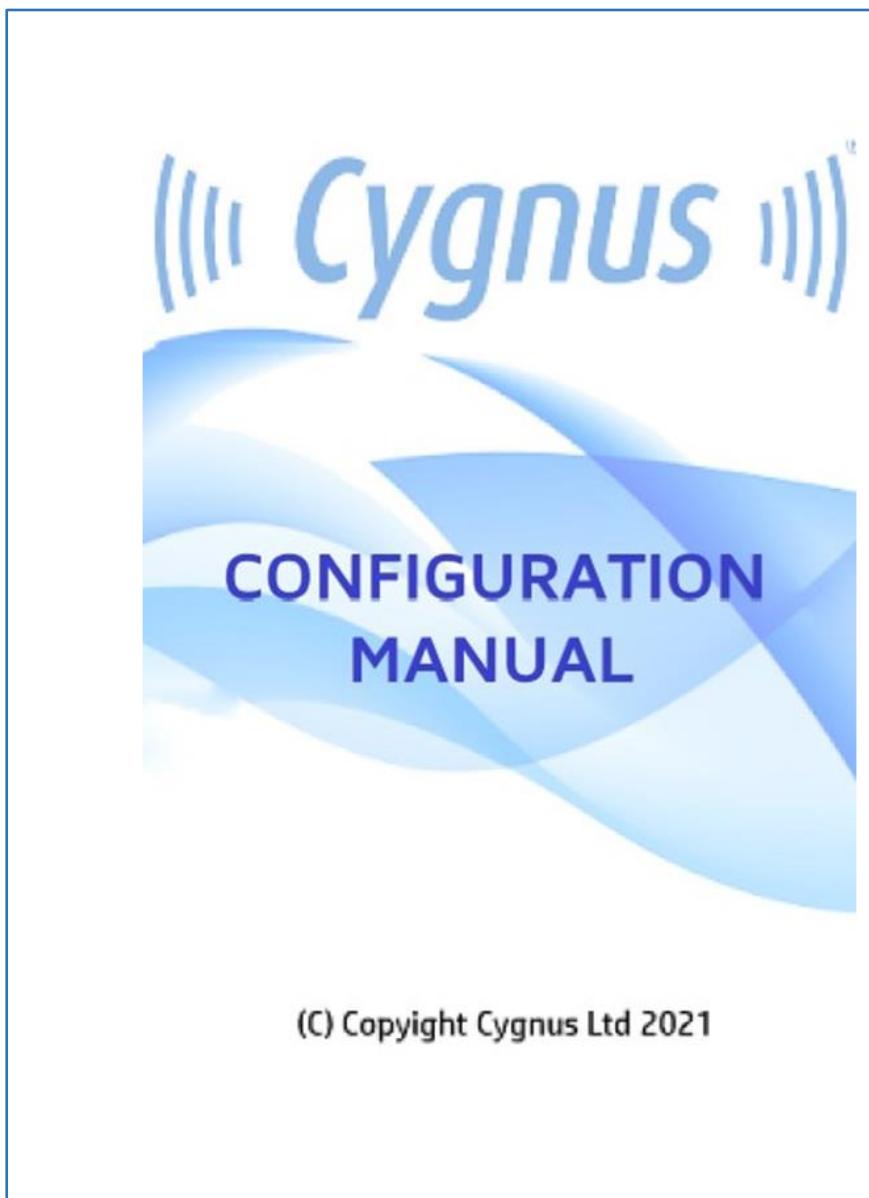




Cygnus Config User Manual

Intelligent fire detection system configuration tool



Cygnus Group Limited

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Warranty

Cygnus Group Ltd ("Cygnus Group") warrants (the "Buyer") that on delivery, and for a period of 36- months from the date of delivery (the "Warranty Period"), the products supplied (the "Goods") manufactured by Cygnus group shall conform in all material respects with their description and be free from material defects in design, material, and workmanship and 12- months for products supplied from other manufacturers. Warranty terms and conditions apply.

Licensing

The Cygnus Configuration tool is licensed to the user under the terms accepted by the user at the point of sale.

Amendment status

Revision	Date	Reason for update	Author
A.4	28 June 2021	Stage 1 peer reviews and findings	J. M. Hackett
A.5		Stage 2 peer reviews and findings	J. M. Hackett
02	25 May 2022	EN54 Certification Candidate	G Hemmings
02.1	30 August 2022	Revision references removed and all other changes required for OFR123.	G Hemmings
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1 Introduction

The purpose of this document is to describe how SmartNet and SiteNet systems are configured using the Cygnus Config tool. All users are expected to read and fully understand the SmartNet and SiteNet systems Configuration Manual before starting work. Users must fully understand the safety implications before working with SmartNet and SiteNet systems.

