



User Guide

Taoglas EDGE™ IG10

Industrial IoT Gateway
and software platform

Taoglas EDGE™ IG10

Industrial IoT Gateway and software platform

User Guide

Contents

1. Introduction	3
1.1 What's included?	3
1.2 Support	3
2. Account Set up	4
2.1 Account Setup	4
2.2 Activating your Device	5
3. Using the Taoglas EDGE IG10	7
3.1 Device Overview	7
4. Using Taoglas Insights	8
4.1 Insights Navigation	8
4.2 Organisation Units	9
4.3 Add New Users	9
4.4 Device Management	10
4.5 Dashboard	12
4.6 Sensor Notification Rules	13
5. Appendix	16
5.1 User Roles	16
5.1.1 Admin Permissions	16
5.1.2 Organisation Admin Permissions	16
5.1.3 Basic User Permissions	16
5.1.4 View Only Permissions	16
5.2 Security	16
5.3 Safety and Regulatory Requirements	16

1. Introduction

The **Taoglas EDGE™ IG10** enables real time insights and intelligence to help your enterprise save costs, increase revenue and enhance compliance. It is a next-generation IoT device with cellular, Bluetooth, and on-board sensor capabilities with a cloud based connectivity and device management platform.

1.1 What's included?

On receipt of your **Taoglas Genset Insights Solution** the following items should be included in the the pack:

1. A **Taoglas EDGE IG10** industrial gateway
2. Along with the IG10 Series Gateway box you will receive a separate package with the **Taoglas MA114 antenna** that corresponds to your kit.



For **IG10 Installation Instructions** support please see **Taoglas EDGE™ IG10 Installation Guide**

For **MA114 Installation Instructions** support please see **Taoglas MA114 Installation Guide**

For **MA114 antenna datasheet** please see <https://www.taoglas.com/datasheets/MA114.pdf>

1.2 Support

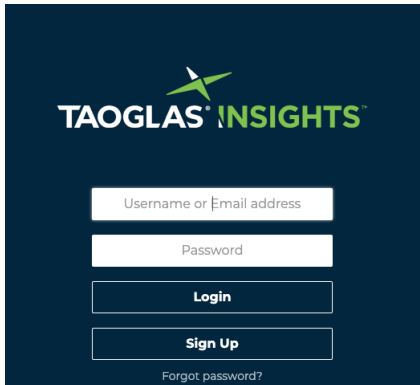
For technical support please contact iotsupport@taoglas.com

1. Go to <https://www.taoglas.com/product/IG10> to access
 - a. Datasheet
 - b. User Guides

2. Account Set up

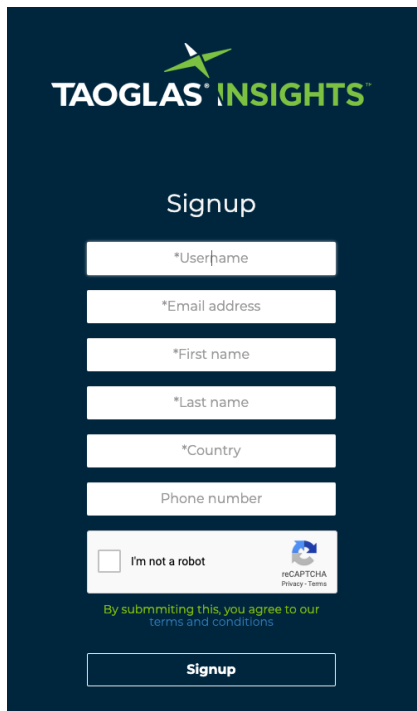
2.1 Account Setup

1. To create an EDGE Insights account for your EDGE Connect devices, navigate to **industrial.taoglas.com** and click on **'Sign Up'**.



The image shows the Taoglas Insights login and signup interface. At the top is the Taoglas Insights logo. Below it are two input fields: 'Username or Email address' and 'Password'. There are two buttons: 'Login' and 'Sign Up'. A link for 'Forgot password?' is located at the bottom.

2. Create a **username** and enter your details.



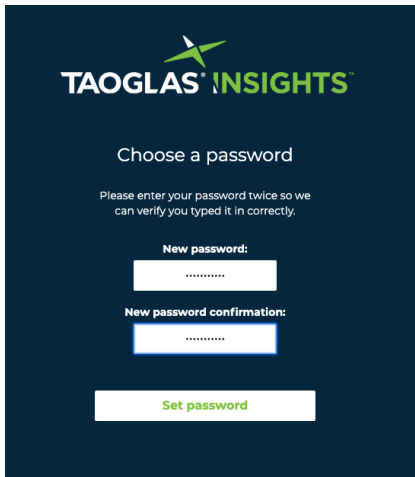
The image shows the Taoglas Insights signup form. It features the Taoglas Insights logo at the top, followed by the heading 'Signup'. The form includes several input fields: '*Username', '*Email address', '*First name', '*Last name', '*Country', and 'Phone number'. There is a checkbox for 'I'm not a robot' with a Recaptcha logo. Below the checkbox, it says 'By submitting this, you agree to our terms and conditions'. At the bottom is a 'Signup' button.

3. Once your information has been submitted, you will need to confirm your registration by clicking the link sent to the email address provided.



