

# **OPTIMA HUB**

## **OPERATOR USER MANUAL**

**UCM 302681**

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## 1. Document Introduction

This document details the operation and administration of the Telent Optima Hub system which incorporates the Remote Monitoring System (RMS) functionality.

Note that this issue of the document corresponds with version 3.2 and later of the system.

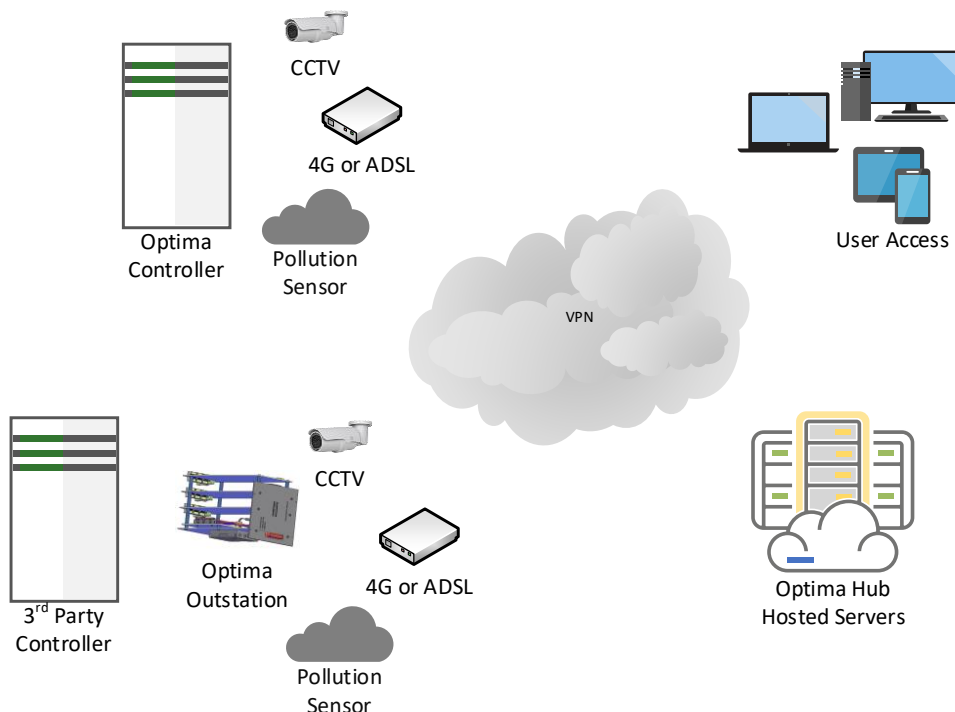
The unit previously known as the Remote Monitoring Unit (RMU) is now referred to as the Optima Outstation. The Outstation has a new version of the CPU board which can support optional I/O boards which will allow it to run various applications, including UG405 and MOVA 8 as well as remote monitoring. With no I/O boards the Outstation is functionally equivalent to the RMU.

For more details of the Optima Outstation please refer to its handbook – UCM 345488.

## 2. System Overview

The Telent Optima Hub has been designed to allow the centralised monitoring of the health of traffic controllers on the street and the integration of associated CCTV cameras and pollution sensors.

Servers hosted by Telent process the information from the controllers, cameras and sensors and provide a web page interface for client access via any modern browser (Google Chrome, Mozilla Firefox, or Microsoft Edge).



**Figure 1 - System Architecture**

The Optima Hub currently comprises of the following modules:

- **Remote Monitoring**
- **Cameras**
- **Count Data**
- **Air Quality Data**
- **Bus Priority**
- **Remote IO**



## **2.1 Remote Monitoring**

The Remote Monitoring module is designed to collect faults from connected traffic signal controllers and also to allow remote access to their status and any web page interfaces that they offer.

The system is able to interface to the following types of controller:

- Optima Traffic Controllers
- 3<sup>rd</sup> Party Controller – Any manufacturer's controller that includes a handset port via a Telent Optima Outstation. This can also include connections via a third party Outstation e.g. a Chameleon or Gemini unit.

## **2.2 Cameras**

The Cameras module allows CCTV cameras which have been installed around a signalised junction or crossing to be viewed.

## **2.3 Count Data**

The Count Data module collects count data from controllers (Optima v2.17 and later) and Outstations and allows it to be viewed in a graphical format. It is also possible to export the data as a .CSV file for additional analysis or for import into other tools.

## **2.4 Air Quality**

The Air Quality module collects data from AirScan pollution sensor sites and allows it to be viewed in a graphical format. It is also possible to export the data as a .CSV file for additional analysis or for import into other tools.

## **2.5 Bus Priority**

The Bus Priority module passes RTIG messages from a third party provider to Optima controllers (v2.18 and later) and Outstations with Bus Priority software installed. The Bus Priority software can be configured to receive RTIG Priority Request information in the form of XML messages formatted to RTIG-T031 version 1.0 or version 1.1. This is used to control bits which can be used by other software or connected devices.

This is an optional module and is disabled by default. It requires a VPN between the server which provides the RTIG messages and the Optima Hub server.

## **2.6 Remote IO**

The Remote IO module passes trigger messages between Optima controllers (v2.18 and later) and / or Outstations. This allows an event on one site to trigger pre-configured behaviour on another site.

This is an optional module and is disabled by default.

### 3. User Account Levels

There are seven levels of user account: -

Module Access								
Level	Remote Monitoring	CCTV	Count Data	Air Quality	Bus Priority	Remote IO	Site Admin	User Admin
L1	X	X	X	X	X	X		
L2	X	X	X	X	X	X		
L3	X	X	X	X	X	X		
L4	X	X	X	X	X	X	X	
Admin	X	X	X	X	X	X	X	X
CCTV		X						
Air Quality				X				

**Table 1 - Account Privileges (Module Access)**

Note that Administrators can create, alter and delete other account levels except for other Administrators. The Telent System Administrator can create Administrators.

Site Popup			
Level	Web Page	Layout View	Layout Edit
L1		X	
L2	X	X	
L3	X	X	X
L4	X	X	X
Admin	X	X	X
CCTV			
Air Quality			

**Table 2 - Account Privileges (Site Popup)**

## 4. Basic Operation – Applicable to all users

### 4.1 Logging On

To access the Optima Hub log on page enter the URL 'https://extranet.telent.com/trafficrm/XXXX' where XXXX is specific to an individual customer and will be allocated by Telent.

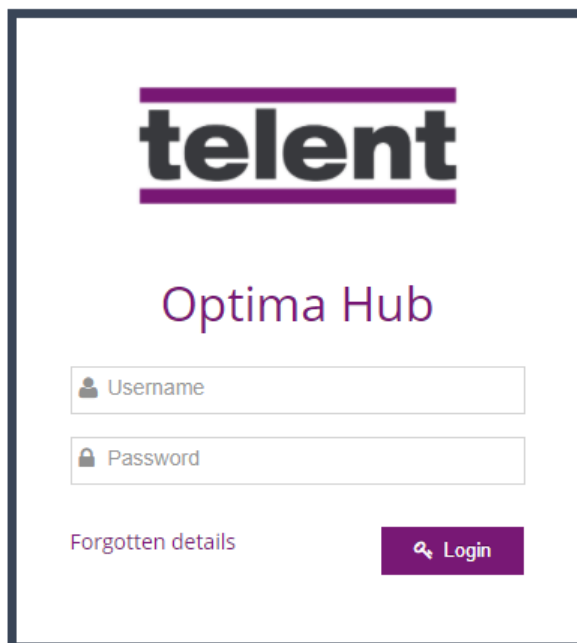
The image shows a login screen for 'Optima Hub'. At the top is the 'telent' logo in black with a purple horizontal bar above and below it. Below the logo, the text 'Optima Hub' is displayed in a purple serif font. There are two input fields: the first is labeled 'Username' with a person icon, and the second is labeled 'Password' with a lock icon. Below the 'Username' field is a link that says 'Forgotten details' in purple. To the right of the 'Password' field is a purple button with a white arrow icon and the text 'Login'.

Figure 2 – Logon Screen

Enter a valid **User name** and **Password** as supplied to each user by e-mail and click “**Login**”.

Note that the password is case sensitive.

To reset a forgotten password, click on “Forgotten Details” and enter the email address associated with the account. A new, random, password will be generated for all accounts that were registered using that email address.

## 4.2 Password Change

After initial log on or after a password reset, the user is forced to change their password for security reasons. Enter a new password and select change password. The password will be updated and the logon screen displayed.


Note that passwords must be at least 8 characters long and must not contain the characters < or >

Change Password


New passwords are required to be a minimum of 8 characters in length.

Use this form to change your password.


UserName

 A User

New Password



Confirm Password



✓ Change Password

↺ Clear Form

**Figure 3 – Password Change Dialogue**

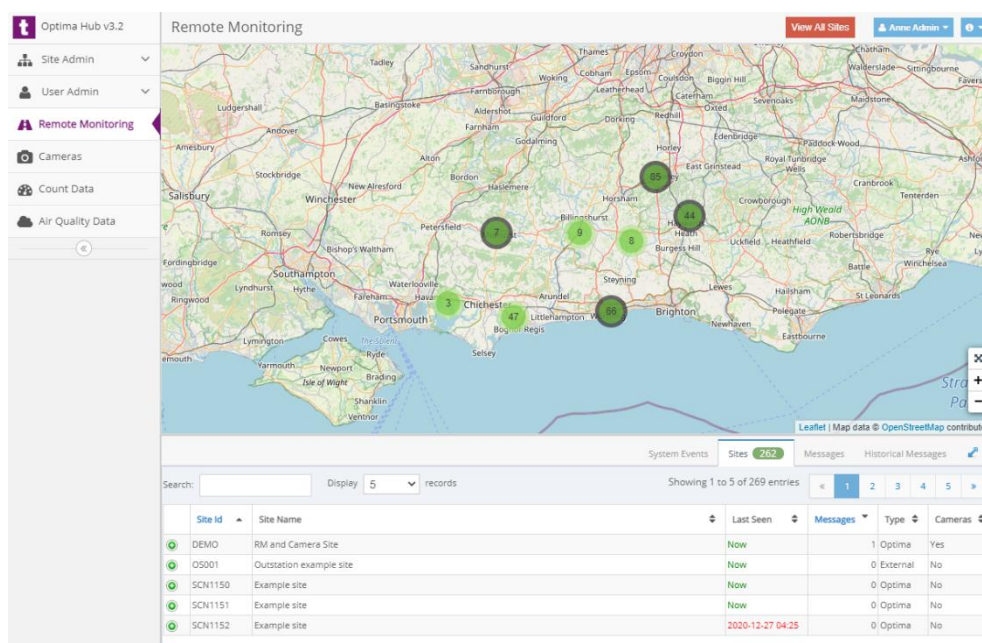
### 4.3 Home Page

With the exception of the Air Quality and CCTV roles (which have dedicated home pages), users will be taken to the Remote Monitoring page as their home page. A menu on the left of the screen will present the functionality that is available to the role of the user.

If the window is too narrow then the menu will be compressed into a menu button at the top left of the page. Otherwise it will run down the left of the page. To toggle between a wider (to show the menu item names) or narrower (to show only icons) menu click this button



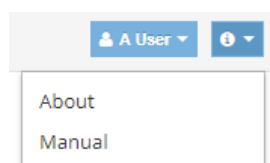
Figure 4 shows the screen layout of the home page when logged in as an Administrator (which has the additional Site Admin and User Admin menus).



**Figure 4 – Administrator’s Home Page**

### 4.4 Information Menu

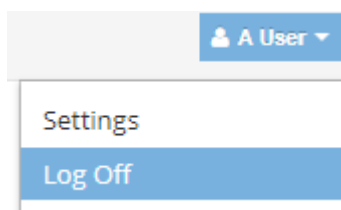
An information menu is shown at the top right of the window. From here the user can find the version of the Optima Hub software or download a copy of this manual.



**Figure 5 – Information menu**

## 4.5 User Menu

The user menu displays the name of the user and is shown at the top right of the window.



**Figure 6 - User menu**

### 4.5.1 User Account Details

To access and edit the account settings for the current login click the username at the top right of the window and then select “Settings” from the drop down menu.

Edit	Username	Email Address	Fault Emails	Phone Number	Fault Texts	User Role	Creation Date
	A User		None		No	User L2	05/08/2020 11:28:54
Username:		A User					
Role:		User L2					
Email Address:		<input type="text"/>					
Email Notifications:		None					
Phone Number:		<input type="text"/>					
SMS Notifications:		<input type="checkbox"/>					
New Password:		<input type="password"/>					
Confirm Password:		<input type="password"/>					
Update							

**Figure 7 - Edit Account Details**

The account details page (Figure 7) allows the following details to be edited

- Email address associated with the account
- Enable/disable email notifications for Serious Faults
- Mobile number associated with the account
- Enable/disable SMS notifications for Serious Faults
- Password

Note that an Administrator user will be able to edit these details for other, non Administrator accounts. To commit any changes to the account details, click “Update”.

### 4.5.2 Logging Off

Select Log Off from the User Menu to log the current user off. The Log on page will then be shown.

## 5. Remote Monitoring

*This section is applicable to all users except those in the Air Quality or CCTV roles.*

### 5.1 Remote Monitoring Page

This page has a map window with a tabbed data area under it.

#### 5.1.1 Map Window

##### 5.1.1.1 View All Sites

To zoom the map to a level where all connected sites are visible click the “View All Sites” button in the top right hand corner of the map.



##### 5.1.1.2 Hiding the Tabbed Data Area

To hide the information table below the map click on the double ended blue arrow on the bottom right hand corner of the GUI map. To re-display the Information table click on the blue arrow again.



##### 5.1.1.3 Zooming and Panning the Map

To zoom in and out on the map use either the scroll wheel on a compatible mouse or the + and – Icons which are located on the bottom right hand side of the map.

+ Zoom In

– Zoom out













The plus and minus keys can also be used to zoom in and out (after first clicking on the map).

To view the map full screen click the  icon.

To pan the map, click and hold the left mouse button within the map window and drag to the desired position.

#### 5.1.1.4 Site markers

Sites are displayed with a **coloured place marker**. The place markers will be a different colour depending on their status. See Table 3.

	Optima	External	Camera Only	Air Quality
Normal				
Selected				
Disconnected and has serious fault				
Disconnected and has fault				
Disconnected				
On battery				
Serious fault				
Fault				
New site				

**Table 3 - Marker Types**

Note that Outstations which are communicating with the server but not with a controller will show as disconnected but will still provide handset access. This may happen if the controller is off, the serial cable is disconnected, or the wrong controller type has been selected on the Outstation. When the Outstation attempts to poll the controller a "Controller communication timeout" will occur and be logged as a fault. The site will not show as connected again until the problem has been resolved and the Outstation can poll the controller.

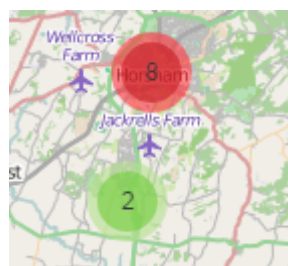


#### 5.1.1.5 Grouped Site Markers

As the map is zoomed out the site markers will form clusters representing two or more sites. The clustered icon will be red if there are unacknowledged faults for any of the sites within the cluster.

The example in Figure 8 shows a cluster of 8 sites where one or more site has an unacknowledged fault and a cluster of 2 sites with no unacknowledged faults.