SmartNet is designed for permanent installations whilst SiteNet is designed to protect construction and temporary working environments.

The unique wireless mesh network provides better connectivity than traditional wireless star network technologies.

System configuration is achieved by configuring all devices using the Cygnus Config tool. The Cygnus Config tool includes system design, full Cause-and-Effect functionality, plus system diagnostics.

The Cygnus Config tool runs on Windows® 7 operating system or later versions of Windows and must be installed on your PC.

1.1 Software Version and Licence

The Cygnus Config tool is licensed to the user under the terms accepted by the user at the point of sale.

Your system version can be found on the Cygnus config landing page when you start the application.

Licensing information, select Help from the Menu bar, then select Licensing from the dropdown panel. Refer to paragraph 4.2.2 for more information.

1.2 Symbols

The following icons are used throughout this manual:

Warning



This symbol appears whenever there is a potential hazard to the user or equipment.



This symbol appears whenever there is a potential electrostatic hazard to the equipment.



This symbol highlights where you must take special care to ensure the SmartNet system operates efficiently.

1.3 Appendices

The appendices in section 17 has lists of the following:

- 1 A list of system specific acronyms, abbreviations, and terms used throughout this document.
- 2 A list of system specific icons and symbols used throughout this document.

1.4 Associated Documents

Table 1: Associated Documents

Document Number	Title	Description
1 2007-MAN-0003	SiteNet User Manual	For Users, Fire Marshalls & Building Maintenance staff: Describes basic user operation for an installed system on a site, including scheduled testing, including Control Panel levels 1 & 2 operation
2 2000-MAN-0002	CygnusConfig Configuration Manual	For Engineers: Covers site and device setup and configuration using the CygnusConfig software platform including Control Panel levels 1, 2, 3 & 4 operation
3 2000-MAN-0003	SmartNet and SiteNet Service Manual	For Engineers:



Cygnus Config Tool User Manual

			Installation, maintenance and repair of all products including Control Panel levels 1, 2, 3 & 4 operation
4	2008-MAN-0002	CIE Panel User Manual	For Engineers: Control Panel touchscreen menus and setup including Control Panel levels 1, 2, 3 & 4 operation
5	2008-MAN-0001	Control Panel Quick Start Guide	For Users & Engineers: Control Panel one-page quick reference guide
6	2006-MAN-0001	IOU Quick Start Guide	For Users & Engineers: Fire Alarm Interface (IOU) one-page quick reference guide
7	2007-MAN-0002	SiteNet Devices Quick Start Guide	For Users & Engineers: Call Points and Detectors one-page quick reference guide

2 Limitations

As with other manufacturers' EN 54 approved wireless fire alarm systems, the radio technology has some limitations to note, meaning a system may not be fully compliant in some cases:

2.1 Wireless Sounders - EN 54-2:1997, clause 7.7.2 Outputs to 'C'

When an alarm event is triggered, the control panel sends out an alarm message to the alarm devices. As soon as the devices receive this message, they turn the sounders, beacons and visual indicator rings on.

Under some circumstances, the alarm messages may take more than 3 seconds to reach some of the alarm devices, making these devices not compliant with Outputs to 'C'. Delays over 3 seconds will normally affect more complex installations with multiple ranks where messages must propagate further over the network. This means the messages may not reach the device in time to meet this clause but will be received shortly after.

2.2 Devices Re-joining the Network – EN 54-25:2008

Installed systems can occasionally lose wireless connection with the control panel due to human intervention, such as moving large objects nearby, removing batteries, extending buildings, interference, etc. The Cygnus mesh network has been designed to automatically re-form under these circumstances. EN 54-25:2008, clause 12.5.2 requests that devices should re-join within 300 seconds.

If a device loses communication with the control panel, that device will attempt to re-connect to the control panel as quickly as possible. If that device has children, then these could also lose connection to the control panel, but all other devices connected to the control panel will not be affected. If a device can see two parents, then this redundancy prevents them from losing communication with the control panel if one parent drops off, as the device will stay connected through the other parent. It is likely that a small number of devices may connect to one parent (parents are limited to a maximum of 24 children), so on a large system of 512 devices, most of the network will remain connected to the control panel.

Forming times vary depending on the number of ranks away from the control panel the device is. If devices lose connection and can't reconnect within 300s, then the control panel raises a fault (as required by EN54:25-2008, clause 4.2.6). If the devices re-connect after 300s, then the faults can be cleared.