The image shows a confirmation email from Taoglas Insights. The header says 'TAOGLAS INSIGHTS'. The main text reads: 'Your Taoglas Next Gen IoT user account has been created'. Below this is a greeting 'Hi'. The email states: 'You have been added as a user to industrial.taoglas.com. To complete your registration, please follow this link: <http://industrial.taoglas.com/password-set/confirm/MTE9/6ei-6d89ds62d29sc62/>'. The email is signed off with '- Taoglas Next Gen IoT'.

4. Upon clicking the link, a browser will open and you will be requested to create a password.

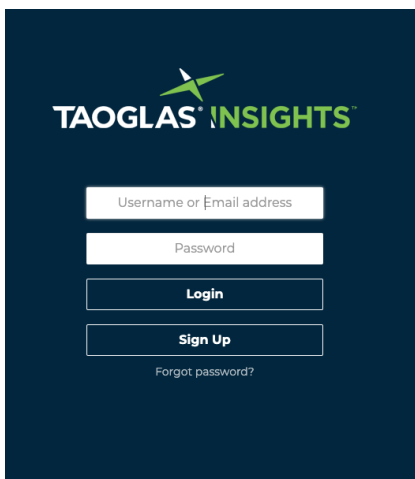


The screenshot shows the 'TAOGLAS INSIGHTS' logo at the top. Below it, the text 'Choose a password' is displayed. A note states: 'Please enter your password twice so we can verify you typed it in correctly.' There are two input fields: 'New password:' and 'New password confirmation:'. Both fields contain masked characters (dots). At the bottom, there is a green button labeled 'Set password'.

5. After entering and confirming your password, registration is now complete, proceed to device activation.

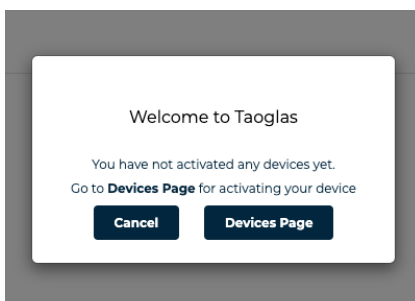
2.2 Activating your Device

1. Using the details registered in the sign up process, you will be required to login to the Taoglas Insights platform in order to register your Taoglas EDGE IG10.



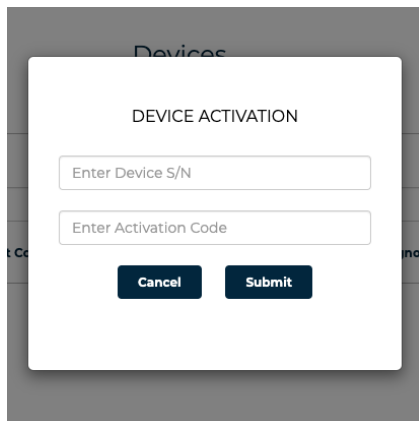
The screenshot shows the 'TAOGLAS INSIGHTS' logo at the top. Below it, there are two input fields: 'Username or Email address' and 'Password'. There are two buttons: 'Login' and 'Sign Up'. At the bottom, there is a link that says 'Forgot password?'.

2. The first time you log in, you will receive a popup message notifying you that you have not activated any devices. Click on the 'Devices Page' button on the pop up, this will direct you to the device list page.



The screenshot shows a white popup message with a dark background. The text reads: 'Welcome to Taoglas', 'You have not activated any devices yet.', and 'Go to **Devices Page** for activating your device'. There are two buttons: 'Cancel' and 'Devices Page'.

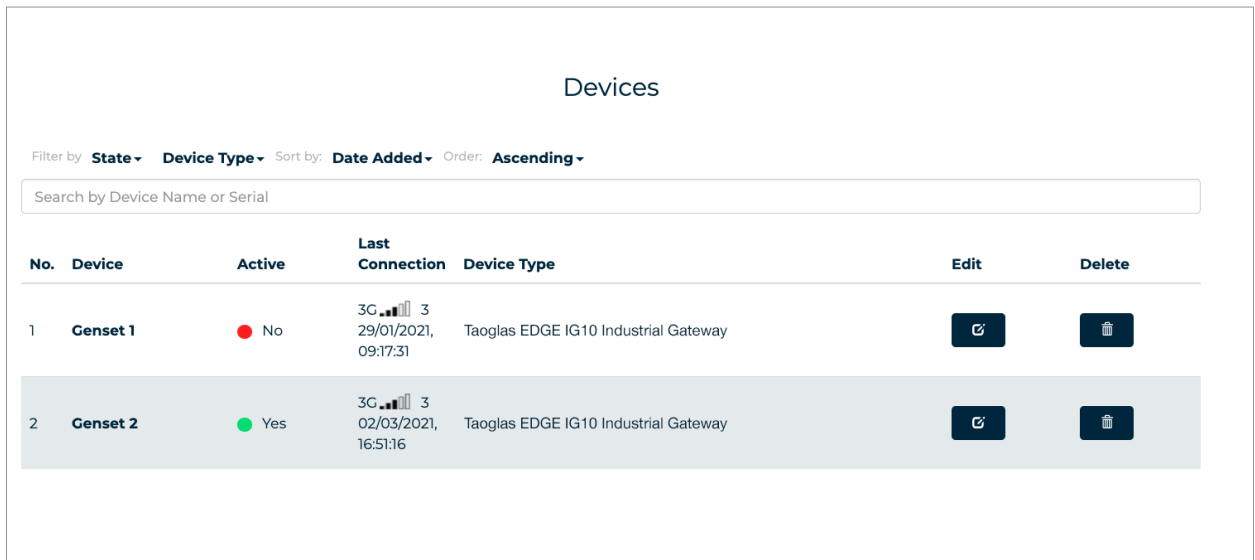
3. To activate your Taoglas EDGE IG10, click '**Activate New Device**' at the bottom of the page, a popup window will request your Taoglas EDGE IG10 **S/N** and **Activation Code**. After entering these, click '**Submit**' to finish the activation process. The Taoglas EDGE IG10 **S/N** and **Activation Code** can be found on the card included in the box.