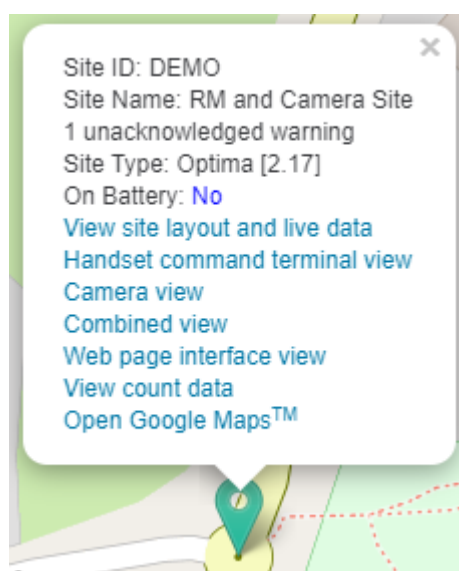
If a cluster has a grey border then one or more sites within the cluster is disconnected.



**Figure 8 - Clustered Sites**

#### 5.1.1.6 Site Selection

Selecting a site on the map will display a pop-up, see **Figure 9**. To close the pop-up click on the X in the top right corner.



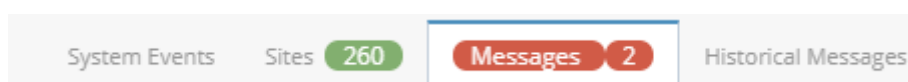
**Figure 9 – Selected Site Pop-Up**

The pop-up displays the Site ID and Battery State as well as a summary of the number of unacknowledged faults. There are also separate links for various functions which are covered in sections 5.2 to 5.9.

Note that the available functions on the pop-up will be dependent on the site type (Optima, External, Camera, etc) and whether the site is connected (only connected Optima sites can display live data or show the controller web page interface for example).

### 5.1.2 Tabbed data area

Below the Map is the tabbed data area (See Figure 10). This consists of 4 tabs; System Events, Sites, Messages and Historical Messages.



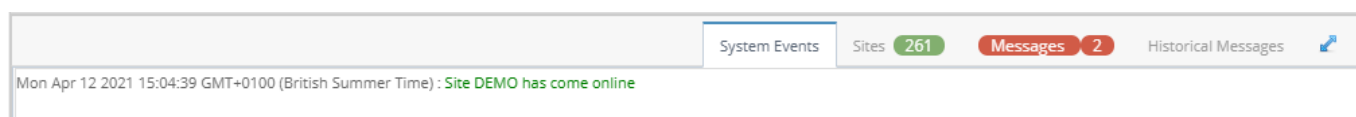
**Figure 10 – Tabbed Data**

Tabs can be selected with the mouse.

Note that when the browser window is not large enough to display all the tabs, or all of the options within a tab, a reduced set of items will be displayed.

#### 5.1.2.1 System Events Tab

The system events tab displays real time events from all controllers including connections and disconnections. This tab is only displayed if the window is more than 1200 pixels wide.



**Figure 11 – System Events Tab**

#### 5.1.2.2 Sites Tab

The Sites tab header displays the number of connected sites. The background colour of the tab header will change to red if a site is disconnected and the number (which represents the number of sites) will be decremented.

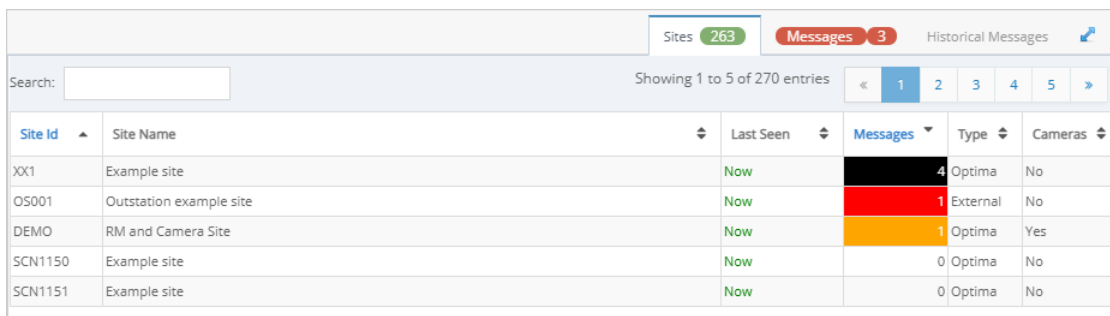
All known sites are displayed in the table with their ID, Name, Connection Status (Last Seen), Number of messages, Type and whether or not a site has cameras. Selecting a row in the table will centre the map on the position of the site and zoom into street level detail. Double clicking a row will do the same but will also select the site and open the associated pop-up.

**Tip 1:** To interact with a specific site whose name is known, type some characters from its name into the Search box to filter the table then select the row to go directly to it on the map.

**Tip 2:** Ordering the Sites Tab on the Messages column will ensure that sites with Serious Faults (Black) will be listed first – see Figure 12.

**Tip 3:** Clicking on the message count for a site will switch to the messages tab, filter it for the site and zoom the map to that site.

**Tip 4:** Ordering on the Last Seen column will bring the sites that have been disconnected for the longest time to the head of the list.



Site Id	Site Name	Last Seen	Messages	Type	Cameras
XX1	Example site	Now	4	Optima	No
OS001	Outstation example site	Now	1	External	No
DEMO	RM and Camera Site	Now	1	Optima	Yes
SCN1150	Example site	Now	0	Optima	No
SCN1151	Example site	Now	0	Optima	No

**Figure 12 – Sites Tab**

Sites which are disconnected for more than 1 hour will have a Fault raised by the Remote Monitoring system to warn of the loss of communications. If the site remains disconnected for more than 24 hours then a serious fault will be raised to further highlight the issue.

Note that the times given here are defaults which can be set for each customer.

### 5.1.2.3 Messages Tab

The Messages tab background colour will change to red if a fault message is received and the number (which represents the fault count) incremented. When a fault message is acknowledged the number will decrement. When all faults have been acknowledged then the background colour will change to default grey or white depending if the tab has been selected and the number will disappear.

The Messages tab displays messages from the sites (Serious Faults, Faults, Warning and Information messages).

Serious faults are defined as those which will have resulted in a shutdown of a stream or a controller enabling the user to focus on these high priority failures.

Note that on logon (or when the screen is refreshed with F5) the latest 100 messages for a site will be fetched from the database and displayed. If a site has more than 100 unacknowledged messages then a warning will be displayed. Once these messages have been acknowledged then the next oldest messages will be displayed.

**Serious Fault** messages are highlighted in **black**

**Fault** messages are highlighted in **red**.

Warning messages are highlighted in **amber**.

Info messages are highlighted in the standard **Dark Grey** font.

Message Filter	Message Actions	System Events	Sites 263	Messages 2	Historical Messages
Search:	Display 5 records	Showing 1 to 4 of 4 entries			
Message Type	Site Id	Event Date	Reported Date	Message	
Serious Fault	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Serious Fault message	<input type="checkbox"/>
Fault	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Fault message	<input type="checkbox"/>
Warning	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Warning message	<input type="checkbox"/>
Info	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Info message	<input type="checkbox"/>

**Figure 13 – Messages Tab**

Data in the messages tab can be sorted on any of the column headings by selecting that heading. Selecting the heading for a second time will swap the sort order.

Note that the sort order for message type is “Serious Fault”, “Fault”, and “Warning” when the column heading has an upwards facing arrow – see Figure 14.



**Figure 14 - Sort Order**

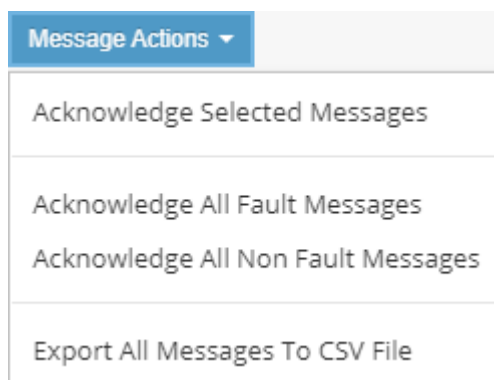
To acknowledge fault messages, select them from the list, either by individual tick box or by using the tick box in the column heading to select all messages and then pick the appropriate message action – see section 5.1.2.3.1.

Message Filter	Message Actions	System Events	Sites 263	Messages 2	Historical Messages
Search:	Display 5 records	Showing 1 to 4 of 4 entries			
Message Type	Site Id	Event Date	Reported Date	Message	
Serious Fault	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Serious Fault message	<input checked="" type="checkbox"/>
Fault	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Fault message	<input type="checkbox"/>
Warning	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Warning message	<input checked="" type="checkbox"/>
Info	XX1	2021-01-12 14:18:21	2021-01-12 14:18:21	Example Info message	<input checked="" type="checkbox"/>

**Figure 15 - Message Selection**

### 5.1.2.3.1 Message Actions

The Message Actions drop down allows the user to acknowledge and export messages.



**Table 4 - Message Actions**

#### 5.1.2.3.1.1 Acknowledge Selected Messages

This option will mark any *selected* messages as being acknowledged by the operator and thus will be removed from the messages window (to the historical messages tab for Faults and Serious Faults).

#### 5.1.2.3.1.2 Acknowledge All Fault Messages

This option will mark all Serious Faults and Faults as being acknowledged by the operator and thus will be removed from the messages window (to the historical messages tab).

Note that “Acknowledge Fault Messages” takes into account any filtering that is in place at the time e.g. to acknowledge the faults for a specific site, filter the messages page by entering the site id into the search box before selecting “Acknowledge Fault Messages”.

#### 5.1.2.3.1.3 Acknowledge All Non-Fault Messages

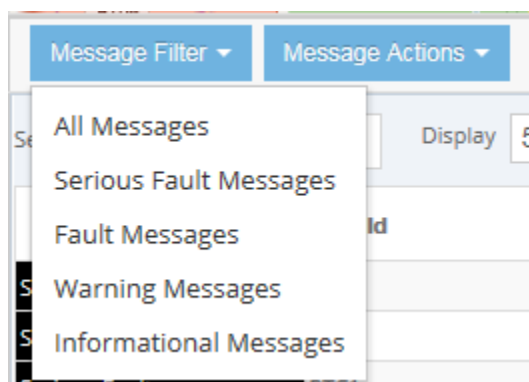
This option will mark all warnings and info as being acknowledged by the operator and will remove them from the messages window. Non- fault messages are not retained in the historical messages.

#### 5.1.2.3.1.4 Export All Messages to CSV File

This option will produce and download a CSV file of all the currently retrieved messages.

#### 5.1.2.3.2 Message Filter

The Message Filter drop down allows the user to filter messages.



**Figure 16 – Message Filter Menu**

To filter on a message type, select it on the menu. To remove the filter, select All Messages.

#### 5.1.2.4 Historical Messages Tab

The Historical Messages tab is used to view fault messages that have been acknowledged. By default only the current days messages are shown. To view previous messages enter a date range (see Figure 17) and select Apply. The Search box can then be used to look for specific sites or faults.

This tab is only displayed if the window is more than 800 pixels wide.

The screenshot shows the 'Historical Messages' tab in a web application. At the top, there's a date range selector set to '01/04/2021 - 08/04/2021' with 'Apply' and 'Clear' buttons. To the right, there are tabs for 'System Events', 'Sites' (261), 'Messages' (2), and 'Historical Messages'. Below the date selector, there are two calendar views for April 2021. The first calendar has the 1st highlighted, and the second has the 8th highlighted. To the right of the calendars, there's a section for 'Showing 0 to 0 of 0 entries' with navigation arrows. Below that, there are filters for 'Ack. By', 'Ack. On', and 'ServiceNow'.

Figure 17 – Historical Messages Date Entry

#### 5.1.2.4.1 Message Actions

The Message Actions drop down allows the user to export messages.

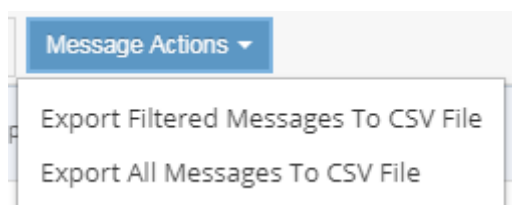


Figure 18 - Message Actions menu

##### 5.1.2.4.1.1 Export Filtered Messages to CSV File

This option will produce and download a CSV file of the currently retrieved messages which match the search filter.

##### 5.1.2.4.1.2 Export All Messages to CSV File

This option will produce and download a CSV file of all the currently retrieved messages.

### 5.1.2.5 ServiceNow Interface

If the link from the Optima Hub to Telent's Fault Management System, ServiceNow, is enabled then the following additional options will be available on the "Message Actions" menu on the Messages tab:

- Send Selected Messages To ServiceNow
- Send Selected Messages To ServiceNow And Acknowledge

The screenshot displays the 'Remote Monitoring' interface. At the top, there's a map of the South East of England with several locations marked by colored circles (green, yellow, red). Below the map, the 'Message Actions' menu is open, showing options such as 'Acknowledge Selected Messages', 'Acknowledge All Fault Messages', 'Acknowledge All Non Fault Messages', 'Send Selected Messages To ServiceNow', 'Send Selected Messages To ServiceNow And Acknowledge', and 'Export All Messages To CSV File'. The 'Messages' table below the menu shows a list of messages with checkboxes for selection and a 'ServiceNow' column.

Message Type	Message	ServiceNow
Serious Fault	us Fault message	<input checked="" type="checkbox"/>
Fault	message	<input type="checkbox"/>
Warning	ing message	<input type="checkbox"/>
Info	message	<input type="checkbox"/>

A message (or multiple messages) may be selected by ticking the box(es) in the right-most column.

The relevant menu option may then be used to send the selected message(s) to ServiceNow. This may be done with or without simultaneous acknowledgement of the message(s).

Messages which have successfully been sent to ServiceNow will be assigned a unique number by the ServiceNow system, which will be displayed in the ServiceNow column of the Messages table (or Historical Messages table in the case of acknowledged faults).



## 5.2 Live Data - Monitoring Traffic Signals and Detectors

### 5.2.1 Site Layout

The site layout display is a representation of a site layout. This may include a site drawing and placement of signals and detectors. For connected Optima controllers this can be used to display live data. For other site types this will be a static display used for site awareness i.e. no live data.

The site layout is “drawn” as detailed in section 11.2 by a user in the Administrator, User L4 or User L3 role.

To display the site layout for a specific site, select the site on the main map window and then select “View site layout and live data” / “View site layout” or “Combined view” from the pop-up. Note that connected Optima sites will have the “View site layout and live data” option whereas other sites will have the “View site layout” option.

### 5.2.2 Initiating/Terminating Live Data

Live Data is a representation of a live controller on a working site including the state of any connected signals and detectors and an indication of the mode of each stream running on the controller.

The live data is displayed on the site layout screen.

To start monitoring live data on a specific site, select the site on the main map window and then select “View site layout and live data” or “Combined view” from the pop-up to display the live data screen.