To mitigate this scenario, ensure that there are sufficient redundant pathways provided at the time of installation to provide continuous communication through other parent devices, so if a parent device is lost, there is another existing path to the control panel.

2.3 915MHz Band Devices

Cygnus manufacture 868MHz and 915MHz radios in the SmartNet and SiteNet product ranges to cover different markets. Note that the 915MHz products have not been through formal EN 54 testing therefore are not EN 54 approved. However, hardware and software are identical, but a different frequency channel allocation is used.

2.4 PIR Intruder Detection

Some models have a PIR detector fitted. A PIR detects movement based on change of heat across areas of the lens and cannot differentiate between people and animals/wildlife. If configured, it gives indication that movement has occurred and notifies the panel.

The PIR is not intended for outdoor use, due to the high infrared light output from the sun. Although it shares the same IP rating as the rest of the products, PIR sensors do not operate as efficiently in wet conditions, therefore it is recommended that the PIR function is disabled in these conditions.

The PIR intruder detection function is not a tested or certified EN 54 function, but is a fully functional facility. The SiteNet PIR function does not currently have approval to EN 54-18.

2.5 Ancillary Functions not required by EN 54

The following functions are not a requirement of European Standard EN 54 and are not covered by certification, therefore cannot be tested or approved by the notified body organisation, but have been provided as fully functional facilities.

2.5.1 Networking of up to 5 Control Panels via Acumesh

Panel networking using the Acumesh radios is not a tested or certified EN 54 function, but is a fully functional facility.

2.5.2 Mobile Phone App

The mobile phone app and GSM Modem is out of scope of EN 54 is not a tested or certified EN 54 function, but is a fully functional facility allowing the user to monitor the fire alarm system. To be compliant with EN 54, its default functions do not allow the user to control the panel remotely, but only view the current status.

2.5.3 First Aid

A First Aid call point function is an optional function available on SiteNet devices. Although it has been tested during EN 54 assessment, the function is not covered by EN 54, therefore is not a certified EN 54 function, but is a fully functional facility.

2.5.4 White Manual Call Points

The SmartNet MCPs are available with a red or white body. The white body does not meet EN 54 part 11 approval, therefore must not be used where EN 54 system certification is required.

Model	Base Colour	Clear Cover Fitted	EN 54-11 :2001+A1:2005 Compliant
SN.MCPO.RB30.2	Red	Yes	Yes
SN.MCPO.RB30.A	White	Yes	No
SN.MCPO.RB30.2.X	Red	No	Yes
SN.MCPO.RB30.A.X	White	No	No

*Note: MCP's with white bases are not certified to EN 54-11.
Red bases are compliant*

3 Software Installation

3.1 Install CygnusConfig Tool



Note: You must have Windows administration access to install this app. If you see a message requesting this type of access, select the icon and select Run as Administrator.