The screenshot shows a 'DEVICE ACTIVATION' popup window. It has two input fields: 'Enter Device S/N' and 'Enter Activation Code'. Below these fields are two buttons: 'Cancel' and 'Submit'.



4. After entering the EDGE IG10 **S/N** and **Activation Code**, click '**Submit**' to activate your EDGE IG10.
5. The Taoglas EDGE IG10 will now be listed on the devices page, see an example of this below.



The screenshot shows the 'Devices' page. It has a header 'Devices' and a filter section with 'Filter by State Device Type Sort by: Date Added Order: Ascending'. Below the filter is a search bar 'Search by Device Name or Serial'. The main content is a table with columns: No., Device, Active, Last Connection, Device Type, Edit, and Delete. There are two rows of data, both for 'Genset' devices.

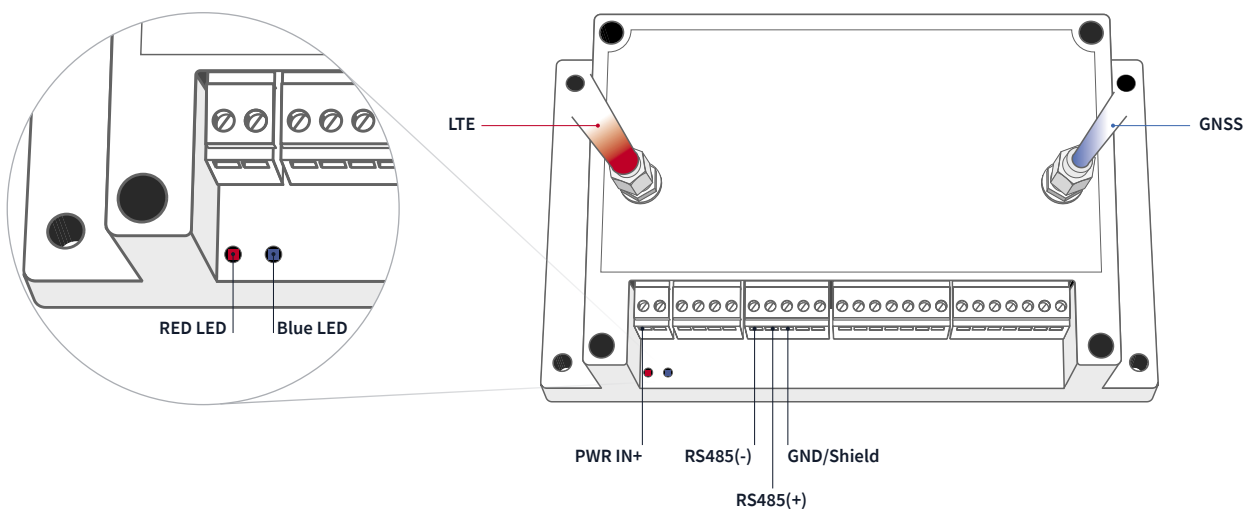
No.	Device	Active	Last Connection	Device Type	Edit	Delete
1	Genset 1	● No	3G 29/01/2021, 09:17:31	Taoglas EDGE IG10 Industrial Gateway		
2	Genset 2	● Yes	3G 02/03/2021, 16:51:16	Taoglas EDGE IG10 Industrial Gateway		

6. If device activation fails please contact Taoglas IoT support at iotsupport@taoglas.com

3. Using the Taoglas EDGE IG10

3.1 Device Overview

Please refer to the **IG10 Installation Guide** for steps on how to install and set up the gateway.



Once it has been installed and powered from a suitable power source, the **Red LED** on the left of the gateway will remain illuminated to indicate the power source is sufficient.

Once a cellular network connection has been established, the gateway will attempt to connect to a genset controller, the **Blue LED** will be illuminated as per below:

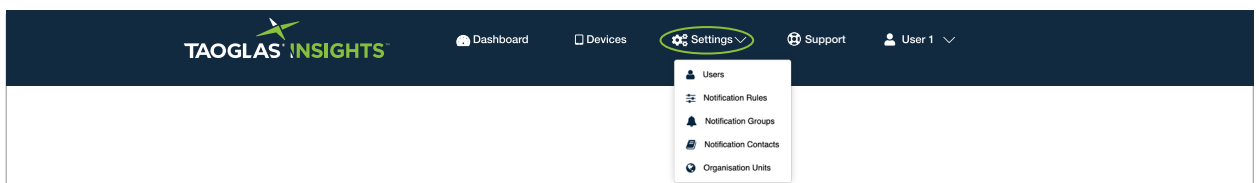
Blue LED on	Genset controller is detected
Blue LED off	Genset Controller is not detected
Blue LED - 0.1 seconds on /0.1 seconds off repeating 3 times	Attempting to detect Genset controller
Blue LED - 0.5 seconds on /0.5 second off repeating indefinitely	Attempting to establish a network connection

RED LED on	PWR IN+ is powered correctly
RED LED off	PWR IN+ is not powered correctly