Select “Start Monitoring”

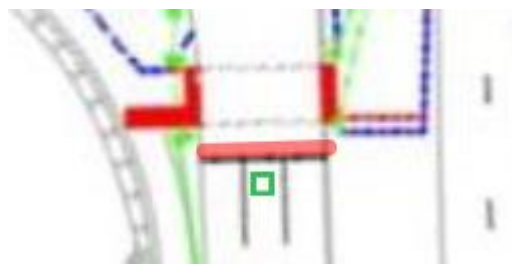
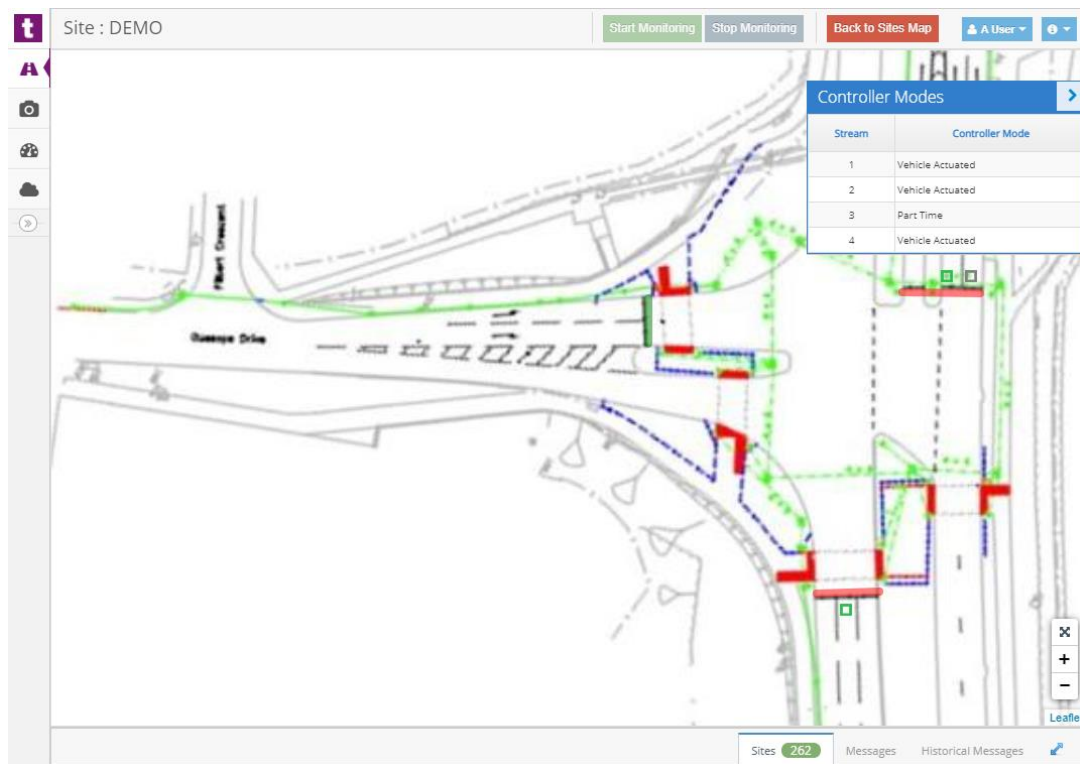


A representation of the live status of the site’s signals, detectors and controller mode will be displayed. An active detector is drawn in green – see Figure 19.

To stop monitoring live data press the Stop Monitoring Button.



Live data monitoring will time out after a period.



**Figure 19 – Live Data Display**






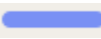



### 5.2.3 Key to Symbols

Figure 20 depicts the available detectors.

<input type="checkbox"/> Kerb Side	
<input type="checkbox"/> Loop	
<input type="checkbox"/> MOVA	
<input type="checkbox"/> MVD	
<input type="checkbox"/> On Crossing	
<input type="checkbox"/> Push Button	

**Figure 20 – Detector Symbols**

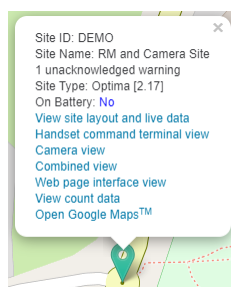
Table 5 - summarises the Traffic Signal types which are available to be displayed on the map to depict live traffic signal states.

	<b>RAG</b>
	<b>RAG Ahead Arrow</b>
	<b>RAG Left Arrow</b>
	<b>RAG Right Arrow</b>
	<b>Red Green Man</b>
	<b>RAG Bar</b>
	<b>Ahead Arrow</b>
	<b>Left Arrow</b>
	<b>Right Arrow</b>

**Table 5 – Signal Types**

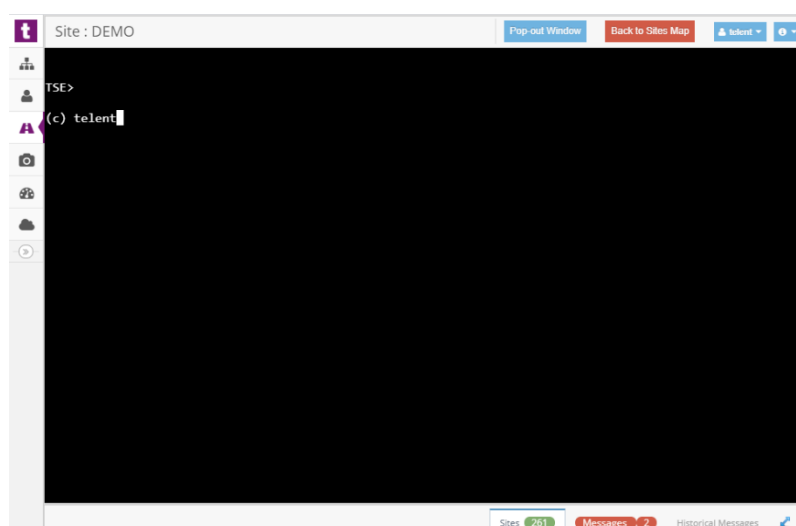
### 5.3 Handset Command Terminal View

To obtain remote access to the controller handset facility, select the site on the main map window and then select “Handset command terminal view” or “Combined View” from the pop-up. This facility is not available for User L1 role users.



**Figure 21 – Selected Site Pop-up**

Once the Handset Command Terminal View option has been selected a command window will appear as shown in Figure 22 and any handset command for that controller type can be entered. Right clicking within the window will display a number of display options such as the ability to toggle black on white/white on black text.



**Figure 22 – Handset Command Window**

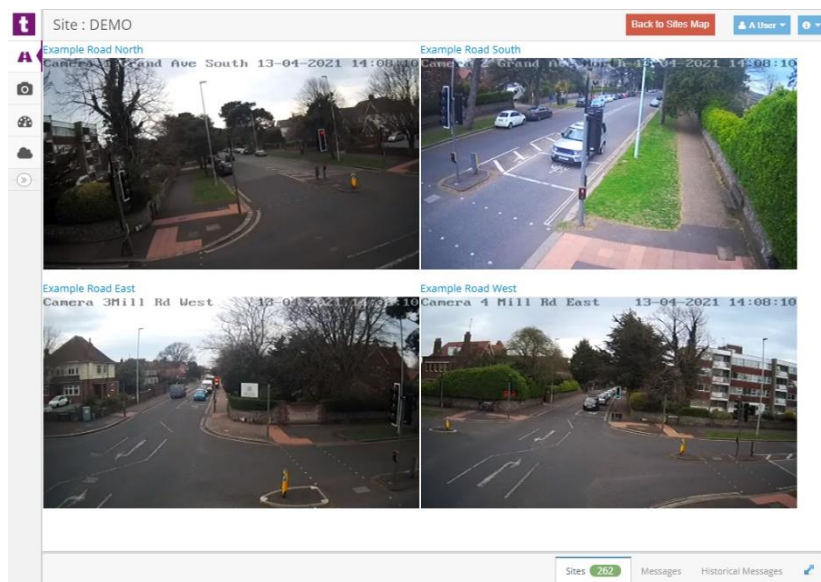
The “Pop-out Window” button will open a separate window containing the handset terminal which can then be positioned as required e.g. on a separate monitor.

The session can be terminated with the “back to sites map” button.

## 5.4 Camera View

To view the cameras associated with a site, select “Camera view” from the site pop-up – see Figure 21.

This will display all of the site cameras in a grid. To open a stream in a new window, click the title of the camera window (e.g. “Example Road South” in this example). This allows the view to be placed on a separate monitor or connected video wall.



**Figure 23 - Camera View**

Note that camera access will timeout after 15 minutes to limit unintentional data usage.

## 5.5 Combined View

The combined view allows the live data, handset terminal and any fitted cameras to be displayed in one view to give the full picture of the health of a junction. To initiate this view, select “Combined view” from the site pop-up – see Figure 21.



**Figure 24 - Combined View**

If more than one camera is associated with the site they will be displayed in a grid.

The handset window and any camera view can be opened in a new window by selecting the blue title of the window. This allows access to the handset and/or camera to remain open when returning to the map view.

Note that handset and camera access will timeout to prevent unintentional data usage.

## 5.6 Web Page Interface View

To obtain remote access to the controller web page facility, select the site on the main map window and then select “Web page interface view” from the pop-up. This facility is only available for Optima controllers running software 2.14 or newer and is not available when logged in as a User L1 role user.

Selecting the web page interface view will replace the map with a view of the controller web page, as shown in Figure 25.

The “Pop-out Window” button will open a separate window containing the web page interface, which can then be positioned as required e.g. on a separate monitor.

Pop-out Window

The session can be terminated with the “back to sites map” button.

Back to Sites Map

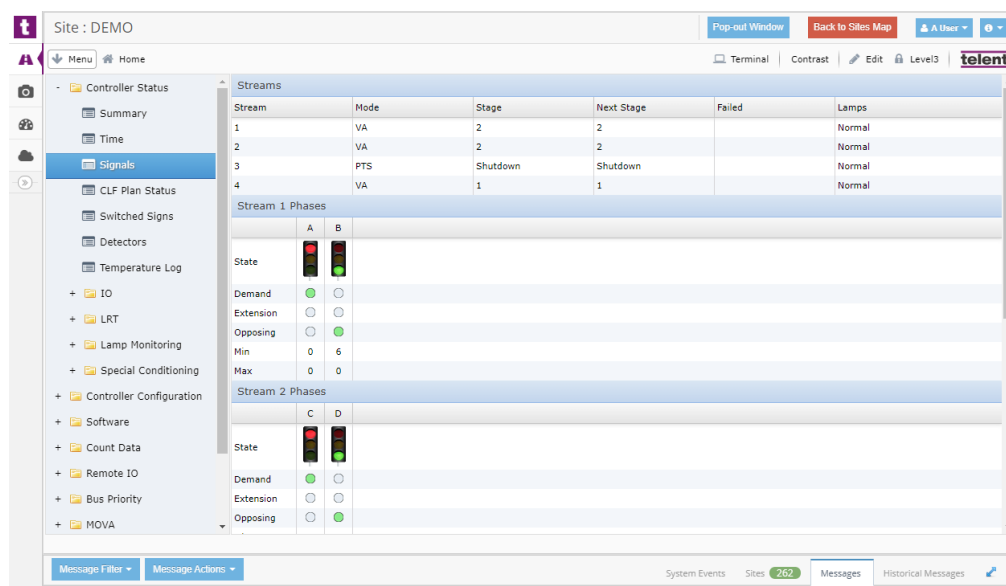


Figure 25 - Web page interface view

## 5.7 Outstation Web Page

If an Optima Outstation unit has other applications installed (e.g. MOVA) a version of the Outstation web page is available to view these applications. Although it is possible to reconfigure applications through this web page it is recommended that this only be done when on site as any reconfiguration will cause applications to restart (causing any MOVA or UG405 control to be dropped).

To obtain remote access to the outstation web page facility, select the site on the main map window and then select “Outstation web page” from the pop-up. This facility is only available for Outstations with applications installed and is not available when logged in as a User L1 role user. The available functionality will depend on the applications installed.

Selecting this view will replace the map with a view of the Outstation web page, as shown in Figure 26.

The “Pop-out Window” button will open a separate window containing the web page interface, which can then be positioned as required e.g. on a separate monitor.

Pop-out Window

The session can be terminated with the “back to sites map” button.

Back to Sites Map

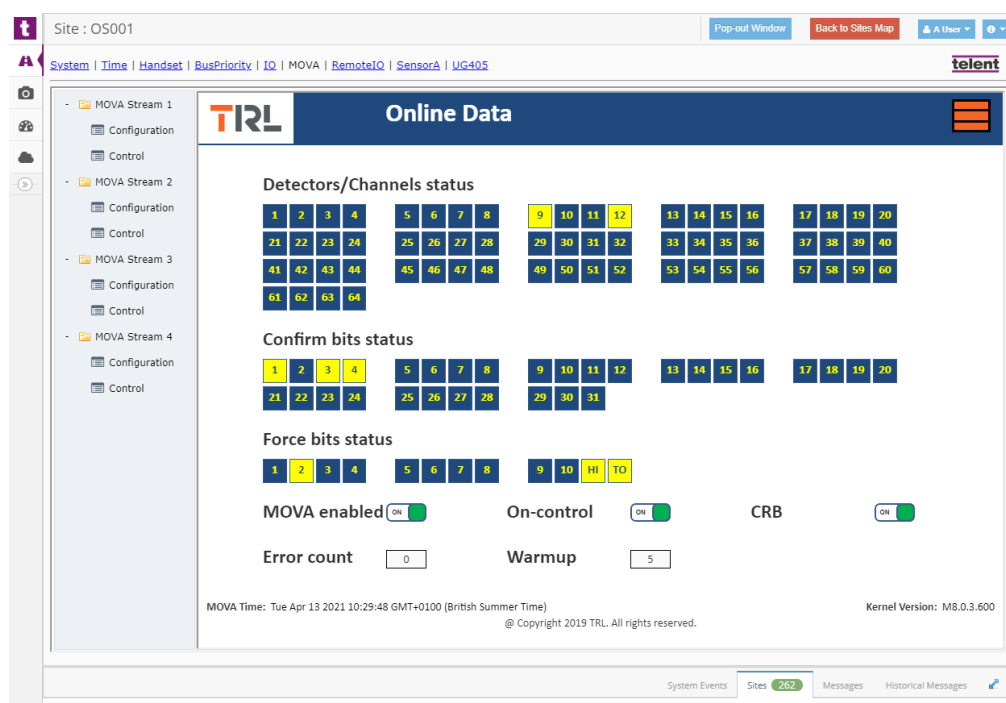


Figure 26 - Outstation web page view



## 5.8 External Controller / 3<sup>rd</sup> Party OTU Web Page

In some circumstances it may be possible to configure an Optima Outstation to allow access to the web page of the controller and / or OTU (e.g. external MOVA unit) it is attached to. This can only be done where the device has a suitable web page and can be placed safely on the Outstation's network.

To obtain remote access to the web page, select the site on the main map window and then select "Controller web page" or "3<sup>rd</sup> Party OTU web page" from the pop-up. A new window will be opened containing the requested web page. These options will only be available where the connected Outstation has been configured to allow them.

## 5.9 Google Maps

It is possible to open a new browser window and use the "Google Maps" mapping service to show the location of a site. This can be achieved simply by clicking 'Open Google Maps™' on the site pop-up.

Note that the new window is not part of Remote Monitoring but instead accesses the "Google Maps" mapping service using its publicly available web interface. "Google Maps" is a trademark of Google Inc. and is not associated with Telent.

## 6. Cameras

*This section is applicable to all users except those in the Air Quality role.*

Sites with cameras are shown on the map and in the table. A site can be expanded by clicking the green plus next to it in the table or clicking its marker on the map. This will show the cameras assigned to that site.

**Figure 27 - View Camera Page**

Selecting “View camera” will open a new window and start the video stream from that camera.

Use the “Add to group list” button to add any camera to the current group list. Note that cameras from different sites can be added to the group.

**Figure 28 - Group List**

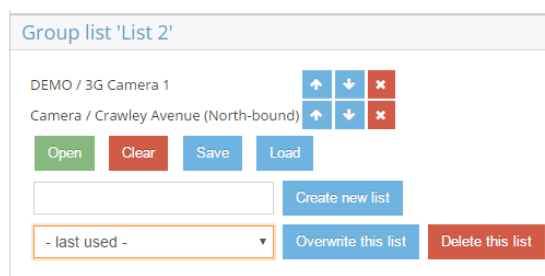
To delete a camera from the group, click .