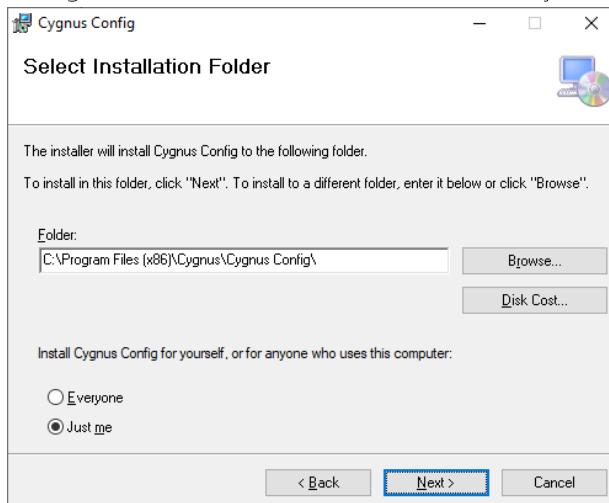


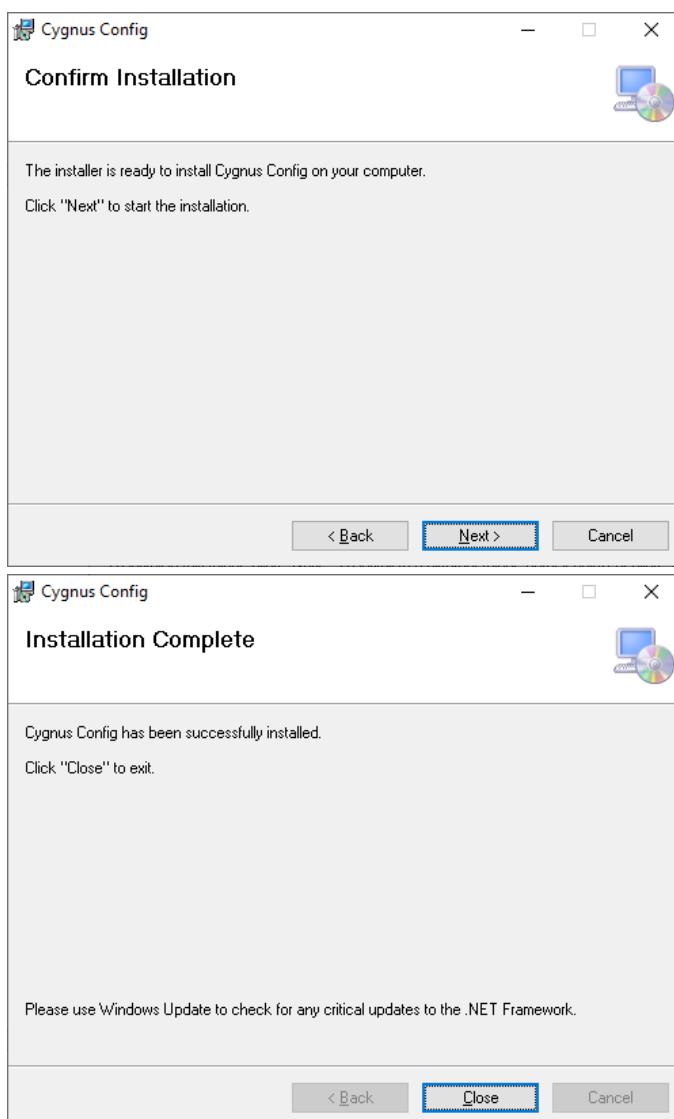
Note: The installation files are provided as a Windows Installer Package file (Cygnus Setup.msi).

1. Double click the Cygnus Setup.msi file to run the application.
When the window appears, hit Next.



2. Follow the on-screen instructions, accepting all defaults. The Cygnus Configuration tool will install automatically.





3. The software will install in a default location and will create a folder in the start menu named Cygnus Config. It will also create an icon on the desktop that looks like this:



Figure 1: CygnusConfig Icon

3.2 Start CygnusConfig Tool

To start the application, select it from the Start menu on the Windows desktop or by double-clicking the icon on your desktop.



Figure 2: Cygnus landing page

When the Cygnus Configuration tool application first starts, a Cygnus landing page displays momentarily (Figure 2), shortly followed by the Log in page (Figure 3: Cygnus Log in). The User Name field will show the username used at last log in.

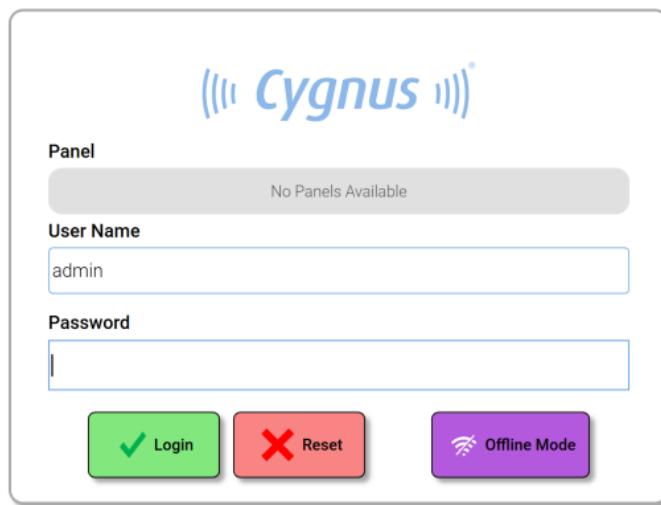
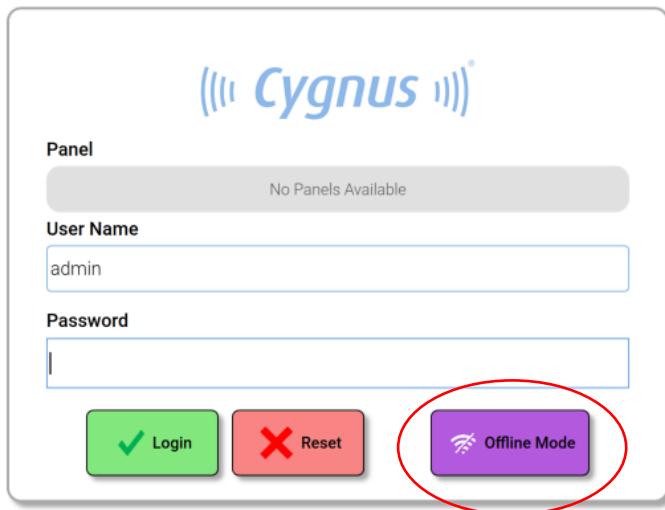