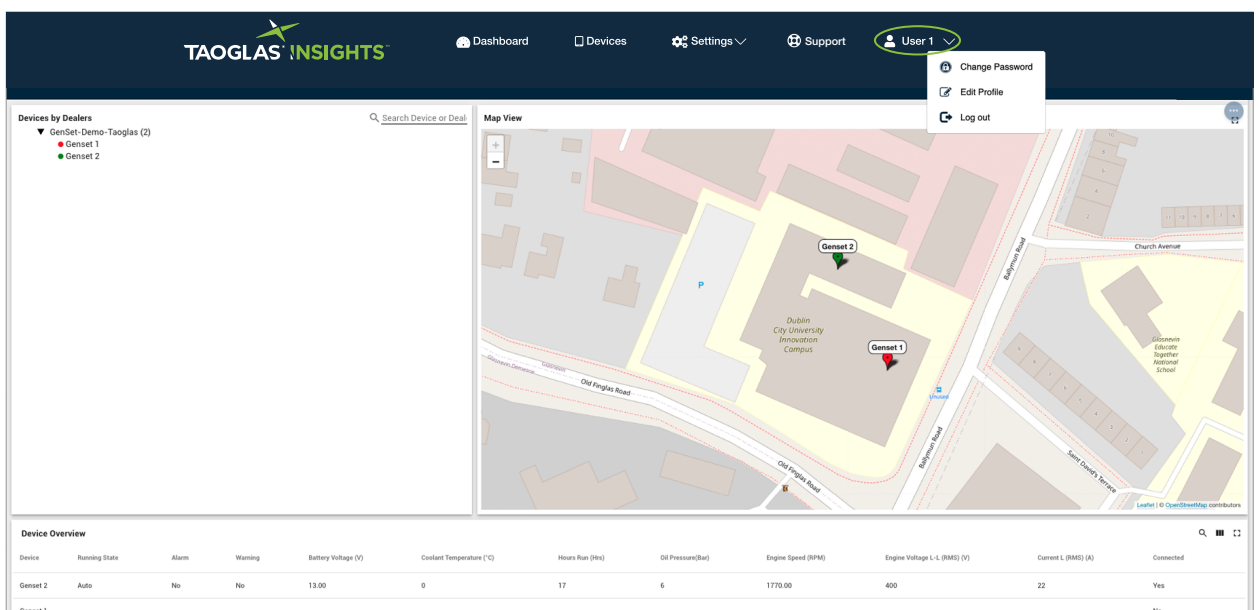
4. Using Taoglas Insights

4.1 Insights Navigation

1. When you login to your account, you will land on the **Dashboard** page
2. You can use the links on the top of Taoglas Insights to navigate between your dashboard and account management pages, depending on the role associated with your user you may also be able to see the device list page.
 - a. **Dashboard** will bring you to your dashboard where you can see all the sensor data uploaded by your Taoglas EDGE IG10.
 - b. **Devices** will bring you to your device list page, from here you can manage each of the devices you have activated on your account.
 - c. Clicking on **'Settings'** will display a dropdown with various account management options, including:
 - i. Add/edit Users
 - ii. Edit Device Notification Rules
 - iii. Device Notification Groups
 - iv. Edit Device Notification Contacts
 - v. Add/edit Organisation Units

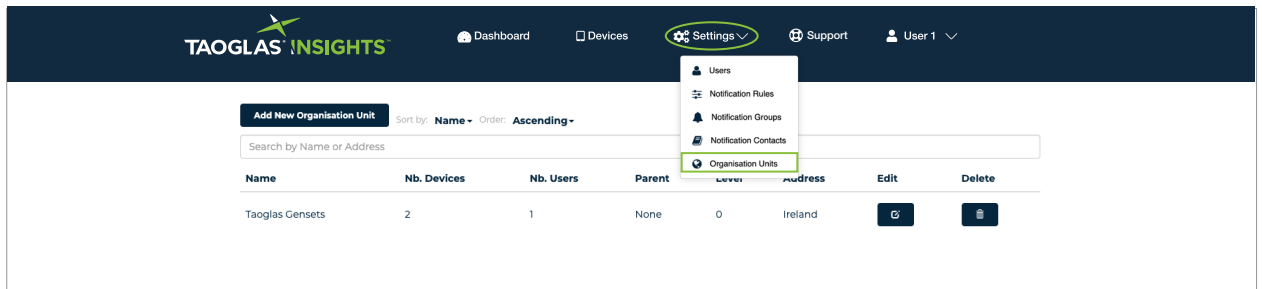


- d. Clicking on **'Username'** will display a dropdown with various account management options, including:
 - i. Changing your password
 - ii. Editing your account details
 - iii. Deleting your account
 - iv. Logging out of your account

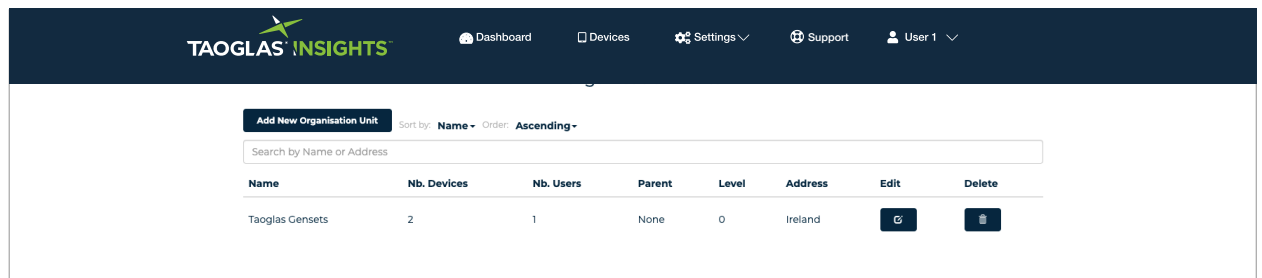


4.2 Organisation Units

1. Taoglas Insights allows users to manage the deployment of IG10 series devices using organisation units, this allows blocks of devices to be assigned to sub groups with different permission levels.
2. To add a new user so that they can view the devices you have activated on your account, click **'Settings'** followed by **'Organisation Units'**.