To change the order in which a camera is displayed, click  .

To open the camera group, click “Open”. This will open a new window and start the video stream from the cameras.

To clear the current group list, click “Clear”.

To save or update group lists, click “Save” – see Figure 29



**Figure 29 - Manage Group Lists**

To create a new saved list, enter a name in the box and click “Create new list”.

To overwrite/update an existing list, select the name from the drop down and then click “Overwrite this list”.

To delete a list, select the name from the drop down, click “Delete this list” and then click “Yes Delete” from the “Delete Confirmation” pop-up.

To load an existing list, select the name from the drop down and click “Load”

“- last used – “ is a list that is automatically created and updated to allow the view that was last opened to be retained.

## 7. Count Data - available for Optima v2.17 (and later) and Optima Outstations

*This section is applicable to all users except those in the Air Quality or CCTV roles.*

To display the count data chart for a specific site, select the site on the main Remote Monitoring map window and then select "View count data" from the pop-up. Alternatively, select Count Data from the menu and choose one or more sites from that page.

A map and a list of sites is shown. The list can be filtered by typing in the Filter box under it (delete the filter box contents to show all sites again).

Select sites for data retrieval either on the map or within the list of sites. Hold the CTRL key to select more than one site at once. After choosing the site(s), click the Fetch button to retrieve the data.

Click on the date range to change the time period to fetch data for. Select new start and end dates and click Apply, or click Reset to set the dates back to the default range (1 month up to the previous day).

Hovering over data points on the chart will show the time of specific data points.

Clicking and dragging on the chart allows selection of an area. The chart will then zoom in to this area. Double clicking on the chart, or clicking on the house icon above the chart, will reset the zoom level to show all available data.

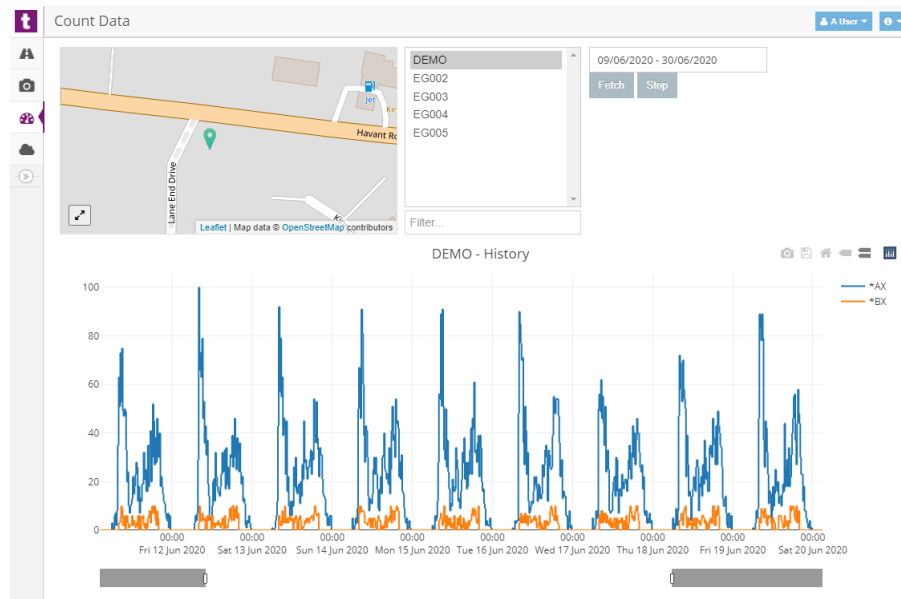
The bar under the chart shows the zoomed in area in relation to the fetched data and can be dragged to alter the zoomed area.

The legends in the key to the right of the chart can be clicked to hide or show an individual trace. Double clicking one of the legends which is currently turned on will select only that trace and hide all other traces.

The camera icon above the chart allows an SVG file of the current plot to be downloaded.

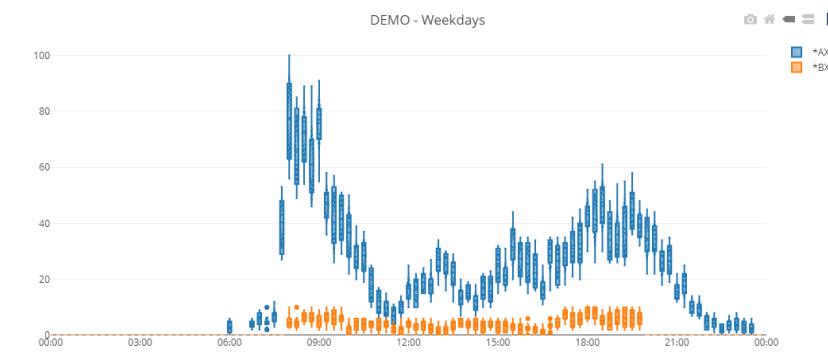
The disk icon allows the raw data to be downloaded as a CSV file. Note that zooming in to an area of the graph does not affect this, all the data will be downloaded regardless of zoom.

If the user role is Administrator, User L4 or User L3 then a pencil icon is also shown. This allows the count variables to be renamed to something more meaningful on the Optima Hub (although the controller or Outstation is not affected by this). For example, detector names could be replaced with road names (although the names should be kept as short as possible).



**Figure 30 - Count Data**

The main chart shows the data for the selected period. It is followed by a chart which shows statistics for each 15 minute period for all the weekdays in the period fetched, a chart for all the Saturdays and a chart for all the Sundays. Note that the charts are independent and zooming in on one chart will **not** affect the others.



**Figure 31 - Count Data Statistics**

## 8. Air Quality – available for Airscan sites

*This section is applicable to all users except those in the CCTV role.*

To display the air quality chart for a specific site, select an air quality site on the main Remote Monitoring map window and then select “View air quality” from the pop-up. Alternatively, select Air Quality Data from the menu and choose one or more sites from that page.

A map and a list of sites is shown. The list can be filtered by typing in the Filter box under it (delete the filter box contents to show all sites again).

Select sites for data retrieval either on the map or within the list of sites. Hold the CTRL key to select more than one site at once. After choosing the site(s), click the Fetch button to fetch the data.

Click on the date range to change the time period to fetch data for. Select new start and end dates and click Apply, or click Reset to set the dates back to the default range (1 month up to today).

Hovering over data points on the chart will show the time of specific data points.

Clicking and dragging on the chart allows selection of an area. The chart will then zoom in to this area. Double clicking on the chart, or clicking on the house icon above the chart, will reset the zoom level to show all available data.

The bar under the chart shows the zoomed in area in relation to the fetched data and can be dragged to alter the zoomed area.

The legends in the key to the right of the chart can be clicked to hide or show an individual trace. Double clicking one of the legends which is currently turned on will select only that trace and hide all other traces.

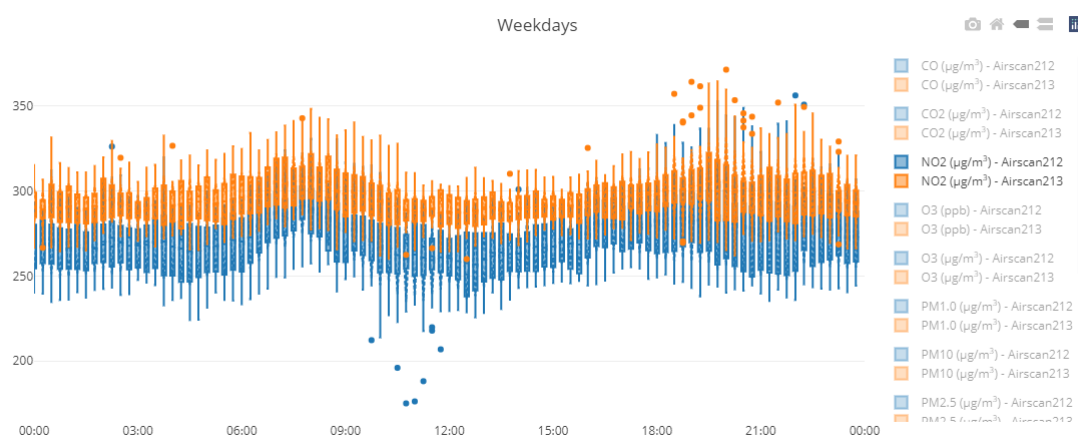
The camera icon above the chart allows an SVG file of the current plot to be downloaded.

The disk icon allows the raw data to be downloaded as a CSV file. Note that zooming in to an area of the graph does not affect this, all the data will be downloaded regardless of zoom.



**Figure 32 – Air Quality Data**

The main chart shows the data for the selected period. It is followed by a chart which show statistics for each 15 minute period for all the weekdays in the period fetched, a chart for all the Saturdays and a chart for all the Sundays. Note that the charts are independent and zooming in on one chart will **not** affect the others.



**Figure 33 – Air Quality Data Statistics**

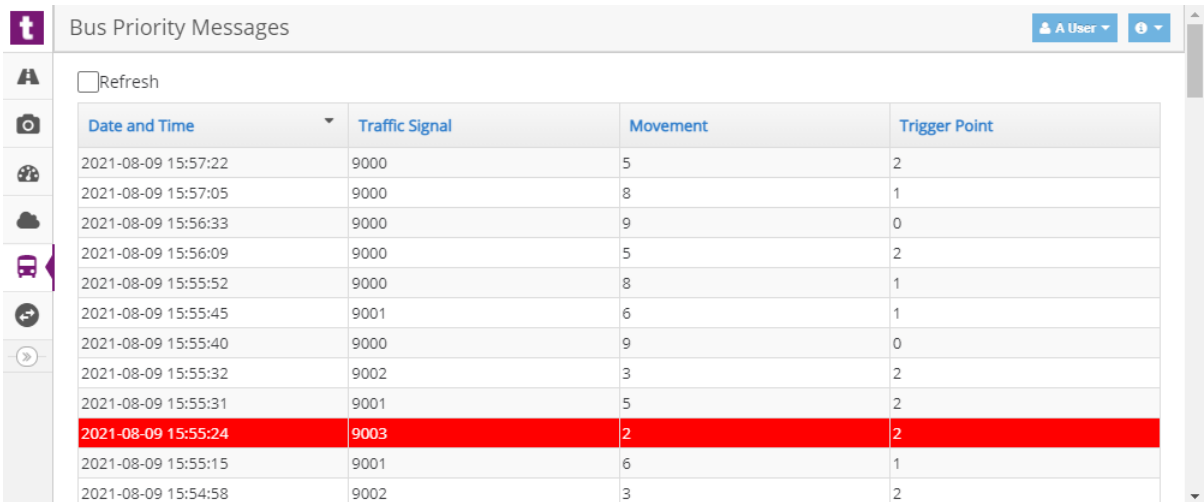
## 9. Bus Priority Messages

*This section is applicable to all users except those in the Air Quality or CCTV roles.*

This is an optional module which is disabled by default.

The Bus Priority Messages page shows the most recent bus priority messages received by the system (up to 100 messages are shown). If there is not a connected site which is configured to receive messages for a given Traffic Signal then the message will be highlighted in red.

Tick the Refresh box if you want to continually check for new messages.



Date and Time	Traffic Signal	Movement	Trigger Point
2021-08-09 15:57:22	9000	5	2
2021-08-09 15:57:05	9000	8	1
2021-08-09 15:56:33	9000	9	0
2021-08-09 15:56:09	9000	5	2
2021-08-09 15:55:52	9000	8	1
2021-08-09 15:55:45	9001	6	1
2021-08-09 15:55:40	9000	9	0
2021-08-09 15:55:32	9002	3	2
2021-08-09 15:55:31	9001	5	2
2021-08-09 15:55:24	9003	2	2
2021-08-09 15:55:15	9001	6	1
2021-08-09 15:54:58	9002	3	2

**Figure 34 - Bus Priority Messages**



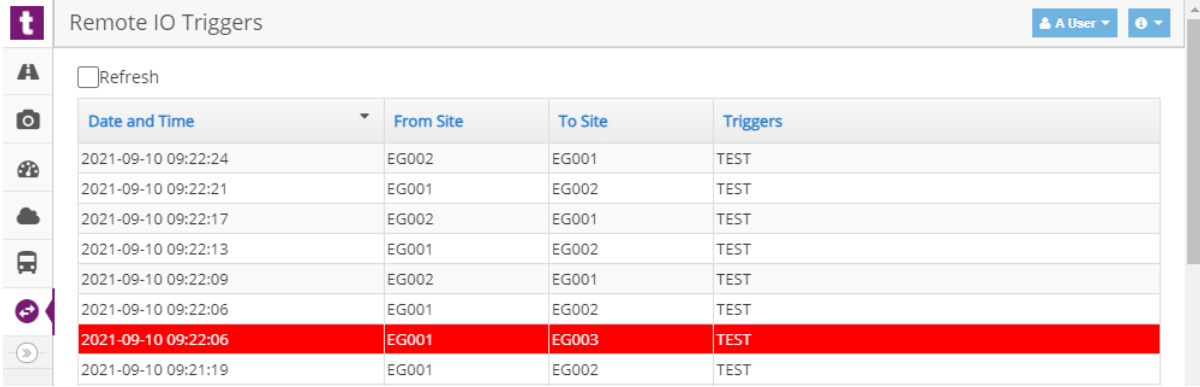
## 10. Remote IO Triggers

*This section is applicable to all users except those in the Air Quality or CCTV roles.*

This is an optional module which is disabled by default.

The Remote IO Triggers page shows the most recent remote IO trigger messages received by the system (up to 100 messages are shown). If a message arrives which is destined for a site which is not connected then the message will be highlighted in red.

Tick the Refresh box if you want to continually check for new messages.



Date and Time	From Site	To Site	Triggers
2021-09-10 09:22:24	EG002	EG001	TEST
2021-09-10 09:22:21	EG001	EG002	TEST
2021-09-10 09:22:17	EG002	EG001	TEST
2021-09-10 09:22:13	EG001	EG002	TEST
2021-09-10 09:22:09	EG002	EG001	TEST
2021-09-10 09:22:06	EG001	EG002	TEST
2021-09-10 09:22:06	EG001	EG003	TEST
2021-09-10 09:21:19	EG001	EG002	TEST

**Figure 35 – Remote IO Triggers**

## 11. Administration Tasks

A user in the Administrator role can

- add and remove users and reset their passwords
- add, delete and move sites
- edit site layout / live data screens

A user in the User L4 role can

- add, delete and move sites
- edit site layout / live data screens

A user in the User L3 role can

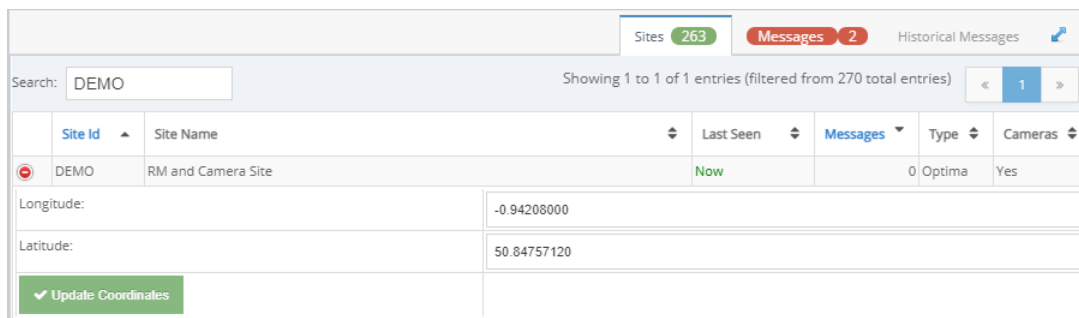
- move sites
- edit site layout / live data screens

### 11.1 Moving Sites

*This section is applicable only to users in the Administrator, User L4, or User L3 roles.*

From the tabbed data area on the main Remote Monitoring page select the Sites tab to show the available sites.