Figure 3: Cygnus Log in Window

3.3 Offline Mode (Standalone Mode without Network)

CygnusConfig can be used without a network connection for areas where no WiFi is available. In this mode, it is recommended that an internet connection is resumed later so the configuration can be synchronised with the server, ensuring all data is backed up and up to date ready for use in the future.

When starting the CygnusConfig program, click the Offline Mode button to access this functionality.



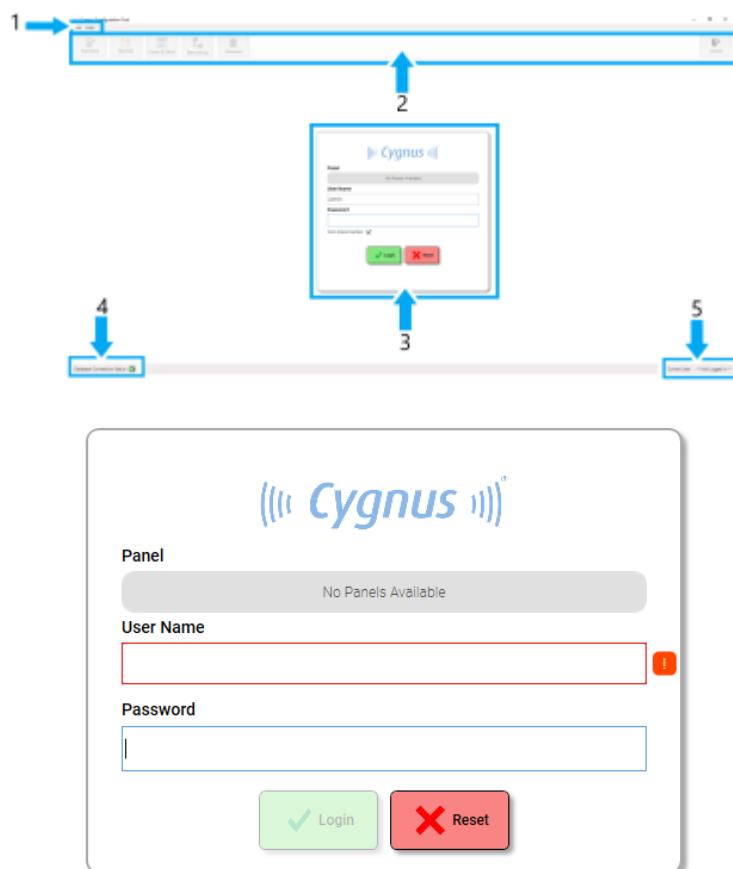
4 Login Screen

This is the only screen where the Administration option is missing from the Log in Menu bar and the Navigation bar is not enabled. The LogOff button is not enabled, the Connection panel status indicator is not visible, and the Current User bar has no information no users are identified in the User

For more information about the main Menu bar refer to paragraph 5.1. For more information about the Navigation bar refer to paragraph 5.2. For more information about the Status bar refer to paragraph 5.2.

4.1 Areas of the Log in screen

The Log in screen (Figure 4: Log in screen areas) is dominated by the Log in panel (Figure 4, [3]) in the middle of the screen. However, it is possible to find other information without completing the Log in process.



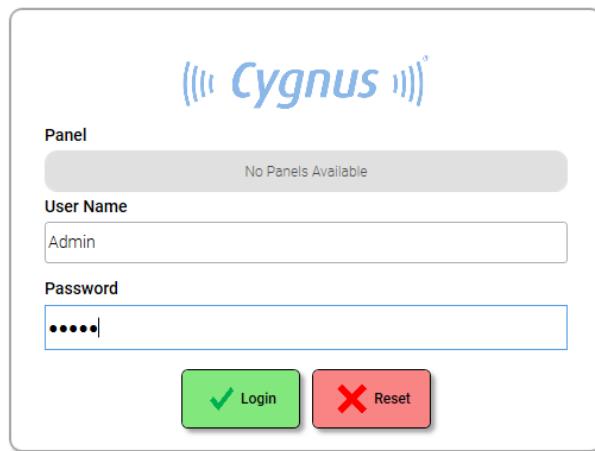


Figure 4: Log in screen areas

4.2 Menu bar

The **Menu bar** on the Log in screen (Figure 5) only has two items, unlike the menu bar that is available from the **Summary** screen:

- File, and
- Help.