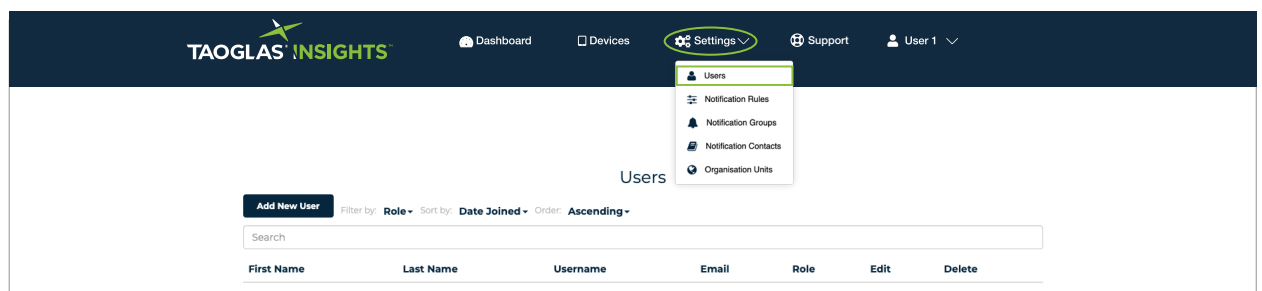
3. The users list page will appear, click **'Add New Organisation Unit'**, which will bring you to a page which allows you to add a new organisation unit.



4. Using this page you can:
 - a. Name the Organisation Unit
 - b. Select the parent organisation unit to which the new organisation unit belongs from the **'Parent Organisation Unit'** drop down.
 - c. Select the devices which belong to this org unit using the **'Devices'** dropdown.
 - d. Select which users should be able to view this org unit using the **'Users'** dropdown.
 - e. Enter the **'Address'** where the organisation unit is based.
 - f. Click **'Submit'** to add the organisation unit.

4.3 Add New Users

1. To add a new user so that they can view the devices you have activated on your account, click **'Settings'** followed by **'Users'**.



2. The users list page will appear, click **'Add New User'**, which will bring you to a page which allows you to add a new user.

The screenshot shows the 'Add New User' interface. At the top is a dark navigation bar with the 'TAOGLAS INSIGHTS' logo and links for Dashboard, Devices, Settings, Support, and a user profile. The main form area is white and contains the following fields:

- Email address:** A text input field.
- Username:** A text input field.
- First name:** A text input field.
- Last name:** A text input field.
- Address:** A text input field with the placeholder text 'Enter a location'.
- Role:** A dropdown menu with a grey background and a downward arrow.
- User Enabled:** A toggle switch that is currently turned 'On' (green).
- Organisation Units:** A dropdown menu with the text 'Select a Unit'.

At the bottom right of the form are two buttons: a grey 'Cancel' button and a dark blue 'Submit' button.

3. On this page enter the:
 - a. Users email address
 - b. Users username
 - c. Users First name
 - d. Users Last name
 - e. Users Address
 - f. The role associated with the user, this controls the permissions associated with the user.
See **Appendix 5.1** for information on the different permissions for each role.
 - g. The organisation units the user can view.
4. Click **'Submit'** to add the user.
5. A new user will be emailed informing them of their new account.

4.4 Device Management

1. Depending on the role assigned to a user they can edit the details for an individual device by clicking the edit icon(✎) on the **devices** page.
2. This will direct you to the **Edit Device** page, from here you can amend the following:
 - a. **Device Name**, here you can enter a customized name for your Taoglas EDGE IG10.
 - b. **Address**, here you can enter your address.
 - c. **Upload Interval**, this is the rate at which the Taoglas EDGE IG10 will upload recorded sensor samples to Taoglas Insights.
 - d. **Upload Retries**, in the event where the Taoglas EDGE IG10 fails to upload samples, this is the number of times it will attempt to upload before backing off.
 - e. Depending on the permissions associated with your users, you may be able to select the following:
 - i. Controller Type
 - f. The sampling intervals for both sleep and real time modes:
 - i. Battery
 - ii. Location
 - iii. Analogue Inputs
 - iv. Digital Inputs
 - v. Modbus/CAN bus
 - g. The external fuel sensors attached to your gateway, the following can be enabled:
 - i. Analog Fuel Gauge(0.5-4.5V)
 - ii. Digital Fuel Switch(High/Low Switch)
 - iii. BLE Fuel Gauge, an accessory available from Taoglas.