Selecting the green circle to the left of a row will expand the row displaying the site co-ordinates.



The screenshot shows the 'Sites' tab selected, displaying a table with one entry. The entry is expanded, showing the site's coordinates and a button to update them.

Site Id	Site Name	Last Seen	Messages	Type	Cameras
DEMO	RM and Camera Site	Now	0	Optima	Yes

Expanded details for the selected site:

Longitude: -0.94208000

Latitude: 50.84757120

**Figure 36 – Expanded site details**


With the row expanded the site can be moved by either dragging it on the map or by typing new Lat/Long coordinates into the boxes. Click “Update Coordinates” to commit the changes or collapse the row to cancel the change.

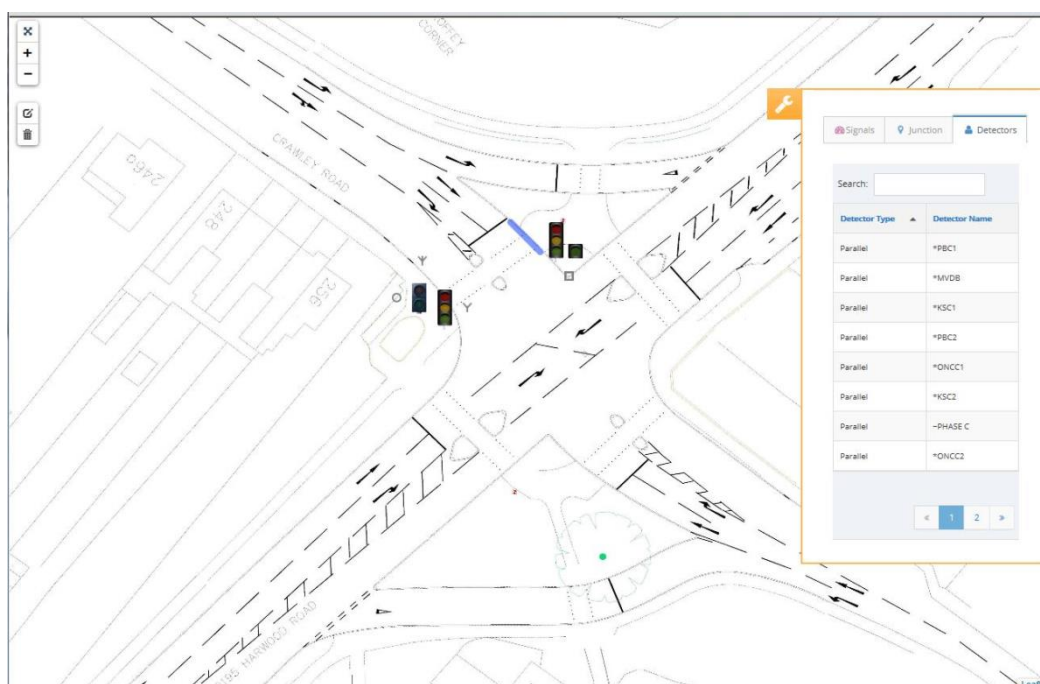
## 11.2 Editing a Site Layout

*This section is applicable only to users in the Administrator, User L4, or User L3 roles.*

To display the site layout for a specific site, select the site on the main map window and then select “View site layout and live data” / “View site layout” or “Combined view” from the pop-up. Note that connected Optima sites will have the “View site layout and live data” option whereas other sites will have the “View site layout” option.

### 11.2.1 Edit Mode

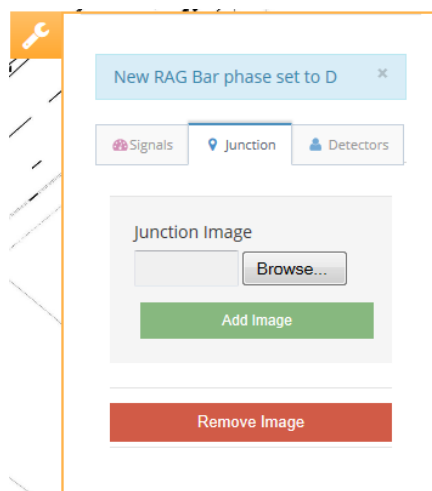
To edit the site layout / live data screen for a site select the spanner icon  located at the top right corner of the site layout / live data page for the site. A popup window will scroll into view from the right. See Figure 37.



**Figure 37 – Site Layout Screen Edit Mode**

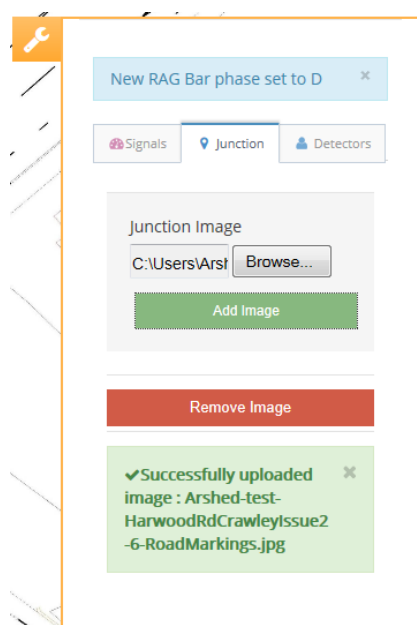
## 11.2.2 Add Junction Background Image

To replace the default map background with a junction image select the Junction Tab.



**Figure 38 – Add Junction Image Tab**

Select the Browse/Choose file button, choose the background image and press the Add Image button. If successful a message will be displayed as per Figure 39.



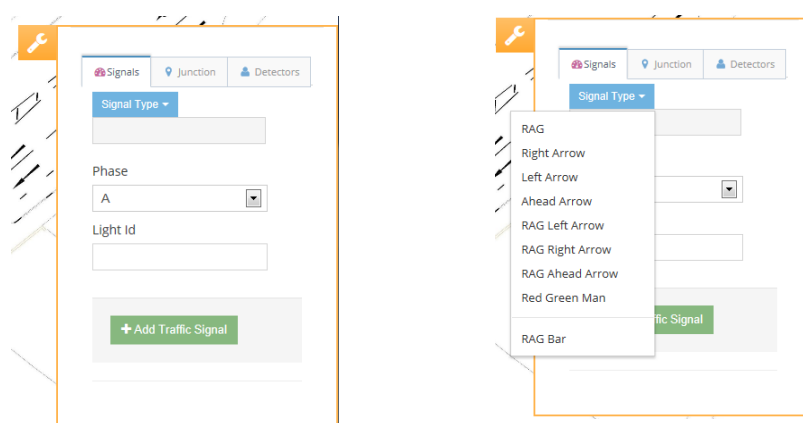
**Figure 39 – Junction Image Upload Success Message**

The background will have now changed to the imported image. Note that any image upload must be done before adding signals and detectors.


To remove a custom image, select the Remove Image button. Note that any signal or detector icons may need to be repositioned on the map.

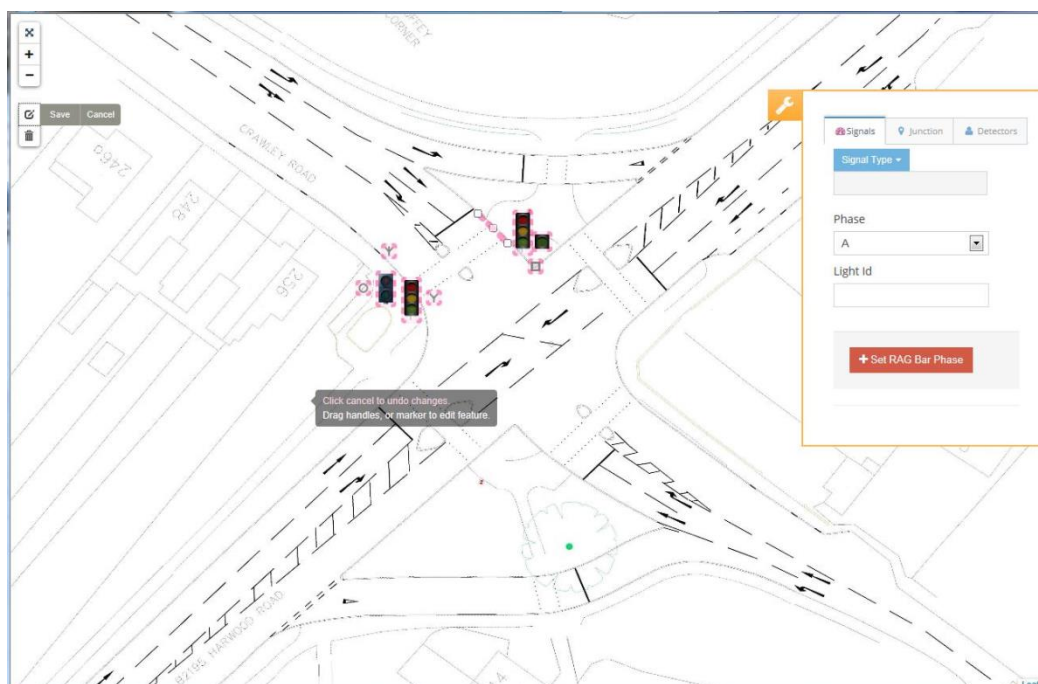
### 11.2.3 Add Traffic Signal

To add traffic signals click on the Signals Tab within the popup and choose a signal type from the Signal Type drop down, choose a phase, give it a unique light Id and then press Add Traffic Signal button.




**Figure 40 – Adding Traffic Signal to GUI**

Repeat the process to add as many lights as required. The lights will initially appear on top of each other and can be repositioned by clicking on the Edit Layers icon . Whilst in edit mode, signals and detectors will be highlighted with a pink outline (see Figure 41) and they can now be dragged into the desired position.




**Figure 41 – Edit Layer Mode**

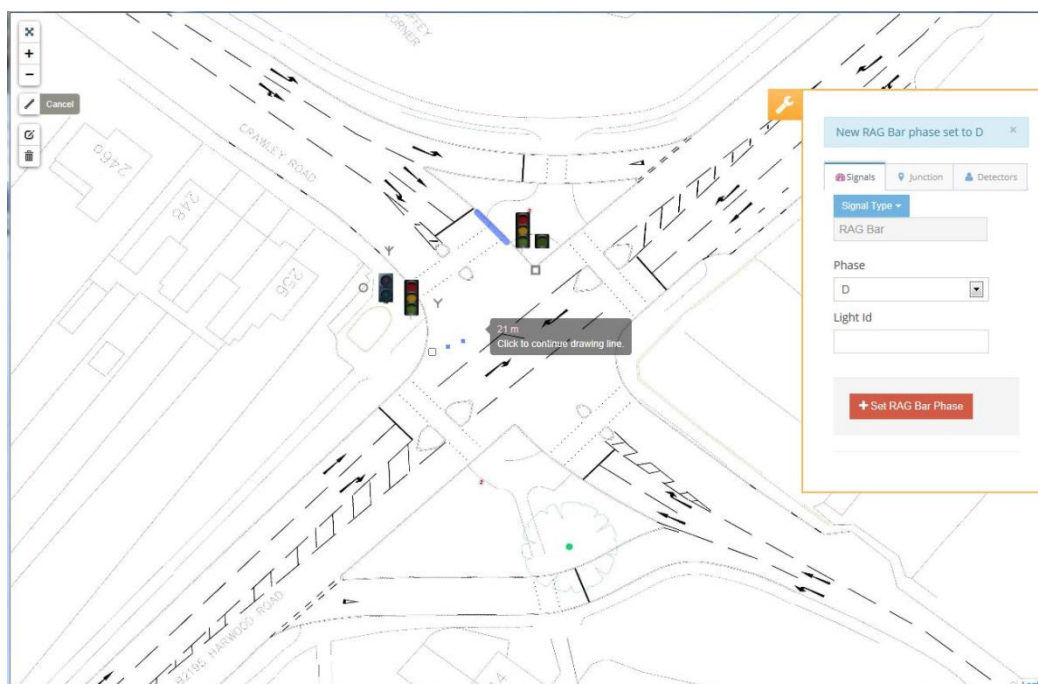
To cease editing select Save (to keep any changes) or Cancel (to cancel any changes) from the submenu at the side of the edit icon  Save Cancel.

To add a RAG bar instead of a Traffic Signal select the Rag Bar option within the Signal Type drop down box, choose a phase and add a unique Id to it then press 'Set RAG Bar Phase' button.



**Figure 42 – RAG Bar Menu**

This will add the pencil icon  Cancel just above the edit icon as shown in Figure 43.



**Figure 43 – Adding a RAG Bar**

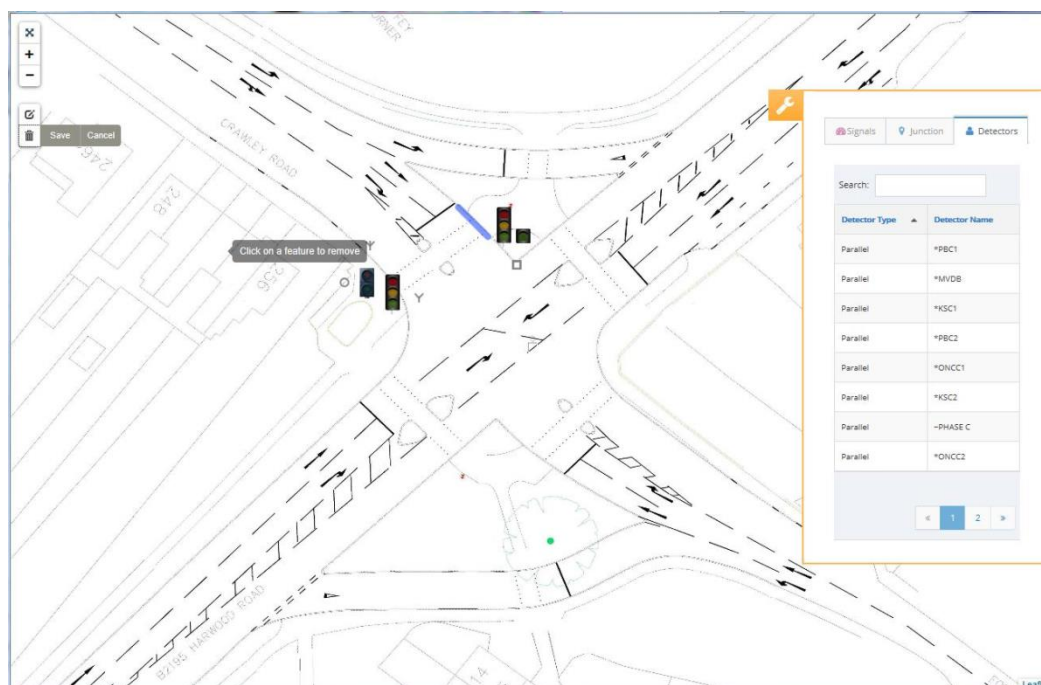
To draw the RAG Bar on the map, select the pencil icon. The mouse pointer will change to a cross and will display 'start drawing line'. Click on the map to start the line, move to the desired end point and click again twice to end drawing. After the first click a popup will appear by the mouse pointer with distance drawn information (See Figure 44). Note that the distance may not be accurate if using a custom background image.