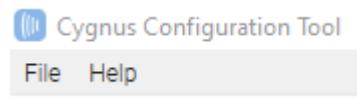


Figure 5: Log in Screen – Menu bar

4.2.1 File

The **File** command on the **Menu bar** has a dropdown panel that has two options:

- Connection, and
- Exit.

Connection

To edit the database connection details you need to access the Database Connection Manager panel. To do this select **File** from the **Menu bar**, then select **Connection** from the dropdown panel (Figure 6).

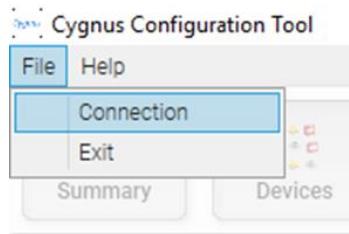


Figure 6: Log in screen – File Connection

The Database Connection Manager Figure 7: [1]) panel will then be displayed.

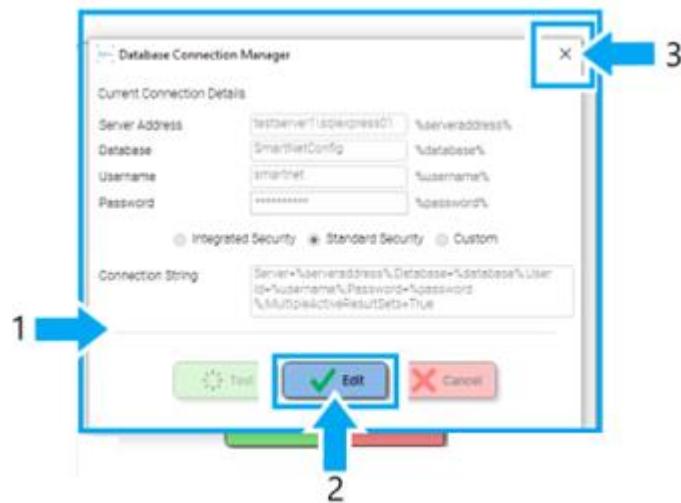


Figure 7: Edit – Database Connection Manager

To make changes to the Database Connection Manager, select Edit [2] and the screen will change to Figure 8 to let the changes be made.

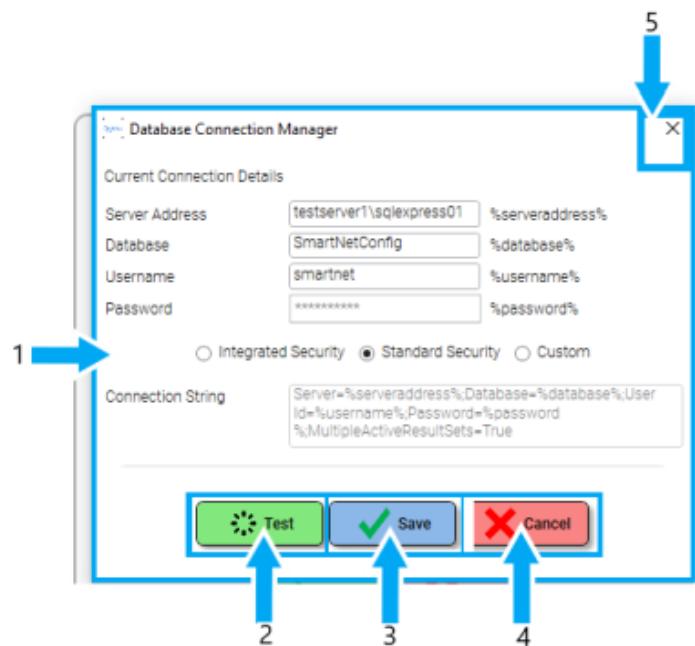


Figure 8: Save/Test – Database Connection Manager

When the changes have been made, select **Save** (Figure 8, [3]). Then select **Test** [2] to prove the connection. If the test is successful, then a message panel (Figure 9) will be displayed in the centre of the screen. Select **OK** to clear the message then **Save** to accept changes.