TAOGLAS INSIGHTS™

Dashboard

Devices

Settings

Report

User 1

Battery Life 3 Days

3.8MBYTE/Month

Taoglas

Battery Sleep 01:00:00

Location Sleep 00:15:00

Analogue Input 1 01:00:00

Analogue Input 2 01:00:00

Analogue Input 1 Sleep 01:00:00

Analogue Input 2 Sleep 01:00:00

Sensors with Modbus:

Modbus 00:00:05

Location 00:15:00

Battery 00:15:00

External Fuel Configuration Options:

Analogue Fuel Gauge Enabled **False**

Fuel Switch Enabled **False**

BLE Fuel Gauge Enabled **True**

Edit Device rollover overview

Devices

Filter by State Device Type Sort by: Date Added Order: Ascending

Search by Device Name or Serial

No.	Device	Active	Last Connection	Device Type
1	Genset 1	No	3G 29/01/2021, 09:17:31	Taoglas EDGE IG10 Industrial Gateway
2	Genset 2	Yes	3G 02/03/2021, 11:30:11	Taoglas EDGE IG10 Industrial Gateway

Edit Device

Device Name

Genset 2

Device S/N

20145933905

Address

Dublin, Ireland

Device IMEI

8676880631864183

BLE Name

IG10L-8DA0

Upload Interval

01:00:00

Upload Retries

3

Controller Type

DSE 7420 MKII

BLE Sensor

ETIAF8BCBAE0

J1939 Type

Notification Rules

Taoglas Support Rule

Device Parameters

Taoglas

Battery Sleep - Interval between battery detections

1 hour

Location Sleep - Interval between location detections

15 minutes

Analogue Input 1 - Analogue Input 1 value

1 hour

Analogue Input 2 - Analogue Input 2 value

1 hour

Analogue Input 1 Sleep - Analogue Input 1 value sleep mode

1 hour

Analogue Input 2 Sleep - Analogue Input 2 value sleep mode

1 hour

Sensors with Modbus

Modbus - Modbus reading interval

5 seconds

Location - Location Sense Interval

15 minutes

Battery - Battery Sense Interval

15 minutes

External Fuel Configuration Options

Analogue Fuel Gauge Enabled - Used to indicate whether or not a gtaeway has an analogue fuel gauge connected.

Off

Fuel Switch Enabled - Used to indicate whether or no a gateway has a fuel level switch connected.

Off

BLE Fuel Gauge Enabled - Used to indicate whether or not a gateway is connected to an external BLE fuel Gauge.

On

Cancel

Submit

IG-21-2-016-A

11

4.5 Dashboard

1. When the dashboard view loads initially, you are presented with an overview of all of your devices.
 - a. The top left shows each device your user role allows you to view, broken down by organisation unit.
 - b. The right shows a map of each device your user role allows you to view.
 - c. The bottom of the page shows an overview of table for important parameters on your devices.

Device Row

The screenshot shows the Taoglas Insights dashboard. At the top, there's a navigation bar with 'Dashboard', 'Devices', 'Settings', 'Support', and 'User 1'. Below the navigation bar, the dashboard is divided into three main sections:

- Devices by Dealers:** A list of devices under the heading 'GenSet-Demo-Taoglas (2)'. It shows 'Genset 1' and 'Genset 2'.
- Map View:** A map showing the location of the devices. 'Genset 1' is marked with a red pin and 'Genset 2' with a green pin. The map shows a street layout with 'Old Finglas Road' and 'Church Avenue'.
- Device Overview:** A table with columns: Device, Running State, Alarm, Warning, Battery Voltage (V), Coolant Temperature (°C), Hours Run (Hrs), Oil Pressure (Bar), Engine Speed (RPM), Engine Voltage L-L (RMS) (V), Current L (RMS) (A), and Connected. The table lists 'Genset 2' and 'Genset 1' with their respective values.

2. To get more detail for a particular device, you can click on either the device in the panel on the top left or on the device overview table at the bottom of the screen. You will be presented with the following dashboard page.

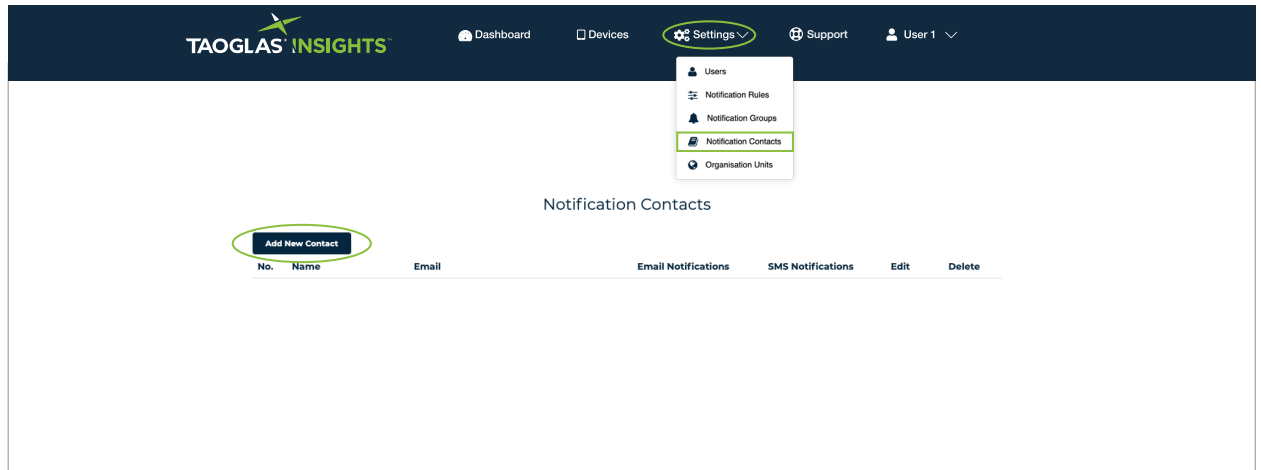
The screenshot shows the detailed dashboard for a specific device. The top navigation bar is the same as the previous screenshot. The main content area is divided into several sections:

- Device Status:** Shows the device ID '8676 4804 1990 399', a signal strength indicator '3G', and the time '14/03/2021 - 11:41:01'. The status is 'Auto'.
- Voltage:** A grid showing voltage levels for L1, L2, and L3. L1 is 230V, L2 is 231V, and L3 is 229V. Each has a green lightning bolt icon.
- Current:** A grid showing current levels for L1, L2, and L3. L1 is 22A, L2 is 25A, and L3 is 30A. Each has a green lightning bolt icon.
- Fuel Level:** Shows '71%' with a green fuel pump icon.
- Total kW:** Shows '17.715 kW' with a green lightning bolt icon.
- Battery Voltage:** Shows '13.0 V' with a green battery icon.
- Frequency:** Shows '59 Hz' with a green waveform icon.
- External Fuel Level:** Shows '---' with a grey fuel pump icon.
- Oil Pressure:** Shows '6.00 Bar(s)' with a green oil pump icon.
- Coolant Temp:** Shows '70 °C' with a green thermometer icon.
- Running Time:** Shows '17 hrs' with a green hourglass icon.
- Alarms:** A section with a search icon and a table with columns: Created time, Originator, Type, Severity, and Status. It states 'NO ALARMS FOUND'.
- Map View:** A map showing the device location. A red pin is placed on the map, and the device ID '867648043148730' is displayed next to it.

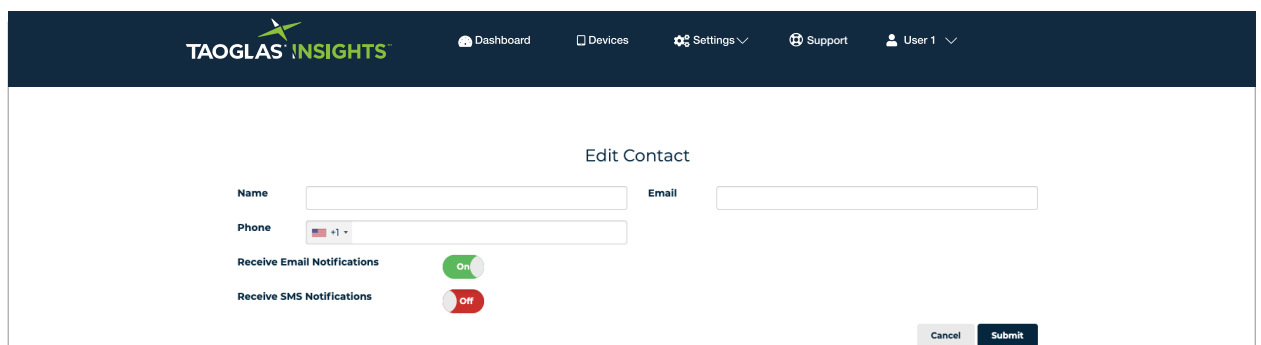
- a. From this page you can see live sensor data from the gateway, the latest cellular network information and the gateways location on a map.
- b. To view the historical information for a device you can click on a widget to view a graph of the last 30 days.
- c. By clicking on the pin on the map you will be given the option to:
 - i. Open the device location on google maps
 - ii. View the route map of the device showing its location over a period of time.

4.6 Sensor Notification Rules

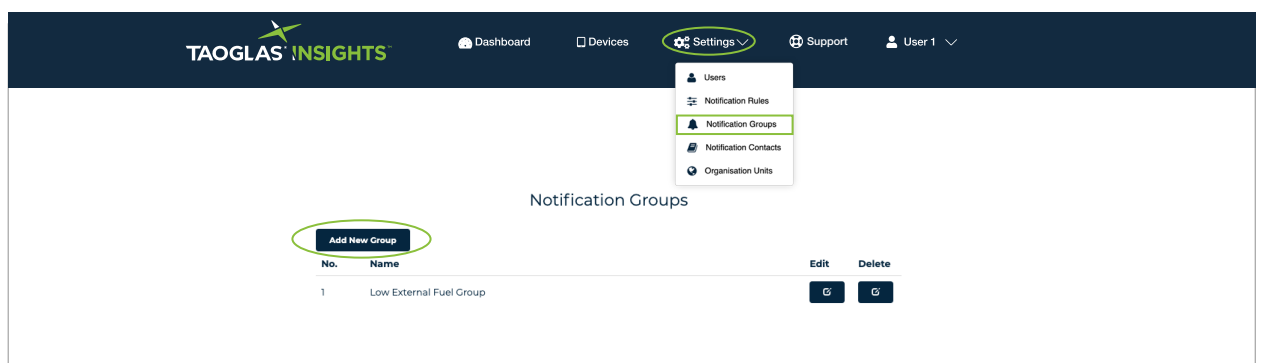
1. Taoglas Insights allows you to notify a group of contacts based on an uploaded sensor value.
2. To do this you will first have to add a contact to Taoglas Insights, click **'Settings'** followed by **'Notification Contacts'** at the top of the screen.
3. A page listing all the contacts associated with your account will appear, this will be empty if no contacts have been added. Click the **'Add New Contact'** button.



