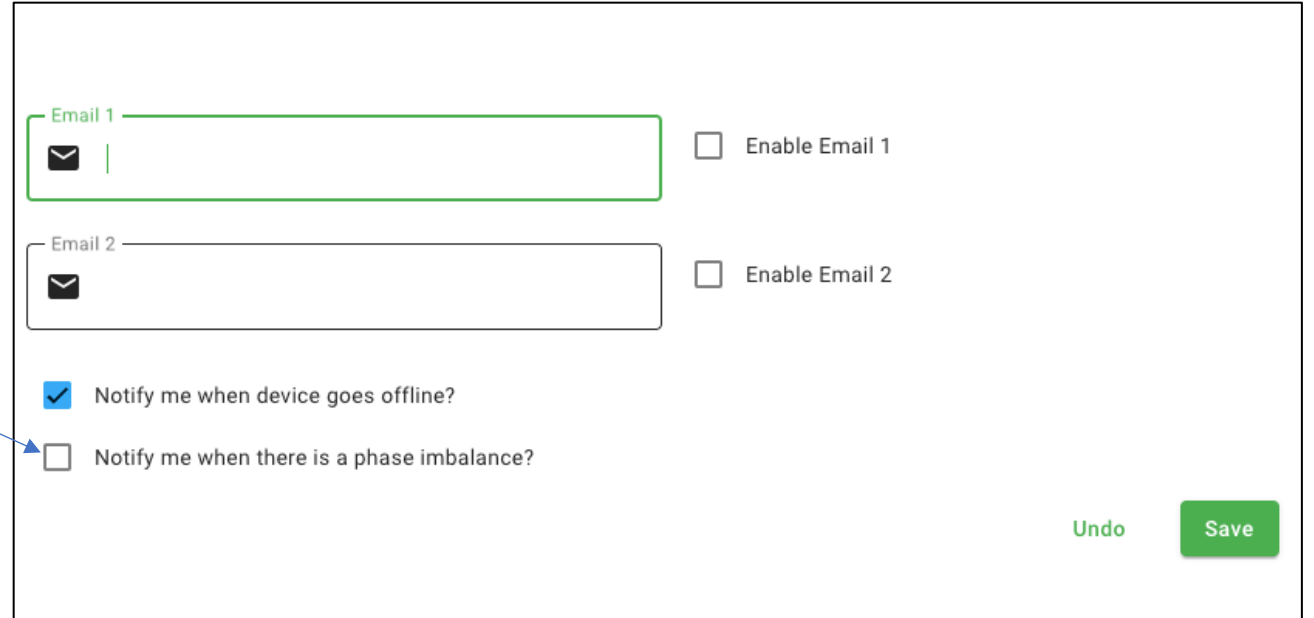
The 'General settings' screen on the Guardian device lists various system parameters. The 'Remote stop' status is listed at the bottom as 'Not Active'.

| | |
|--------------------|---------------|
| Device name | Guardian unit |
| Model name | Guardian |
| Serial number | Updated |
| Firmware version | Updated |
| Bootloader version | Updated |
| UX revision | 1.0.15 |
| MAC address | Updated |
| Manufacture date | Updated |
| Claimed by | ***** |
| Remote stop | Not Active |

PHASE IMBALANCE

It is possible to turn ON and OFF the notification for the phase imbalance.

Simply go to the unit device settings and toggle the notifications to suit.



The screenshot shows a settings interface for a unit device. It features two email notification sections, each with a text input field containing an email icon and a corresponding 'Enable' checkbox. Below these are two global notification checkboxes: 'Notify me when device goes offline?' (checked) and 'Notify me when there is a phase imbalance?' (unchecked). A blue arrow points from the text 'toggle the notifications to suit.' to the 'Notify me when there is a phase imbalance?' checkbox. At the bottom right are 'Undo' and 'Save' buttons.

Email 1 ☐ Enable Email 1

Email 2 ☐ Enable Email 2

☒ Notify me when device goes offline?

☐ Notify me when there is a phase imbalance?

Undo [Save](#)