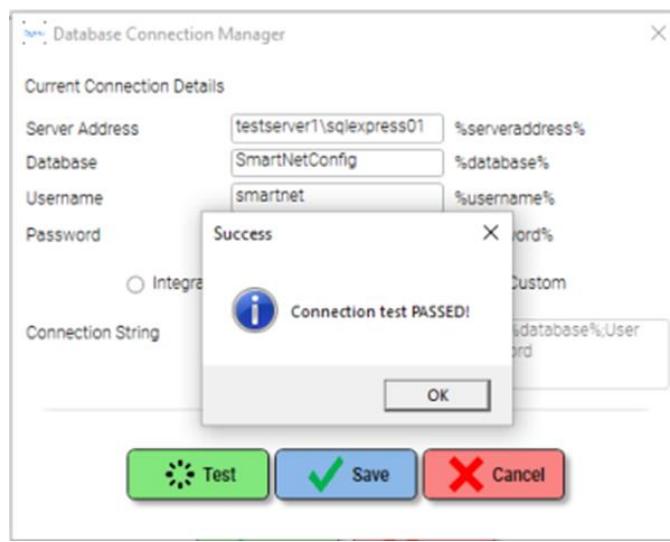


Figure 9: Test Passed – Database Connection Manager

If the **Cancel** touch button is selected at any time it will clear all changes made to the panel and return the panel to the Edit view (Figure 7: Edit – Database Connection Manager).

Select **OK** to clear the message then **Save** to save the result. Select the black **X** from the top right-hand corner of the pane to close the panel.

Exit

To exit the Cygnus Configuration tool without logging in, select **File** from the **Menu bar**, then select **Exit** from the dropdown panel (Figure 10).

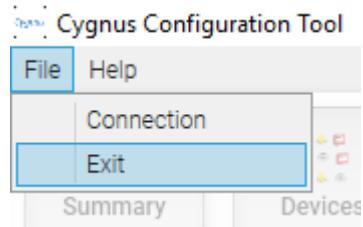


Figure 10: Log in screen – File Exit

The next panel (Figure 11) will ask you to confirm that you wish to exit the application. If you wish to continue, select **Yes**. If you wish to remain inside the application, select **No**.



Figure 11: File Exit

To close any panel that opens from the **File > Connection** dropdown panel without saving, select the black **X** in the top right hand corner of the panel.

4.2.2 Help

The **Help** command on the **Menu bar** has a dropdown panel that has two options:

1. Licensing, and

2. About.

Licensing

To identify the details of the licensed material supplied to the user, select Help from the Menu bar, then select Licensing (Figure 12).

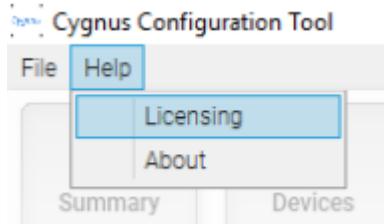


Figure 12: Log in screen – Help > Licensing

This will open the Product Licensing panel (Figure 13). The information outside the scroll bar area will identify the Issue and Expiry dates, and the number of panels licensed to the user.

The information inside the scroll bar area gives the user visual confirmation of the number of zones available and a check box to indicate if Zone LED boards and GSM cellular modem are fitted.

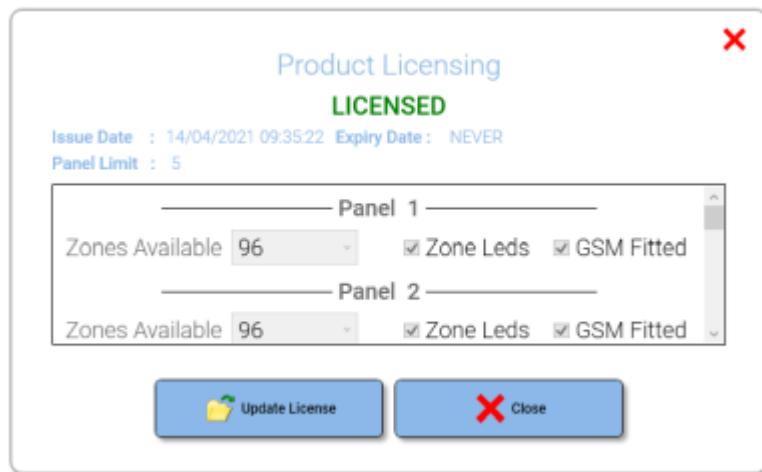


Figure 13: Product Licensing

Updating the licence can only be done by a certified installer or OEM representative with User Level 3, or User Level 4 authority. If a User without authority tries to change the licensing details, they will be met with this message,

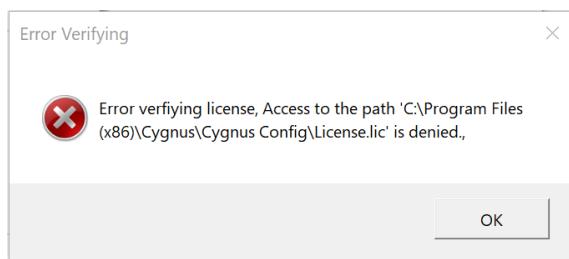


Figure 14: License error - denied

About

To identify the version of the firmware being used select **Help** from the **Menu bar**, then select **About** (refer to Figure 15: Log in screen – Help > About).