4. On the next screen, enter the name and email address of the contact you want to notify, then click **'Submit'**.



5. You repeat steps 3 and 4 multiple times to add multiple contacts, regardless of whether or not they are Taoglas Insights users.
6. After adding all the contacts you wish to notify, click **'Settings'** followed by **'Notification Groups'**. This will display a list of your notification groups, which will be empty initially.



7. Click, **'Add New Group'**, on the screen that follows, please:
 - a. Enter the name you wish to give the notification group
 - b. Select the contacts you wish to add to the group.

- c. Select the max frequency you wish to notify the group, for example selecting **‘Once a day’**, will only notify the group once in a 24 hour period, regardless of the number of times the rule associated with the notification is triggered.
8. Once you have entered the above information, click **‘Submit’** to create the group.

9. Now that the group has been created, you will be required to add a rule which will trigger the notification. Click, **‘Settings’** followed by **‘Notification Rules’**. This will bring you to your list of rules. To add a new rule, click **‘Add new Notification Rules’**.

10. On the window that appears:
 - a. Give the rule a name.
 - b. Select the sensor you wish to base the rule on.
 - c. Select the operator.
 - d. Enter a threshold.
 - d. Select the notification group.

Edit Notification Rule

Name	<input type="text" value="Temperature Sample"/>	Sensor	<input type="text" value="Coolant Temperature (deg C)"/>
Operator	<input type="text" value="Less-than (<)"/>	Threshold Level	<input type="text" value="10"/>
Notification Group	<input type="text" value="AdrianJ"/>		

The above screenshot will trigger the notification if a temperature sample with a value less than 10° is uploaded to Taoglas Insights.

11. Once all the information has been completed, click **'Submit'**.
12. The rule is now available to apply to the devices associated with your account.
13. To do this, navigate to the devices list page by clicking **'Devices'**.
14. Click the edit icon(✎) on the device you want to add the rule to, this will bring up the device edit page.
15. Select the rule from the **'Notification Rules'** dropdown as in the screenshot below and click **'Submit'**.

Controller Type **J1939 Type**

Ble Sensor

Notification Rules

Device Parameters

Taoglas

Battery Sleep - Interval between battery detections

Location Sleep - Interval between location detections

Analogue Input 1 - Analogue Input 1 value

5. Appendix

5.1 User Roles

The following User Roles are available on **industrial.taoglas.com**:

Admin

Organisation Admin

Basic User

View Only

5.1.1 Admin Permissions

View/Create/Edit/Delete all organisation units

View/Create/Edit/Delete users

Edit device information

Set Modbus Controller Type

View/Create/Edit/Delete notifications

5.1.2 Organisation Admin Permissions

View/Create/Edit/Delete organisation units

View/Create/Edit/Delete users in their organisation unit

Edit device information

Set Modbus Controller Type

View/Create/Edit/Delete notifications

5.1.3 Basic User Permissions

Edit device information

View device list

View device edit page

5.1.4 View Only Permissions

Only allowed to view the devices for the organisation unit of which they are a member of

5.2 Security

The Genset Monitoring Solution device security is provided by four mechanisms:

1. Connection to the Cloud-based components via HTTPS, with the servers public certificates held on the Genset Monitoring Solution device.
2. Authentication of the device by the Taoglas Insights™ Platform, with the unique and individual private key held securely in a cryptographic coprocessor.
3. Whitelisting of the domains to which the Genset Monitoring Solution APN can connect – Taoglas Insights™ and Taoglas Insights™ Platform and NTP servers only.
4. The device periodically reports its configuration hash (security), firmware versions, and certificate bundle version to the Taoglas Insights™ Platform. A report is sent each time a device is powered up, or when the configuration, certificate, or firmware has changed.

5.3 Safety and Regulatory Requirements

Warning: Failure to follow instructions could increase risk to safety and noncompliance with regional laws and regulations.

Warning: DO NOT SHORT CIRCUIT, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE.

BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 100 °C (212 °F).

Warning: HAZARDOUS AREA WARNING: This instrument has not been designed to be intrinsically safe for use in areas classified as hazardous locations. For your safety, DO NOT use it in hazardous (classified) locations.

Caution: In the case of an emergency, degraded performance will occur if wireless reception is inhibited.

Note: The device has an operating range between -20°C (-4F) to +55°C (131F).

The device can be safely charged in an ambient temperature range of between 0 – 40 degrees Celsius (32-104 degrees Fahrenheit).

The device can be charged with the supplied charger and cable.

Note:

- a) Do not disassemble or open crush, bend or deform, puncture or shred
- b) Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.
- c) Only use the battery for the system for which it is specified
- d) Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE 1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- e) Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.
- f) Replace the battery only with another battery that has been qualified with the system per this standard, IEEE-Std-1725. Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazard. Only authorized service providers shall replace battery. (If the battery is non-user replaceable).
- g) Promptly dispose of used batteries in accordance with local regulations
- h) Battery usage by children should be supervised.
- i) Avoid dropping this device or battery. If this device or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- j) Improper battery use may result in a fire, explosion or other hazard.

Caution: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Federal Communication Commission Interference Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard for wireless device employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. *Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output. The highest SAR value for the model device as reported to the FCC when worn on the body, as described in this user guide, is 1.1 W/Kg (Body-worn measurements differ among device models, depending upon available accessories and FCC requirements).

While there may be differences between the SAR levels of various devices and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/oet/ea/fccid after searching on FCC ID: WYPEU0312.

For body worn operation, this device has been tested and meets the FCC RF exposure guidelines for use with an accessory that contains no metal and be positioned a minimum of 1 cm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.



taoglas.com