**Figure 44 – Finishing a RAG BAR**

## 11.2.4 Remove Traffic Signals

To remove an icon (Traffic Signal and Detectors) press the  icon on the map.



**Figure 45 – Delete Mode**

Select the feature to remove with a left mouse click. The icon will be removed from the map. To commit the change press the save submenu. To undo the change press the Cancel submenu.

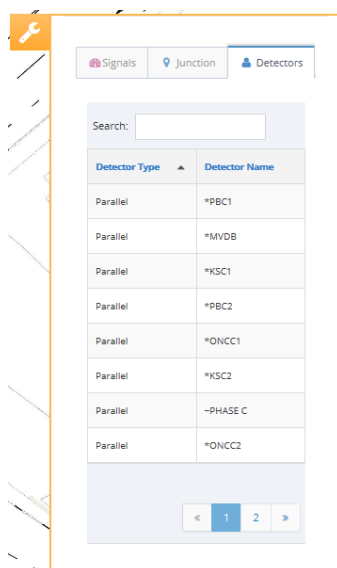


**Figure 46 – Save/Cancel Submenu**



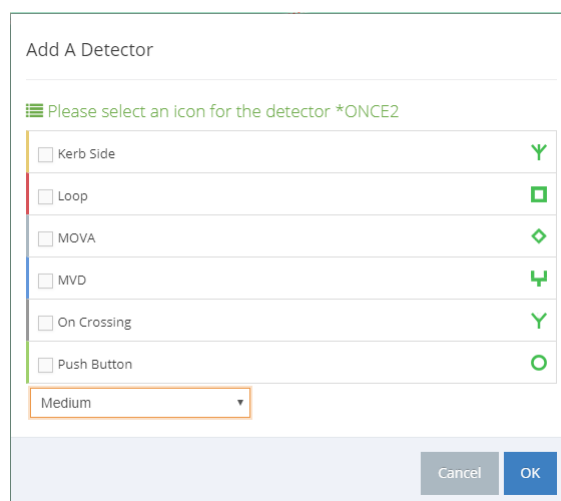
## 11.2.5 Add Detectors

To add Detectors click on the “Detectors” tab.



**Figure 47 – Adding Detectors to GUI**


A table of the detectors that have been defined in the site configuration will appear. Click on a detector row in the table and select the detector's type from the dialog – see Figure 48. Three icon sizes are available and can be selected from the drop down below the detector type.



**Figure 48 – Detector Type Selection**

A detector icon with the chosen image will be drawn on the map. These icons can be repositioned and deleted as per the traffic signal icons.

### 11.2.6 Exit the Edit Mode

To exit the live data screen edit mode, select the spanner icon .

## 11.3 Site Administration

*This section is applicable only to users in the Administrator or User L4 roles.*

### 11.3.1 Add Sites

#### 11.3.1.1 Adding a New Site Manually

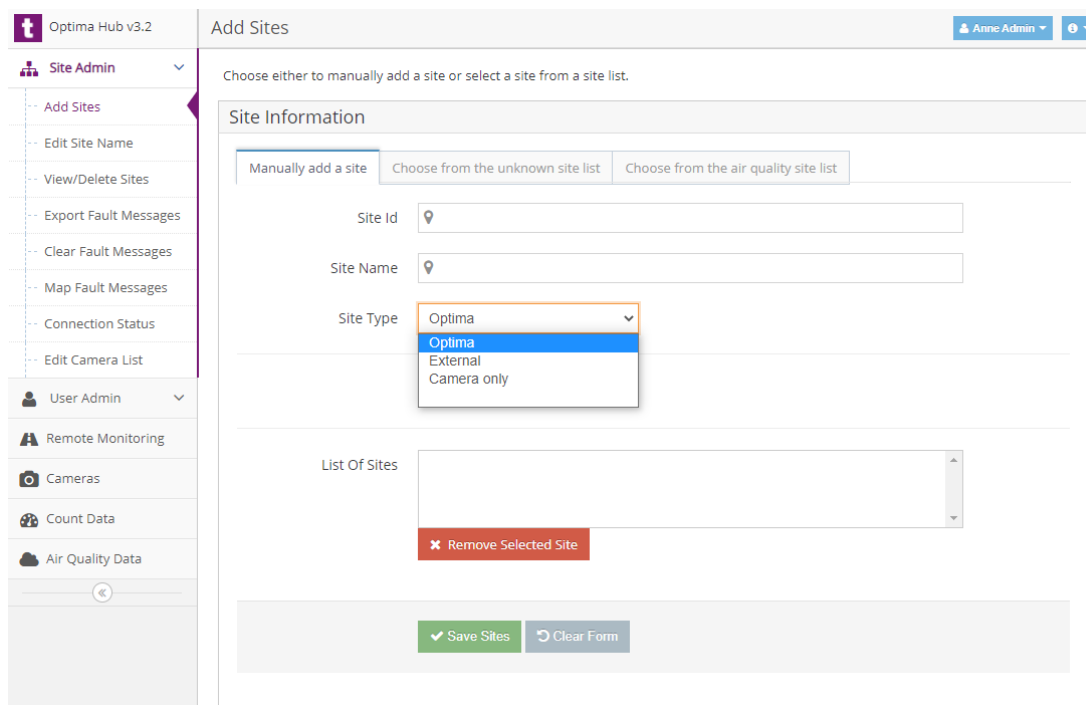
To create a new site, select “Add Sites” from the “Site Admin” menu – see Figure 49.

From this page input the new Site Id, Site Name and select the “Site Type” from the drop down:

- Optima – Integral RM
- External – Optima Outstation connected to a 3<sup>rd</sup> party controller
- Camera only – CCTV site without associated remote monitoring

Click on “Add To List Of Sites”. This will add an entry in the ‘List Of Sites’ list box. Repeat the previous steps to add more than one site.

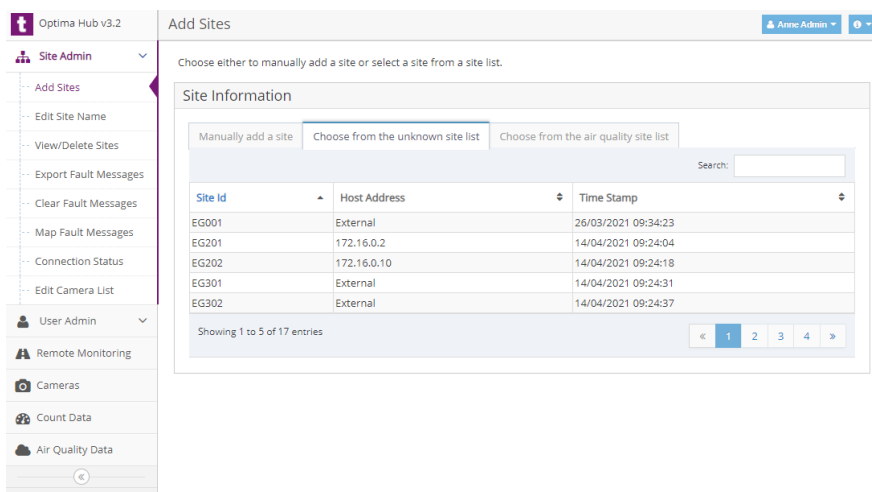
To commit the new sites select the “Save Sites” button.



**Figure 49 – Manually Adding a Site**

### 11.3.1.2 Adding a New Site from the Unknown Site List

To add a site from a list of sites that are available for monitoring select the 'Choose from the unknown site list' tab from the 'Add Sites' page. A table of unknown sites will be displayed. See Figure 50.



Optima Hub v3.2 Add Sites Anne Admin

Choose either to manually add a site or select a site from a site list.

Site Information

Manually add a site Choose from the unknown site list Choose from the air quality site list

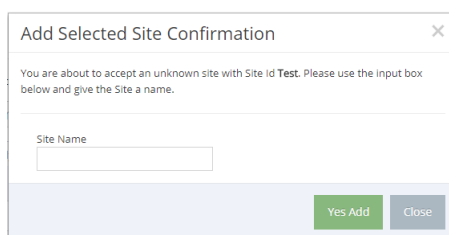
Search:

Site Id	Host Address	Time Stamp
EG001	External	26/03/2021 09:34:23
EG201	172.16.0.2	14/04/2021 09:24:04
EG202	172.16.0.10	14/04/2021 09:24:18
EG301	External	14/04/2021 09:24:31
EG302	External	14/04/2021 09:24:37

Showing 1 to 5 of 17 entries

**Figure 50 – Adding Sites from Unknown Site List**

Double click an entry in the table and a dialog box will appear. Enter a site name and click "Yes Add". See Figure 51. Note that the Site Id has to match the Site Id set up within the controller but the Site Name can be set to anything and may be used to identify the site in a more meaningful way to the user e.g. the road name and/or town. The Site Name can also be edited after the site is added.



Add Selected Site Confirmation

You are about to accept an unknown site with Site Id Test. Please use the input box below and give the Site a name.

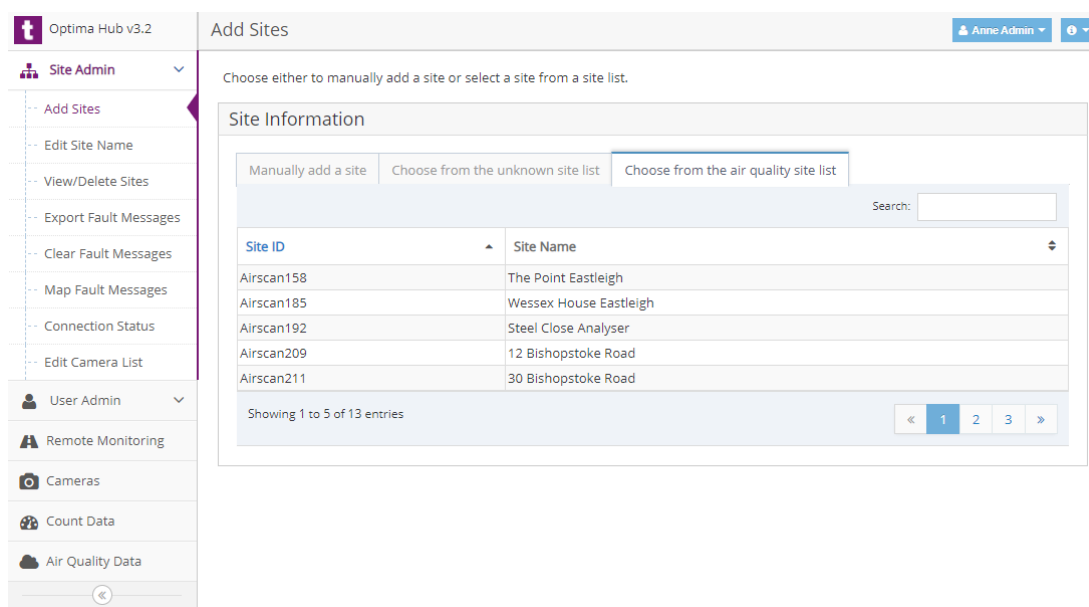
Site Name

Yes Add Close

**Figure 51 – Adding Site Name**

### 11.3.1.3 Adding a New Site from the Air Quality Site List

To add a site from a list of sites that are available for monitoring select the 'Choose from the air quality site list' tab from the 'Add Sites' page. A table of available air quality sites will be displayed. See Figure 52.



Optima Hub v3.2

Add Sites

Choose either to manually add a site or select a site from a site list.

Site Information

Manually add a site | Choose from the unknown site list | **Choose from the air quality site list**

Search:

Site ID	Site Name
Airscan158	The Point Eastleigh
Airscan185	Wessex House Eastleigh
Airscan192	Steel Close Analyser
Airscan209	12 Bishopstoke Road
Airscan211	30 Bishopstoke Road

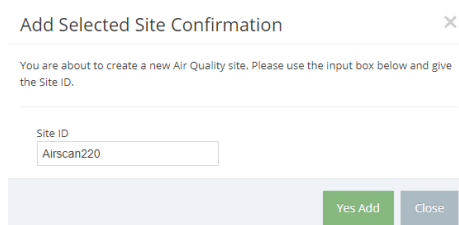
Showing 1 to 5 of 13 entries

« 1 2 3 »

**Figure 52 - Adding Sites from Air Quality Site List**

Double click an entry in the table and a dialog box will appear. A Site ID will be suggested based on available information but may be edited. Correct the Site ID and click "Yes Add". See Figure 53.

Note that the suggested Site Id will be based on the ID from the Airscan system. The Site Name and location will be set to the name and location provided by the Airscan system but can be edited after the site is added.



Add Selected Site Confirmation

You are about to create a new Air Quality site. Please use the input box below and give the Site ID.

Site ID

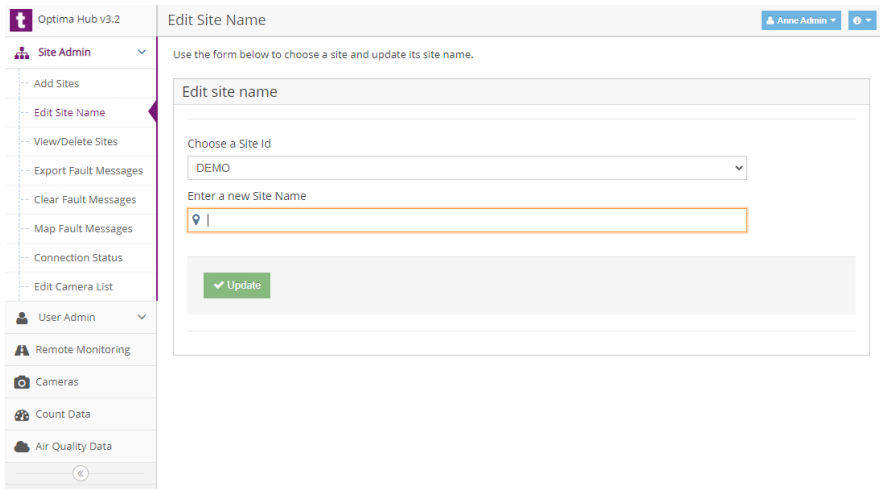
Airscan220

Yes Add Close

**Figure 53 - Adding Site ID**

### 11.3.2 Edit Site Name

To change the name of a site select “Edit Site Name” from the “Site Admin” menu, select the Site Id from the drop down, type a new name into the “Enter a new Site Name” box and click “Update”. See Figure 54.



Optima Hub v3.2

Site Admin

- Add Sites
- Edit Site Name**
- View/Delete Sites
- Export Fault Messages
- Clear Fault Messages
- Map Fault Messages
- Connection Status
- Edit Camera List

User Admin

Remote Monitoring

Cameras

Count Data

Air Quality Data

Edit Site Name

Use the form below to choose a site and update its site name.

Edit site name

Choose a Site Id

DEMO

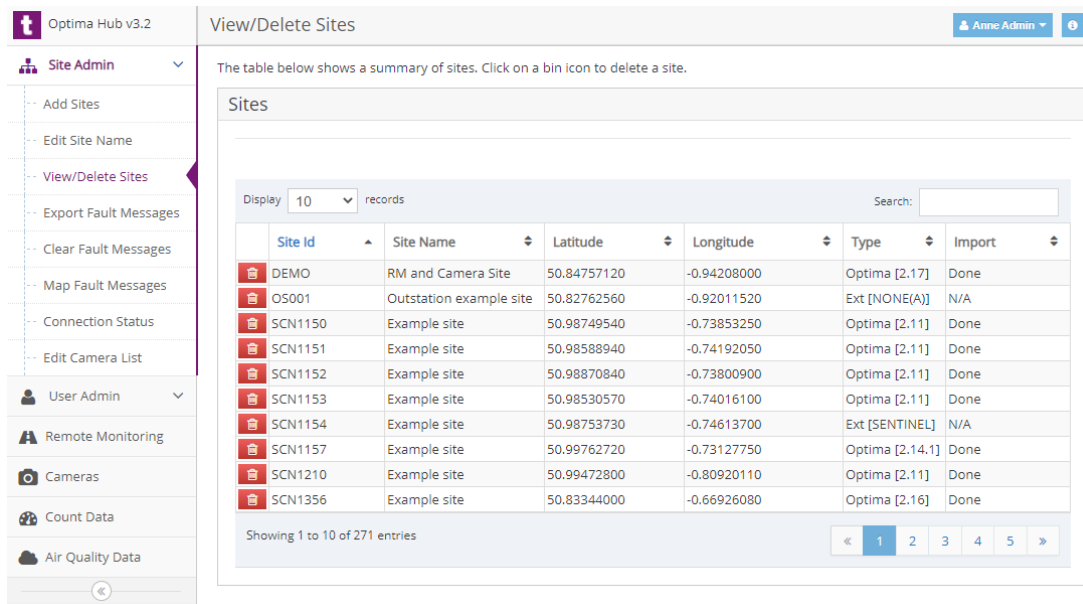
Enter a new Site Name

Update

**Figure 54 - Edit Site Name**

### 11.3.3 View/Delete sites

To view registered sites select “View/Delete Sites” from the “Site Admin” menu, see Figure 55.



The table below shows a summary of sites. Click on a bin icon to delete a site.

Site Id	Site Name	Latitude	Longitude	Type	Import
DEMO	RM and Camera Site	50.84757120	-0.94208000	Optima [2.17]	Done
OS001	Outstation example site	50.82762560	-0.92011520	Ext [NONE(A)]	N/A
SCN1150	Example site	50.98749540	-0.73853250	Optima [2.11]	Done
SCN1151	Example site	50.98588940	-0.74192050	Optima [2.11]	Done
SCN1152	Example site	50.98870840	-0.73800900	Optima [2.11]	Done
SCN1153	Example site	50.98530570	-0.74016100	Optima [2.11]	Done
SCN1154	Example site	50.98753730	-0.74613700	Ext [SENTINEL]	N/A
SCN1157	Example site	50.99762720	-0.73127750	Optima [2.14.1]	Done
SCN1210	Example site	50.99472800	-0.80920110	Optima [2.11]	Done
SCN1356	Example site	50.83344000	-0.66926080	Optima [2.16]	Done

Showing 1 to 10 of 271 entries

**Figure 55 – View/Delete Sites**

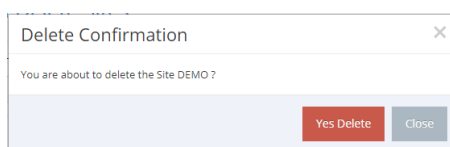
A registered site which does not exist (possibly because it has been added but is not yet on) will be shown with no latitude and longitude.

Optima controller (integral RM) sites will show the controller software version in square brackets.

Optima Outstation sites will show the controller type in square brackets. Optional functionality may also be indicated here with the following letter codes after the controller type:

- (A) means other applications are installed on the outstation (e.g. MOVA)
- (C) means the outstation settings include an IP address for a controller web page (see 5.8)
- (O) means the outstation settings include an IP address for a 3<sup>rd</sup> party OTU web page (see 5.8)

To delete a site, click on one of the dustbin icons and press the “Yes Delete” button on the pop-up dialog box. See Figure 56.



**Figure 56 – Deleting a Site**

#### 11.3.4 Export Fault Messages

To download all the messages from the database as a CSV file, select “Export Fault Messages” from the “Site Admin” menu and click Download CSV. This will download a CSV file containing all the messages, whether acknowledged or not, that existed in the database at the last nightly backup.

Note that the current day’s messages are not available here and that the database does not hold messages from more than 12 months ago. If older backups are available then messages from these may be downloaded by selecting the required backup file from the drop-down menu and clicking Download CSV.

#### 11.3.5 Clear Fault Messages

To acknowledge all fault and warning messages from a site at once, select “Clear Fault Messages” from the “Site Admin” menu, choose a site ID and click Clear Fault Messages.

#### **WARNING**

The GUI only displays the latest 100 messages per site but this function will acknowledge ALL messages for that site so it is important to establish that a site is healthy before using Clear Fault Messages.

#### 11.3.6 Mapping Fault Messages

It is possible to map certain faults from Optima controllers to different fault messages. Mapping a fault to a different message allows the DFM to be used to report things other than real detector faults. This means that a controller input or state can be configured to cause a fault message. Select “Map Fault Messages” from the “Site Admin” menu to view, edit and add mappings.

Detector faults for specific detectors can be mapped to new messages. A site configuration can include a ‘detector’ which is either wired to a parallel input or uses a virtual bit set by special conditioning. If this is provided with a time-out, a fault will be produced if the input or virtual bit is set for longer than the time-out.

Faults can be mapped for a specific site or for any Optima controller (by choosing [any]). Where a specific site ID is given, the mapping only converts the detector fault for that site. This can be used for sites which have unusual configurations or sites with software prior to 2.14 (as it will not be possible to convert detector numbers to names for those sites).

Detector faults where a detector is stuck active or inactive can be mapped differently, if required, by creating different rules for fault types of “Detector Fault (Active)” or “Detector Fault (Inactive)”. A fault type of “Detector Fault” will match either.

Detector fault messages from sites running software version 2.14 or above will have the detector number converted to the detector name from the configuration. It is not possible for RM to do this with sites running older software so the fault messages will only include the detector number.

The detector name, or number for older sites, should be selected in the parameter field when mapping fault messages.

As well as providing a new fault message, which will be used to replace the detector fault message, a new fault category can be supplied if required.



Optima Hub v3.2 | Map Fault Messages | Anne Admin

### Fault Mapping

Display 10 records | Search:

Edit	Site Id	Type	Parameter	Message	Category
	- New mapping -				
Site ID:		[any]			
Fault type:		Detector Fault			
Parameter:					
Message:					
Category:		Unchanged			
	[any]	Detector Fault	_MOVA_	MOVA not running	
	[any]	Detector Fault	_MAINS_	Mains supply failed	Serious Fault

Showing 1 to 3 of 3 entries | < 1 >

**Figure 57 - Map Fault Messages**

Two rules are included by default. The first maps any detector faults for detectors named `_MOVA_` such that the detector fault message is replaced by the message “MOVA not running”. The second mapping converts detector faults for detectors named `_MAINS_` to serious faults with the message “Mains supply failed”.

On sites where a fault message is required when MOVA is not running the site configuration should include a detector called `_MOVA_` with a suitable DFA time (larger than the time MOVA normally requires to gain control of the stream) in all used detector timing sets.

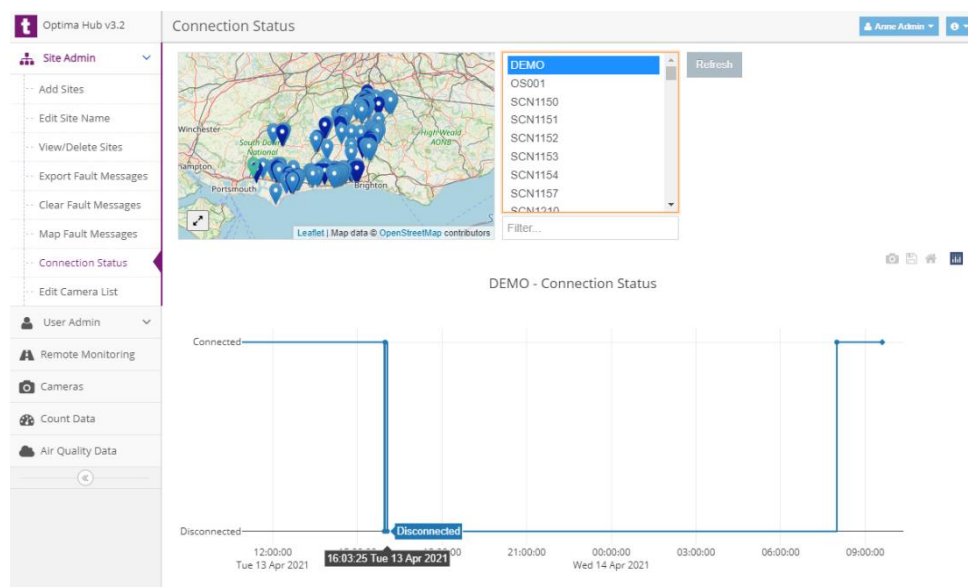
By creating a virtual bit called `_MOVA_` and mapping the `*_MOVA_` input to it, special conditioning can be used to set the virtual bit, and therefore the detector, active when MOVA is not running.

If multiple MOVA streams exist in the configuration then special conditioning may set the virtual bit if any of the streams fail to meet the desired condition. The `_MOVA_` detector will then be active whenever special conditioning detects the problem. If this lasts for more than the time set for the DFA limit then a Fault will be logged. This will be a DFM fault at the controller but will show as "MOVA not running" on the RM display. See section 13.1 “MOVA fault detection using the DFM” for an example.

On sites which have a UPS that can provide a signal when the mains power fails, a detector called `_MAINS_` can be configured. By mapping it to the correct parallel input and setting suitable DFA limits a fault can be produced if the UPS reports a loss of power.

### 11.3.7 Connection Status

To show connection status history for a site, select “Connection Status” from the “Site Admin” menu. This will show a map and a list of site IDs. The list can be filtered by typing in the Filter box under it (delete the filter box contents to show all sites again). Selecting a site from the list or the map will show the connection status history for that site. More than one site may be selected at once by holding the CTRL key.



**Figure 58 - Connection Status Page**

Hovering over data points on the chart will show the time of specific data points.

Clicking and dragging on the chart allows selection of an area. The chart will then zoom in to this area. Double clicking on the chart, or clicking on the house icon above the chart, will reset the zoom level to show all available data.

The camera icon above the chart allows an SVG file of the current plot to be downloaded.

The disk icon allows the raw data to be downloaded as a CSV file. Note that zooming in to an area of the graph does not affect this, all the data will be downloaded regardless of zoom. If multiple sites are selected then multiple files will be downloaded, one for each site.

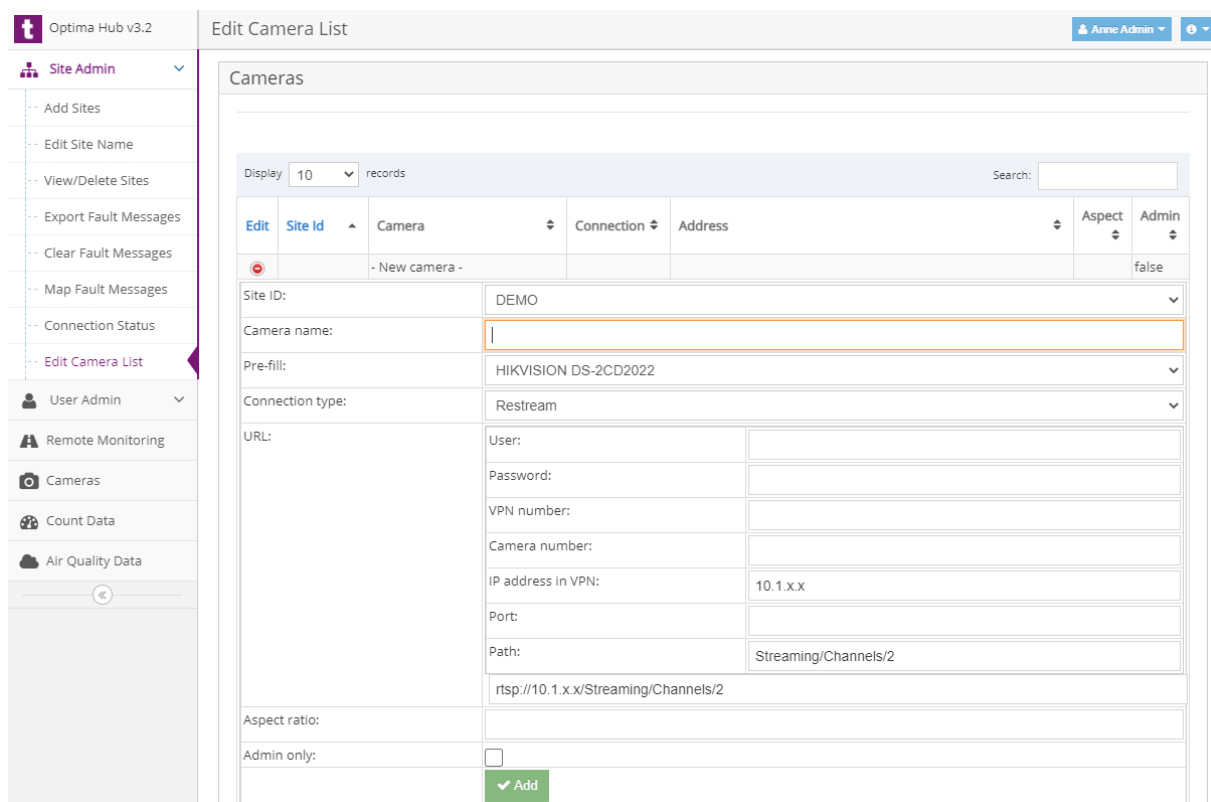
### 11.3.8 Edit Camera List

To add, edit or delete a camera select “Edit Camera List” from the “Site Admin” menu. A list of configured cameras will be shown in a table.

#### 11.3.8.1 Add a New Camera

To add a new camera to the system, the site must already have been created as per section 11.3.1.

Expand the “- New camera –” table entry. See Figure 59.





**Figure 59 - Add a Camera**

Select the site ID from the drop down and enter a name for the camera. This name will be displayed as the title of the window on the GUI as well as being used to identify the camera when creating group lists so ensure that the name is descriptive enough to differentiate it from other cameras in the system.

1. Select the camera type from the “Pre-fill” drop down.
2. Ensure that “Connection type:” is set to “Restream”.
3. Leave “User:” and “Password:” as they have been pre-filled.
4. Enter the relevant site VPN number in “VPN Number”. If the site already has RM set up to an Optima controller then this will be populated automatically.



5. Enter the camera number corresponding to the camera that is being added in “Camera number:”.
6. The “IP address in VPN” is calculated from the VPN Number and Camera number and should be populated automatically. Alternatively, populating this field with a valid camera IP address will automatically populate the VPN number and Camera number.
7. Leave “Port” blank.
8. Leave “Path” as it has been pre-filled.
9. Leave “Aspect ratio” blank.
10. Leave “Admin only:” un-ticked.
11. Click “Add”.

The example given in Figure 60 is for camera 3 on the Optima 7 site.

Edit	Site Id	Camera	Connection	Address	Aspect	Admin
		- New camera -				false
Site ID:		DEMO				
Camera name:		DEMO 3				
Pre-fill:		HIKVISION DS-2CD2022				
Connection type:		Restream				
URL:		<div>User:</div> <div>Password:</div> <div>VPN number:</div> <div>Camera number:</div> <div>IP address in VPN:</div> <div>Port:</div> <div>Path:</div> <div>rtsp://10.1.0.214/Streaming/Channels/2</div>				
Aspect ratio:						
Admin only:		<input type="checkbox"/>				
						

**Figure 60 - Example Camera Settings**

### 11.3.8.2 Edit/Delete an Existing Camera

To update the parameters for an existing camera, expand the relevant row () , edit the parameters and click “Update”. To cancel any unintended updates collapse the table row by clicking  .

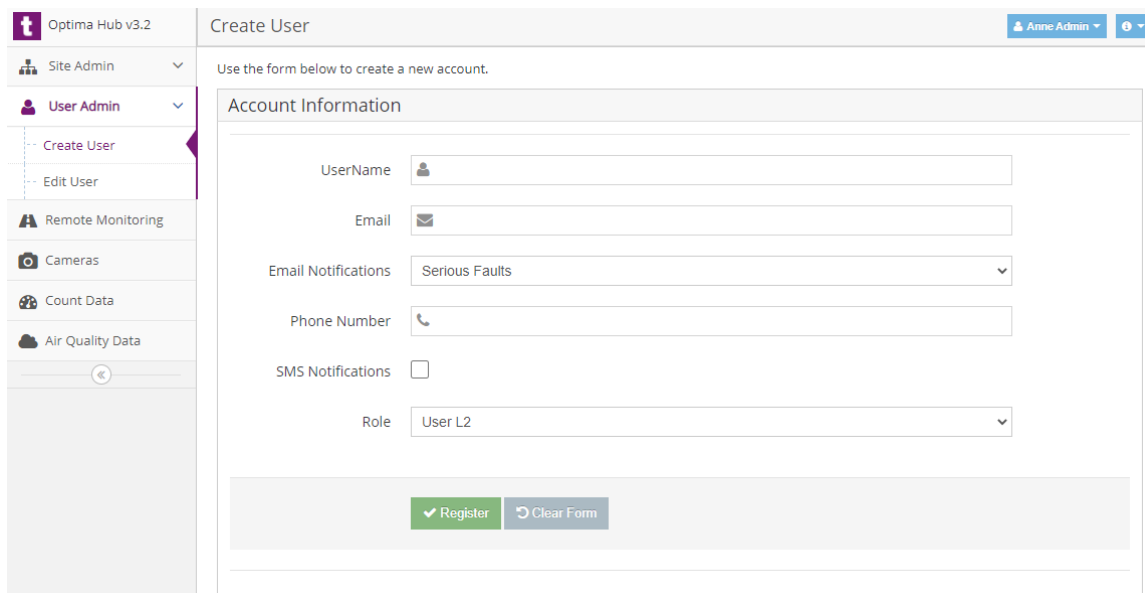
To delete a camera, expand the relevant row, click “Delete” and then click “Yes Delete” from the “Delete Confirmation” pop-up.

## 11.4 User Administration

*This section is applicable only to users in the Administrator role.*

### 11.4.1 Adding a User

To add a new user, select “Create User” from the “User Admin” menu. See Figure 61.



Optima Hub v3.2

Create User

Use the form below to create a new account.

Account Information

UserName

Email

Email Notifications: Serious Faults

Phone Number

SMS Notifications: ☐

Role: User L2

Register Clear Form

**Figure 61 – Create User**

Input a Username, Email address and Phone Number (Optional).

The registered email and phone number will be used to notify the user of a “Serious Fault” if the appropriate options are selected. SMS notifications can only be sent for Serious Faults. By default the email notifications are set to “Serious Faults”. The following options are available:

Option	Notifications
None	No fault emails
Serious Faults	A fault email for each Serious Fault logged
All Faults	A fault email for each Serious Fault logged, plus an email when a Fault is logged if there are currently no unacknowledged Fault messages
Serious Faults (office hours)	As for Serious Faults but only between 8AM and 4PM
All Faults (office hours)	As for All Faults but only between 8AM and 4PM
Serious Faults (out of hours)	As for Serious Faults but only outside the hours above
All Faults (out of hours)	As for All Faults but only outside the hours above

**Figure 62 - Fault Notification Options**

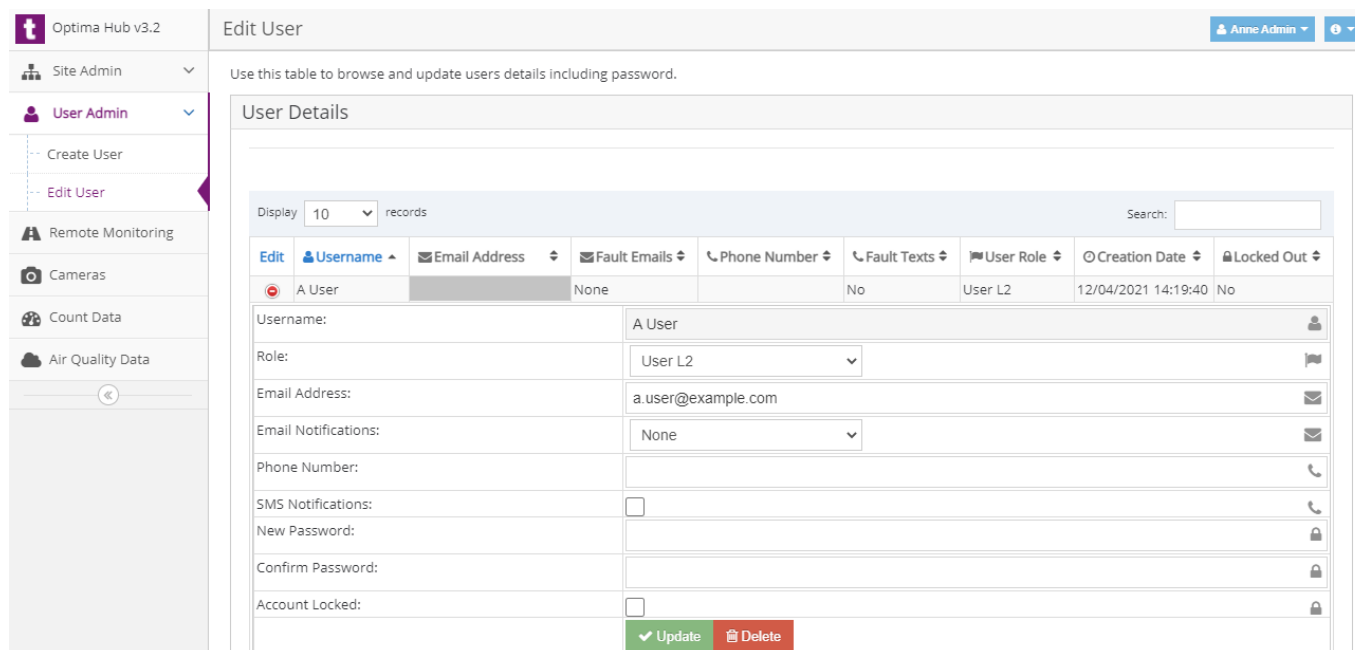
By default, office hours are 8am-4pm, Monday to Friday.

Select the role from the drop down – see Section 3 for a definition of the role types.

Select the “register” button to complete the process. The user should receive an email from the system detailing the username and the random password that has been created. The user will be forced to change the password when logging in for the first time.

## 11.4.2 Viewing Registered Users

To view the list of registered users, select “Edit User” from the “User Admin” menu. See Figure 63.



Optima Hub v3.2

Site Admin

User Admin

Create User

Edit User

Remote Monitoring

Cameras

Count Data

Air Quality Data

Edit User

Use this table to browse and update users details including password.

User Details

Display 10 records

Search:

Edit	Username	Email Address	Fault Emails	Phone Number	Fault Texts	User Role	Creation Date	Locked Out
	A User		None		No	User L2	12/04/2021 14:19:40	No

Username: A User

Role: User L2

Email Address: a.user@example.com

Email Notifications: None

Phone Number:

SMS Notifications: ☐

New Password:

Confirm Password:

Account Locked: ☐

Update Delete

Figure 63 – Edit User

## 11.4.3 Updating a User’s Details and Preferences

To edit a user’s details, click on the green circle to the left of the username.

To change the password, enter it into the “New Password” and “Confirm Password” boxes and select update. Passwords must be at least 8 characters long and must not contain the characters < or >. The user will receive an email containing the new password.

To enable/disable email and/or SMS notifications for serious faults, select the appropriate options and make any necessary changes to the email address or phone number before selecting update. The same options are available as when creating a user.

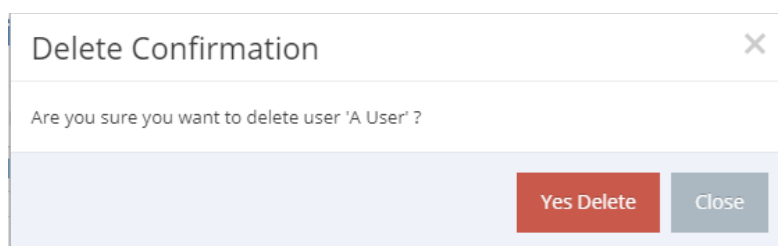
It is possible to change the Role of another user’s account but not to promote them to the Administrator role. To change the role of a user, select the required role and click the update button.

If a user has tried the wrong password too many times within a short period then their account will be locked. An Administrator can unlock an account by unticking the Account Locked box and selecting update.

#### 11.4.4 Deleting a user

To delete a user account, go to the “Edit User” screen as per Section 11.4.2 and expand the row containing the user to be deleted.

Click “Delete” and “Yes Delete” on the “Delete Confirmation” pop-up - see Figure 64.



**Figure 64 – User Account Deletion**

The user has now been deleted from the system.



## 12. Document Control

### 12.1 Maintenance and Distribution

This document is subject to formal change and control procedures as required by the Quality Management System (QMS).

### 12.2 Amendment History

Issue	Date	Change Descriptions	Author
1	Nov 2013	First Issue	Arshed Mustafa
2	Jan 2015	Reflect GUI changes	Andy Cooke
3	July 2015	Updates for v2.2	Rob Harding
4	04/10/16	Updates for v2.4 and CCTV	Rob Harding
5	27/02/17	Updates for v2.6	Rob Harding
6	06/11/2017	Updates for v2.7	Andy Cooke
7	28/11/2017	Added web page interface view	Andy Cooke
8	20/02/2018	Updates for v2.8	Andy Cooke
9	06/06/2018	Add detector icon sizes and export from older backup files	Andy Cooke
10	20/03/2019	Allow cameras to have passwords	Andy Cooke
11	02/08/2019	Updates for v3.0	Andy Cooke
12	24/09/2019	Add charts	Andy Cooke
13	12/08/2020	Updates for v3.1 (count data, Outstation apps, fault emails)	Andy Cooke
14	22/09/2020	Passwords must be at least 8 characters long and must not contain the characters < or >.	Andy Cooke
15	14/04/2021	Optima Hub v3.2 (reorganised layout, user roles changed, air quality charts added, and TRAMMS changed to ServiceNow)	Andy Cooke
16	24/05/2021	Fix broken links.	Andy Cooke
17	10/09/2021	Added Bus Priority and Remote IO modules. Remove references to internal IP address spreadsheet.	Andy Cooke

### 12.3 Abbreviations

CCTV	Closed Circuit Television
CSV	Comma Separated Values
DFM	Detector Fault Monitor
GUI	Graphical User Interface
RAG	Red, Amber, Green
RM	Remote Monitoring
RMM	Remote Monitoring Manager
RMS	Remote Monitoring System
RMU	Remote Monitoring Unit
QMS	Quality Management System
UCM	Universal Content Management
UPS	Uninterruptible Power Supply
UTMC	Urban Traffic Management Control

### 12.4 Referenced Documents

Title	Doc Ref	Issue
[1] Optima Handset Command Manual	UCM 239138	Latest
[2] Optima Outstation Handbook	UCM 345488	Latest

### 12.5 Related Documents

Title	Doc Ref	Issue
[1]		

## 13. Appendix A – Special Configurations

### 13.1 MOVA fault detection using the DFM

This example shows a possible way to configure a virtual detector to report a MOVA fault when MOVA is no longer running.

- 1) Add a detector called `_MOVA_` on the Detectors page.
- 2) Set the detector type. By setting the type to EM we are able to set a Gap count of 1.
- 3) Tick the Self reset box and select a suitable gap period and count. By setting a gap count of 1 we only require the detector state to return to inactive rather than waiting for this to happen a number of times. The gap period is the number of seconds it must remain inactive before the DFM resets (to allow the fault to be detected and reported again). Note that the self reset parameters have different limits depending on the detector type selected.
- 4) Set a DFA time in all detector timing sets used by the configuration where this behaviour is required. This time cannot be less than 1 minute. It should be larger than the time MOVA would normally require to gain control of the stream (otherwise a fault will be reported when the controller starts and MOVA is not yet running).

Configurator - MOVA\_EG Issue 0.1

File Convert Data Area Item History Tools Help

Select Data Area Window Detectors

Detectors 0 Nan **\_MOVA\_** Detector type EM Dummy detector

Assoc VTS unit number Active state SC Count detector

Priority units

Latched phase demands

Unlatched phase demands

Green phase extensions

Green extension taper % 100

Varimax phases

Associated push buttons

DFM force state (from active) N DFM force state (from inactive) N

PSV normal demands unlatched

Pedestrian information

Pedestrian phase

Extension period 1

Confirm self

☒ Self reset

Detector reset

Gap period 10

Gap count 1

DFM Timings

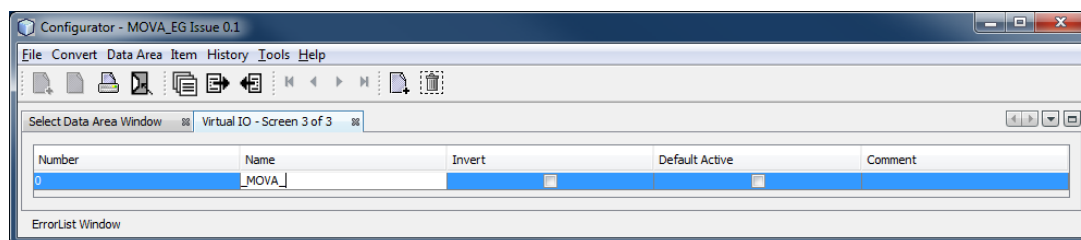
DFA				DFI			
Set 1	Set 2	Set 3	Set 4	Set 1	Set 2	Set 3	Set 4
2M	2M	0H	0H	0H	0H	0H	0H

Call cancel timings

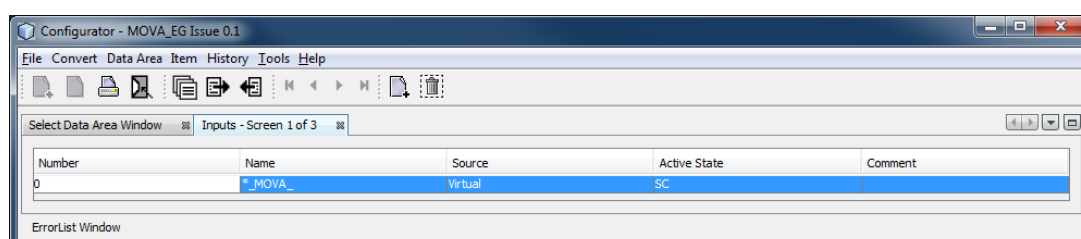
DCL				DCN			
Set 1	Set 2	Set 3	Set 4	Set 1	Set 2	Set 3	Set 4
0	0	0	0	0	0	0	0

ErrorList Window

- 5) Add a virtual bit called `_MOVA_`



- 6) Change the Source of the \*\_MOVA\_ input from Parallel to Virtual.
- 7) Change the Number of the \*\_MOVA\_ input to match the number of the \_MOVA\_ bit on the Virtual IO screen.



- 8) Add Special Conditioning rules to check for the desired condition and set the \_MOVA\_ bit in the fault state. Multiple streams can be checked if required. Multiple statements may be required to achieve the desired logic (as statements are evaluated left to right).