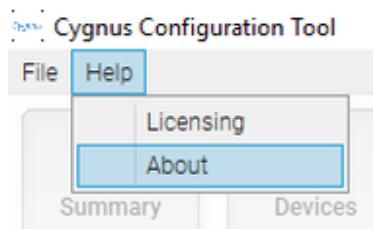


Figure 15: Log in screen – Help > About

This will open a copy of the application landing page. Along the bottom edge of the panel is the version of firmware installed on your device.



Press the Close button to close the window.

4.3 Navigation bar

The Navigation bar has six permanent buttons. Touch buttons that are shown to be in light grey, or faint are not enabled until the system is correctly configured.

The six touch buttons: Summary [A], Devices [B], Cause & Effect [C], Networking [D], Firmware [E], and LogOff [F] are not enabled when the user has not logged in.



Figure 16: Log in Screen – Navigation bar

4.4 Log in Window

When the Log in panel (Figure 17) opens the green Log in touch button will be faint and not enabled.



Figure 17: Log in panel

At the Log in panel (Figure 17), enter your Username [2] and Password [3]. With all fields correctly completed the Log in touch button can be selected. With Log in achieved, the Summary screen (Figure 29 page 34) will open.

To clear the Username and details for any reason, select the Reset touch button [5].

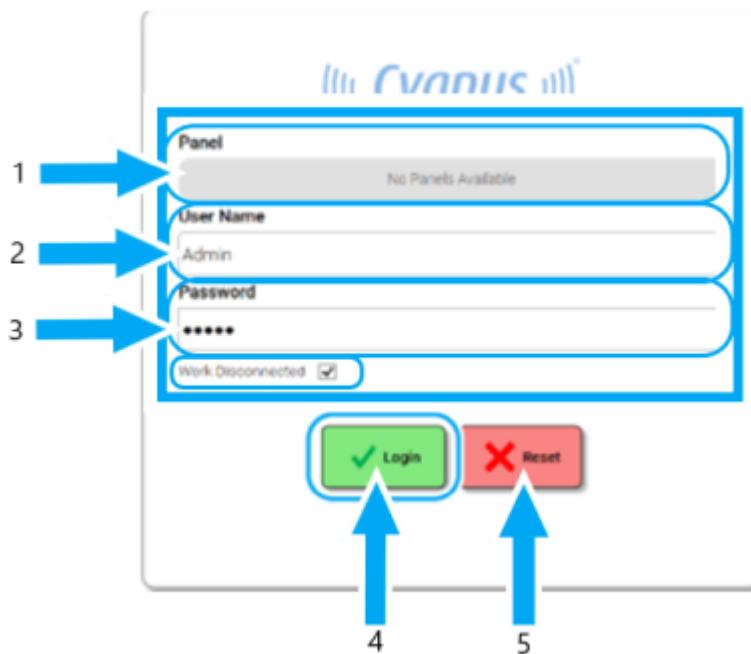


Figure 18: Log in panel areas



*Note: If the **Log in** touch button [4] is not highlighted (remains faint), this means the details you have entered are incorrect.*

Table 2 is an explanation of what action is required at each field on the Log in panel

Table 2: Log in fields

Field	Description
Panel	Select this field to display a dropdown list of all available COM ports to enable upload of site configuration to panel. 

Figure 19: Dropdown menu

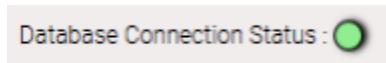
Select a name from the dropdown menu to select it. The selected name will then be displayed in the box, in addition to the comms status:

User Name	Below the Username title enter the username that has been given to you.
Password	Below the Password title, enter the password that has been given to you. This password will have five characters.

Field	Description
Work Disconnected	Select this checkbox if you want to work on the site design whilst disconnected from a panel.
Log In touch button	Press this to Log In to the config GUI.
Reset touch button	Press this to clear the Username and Password fields.

4.5 Connection status bar

The Connection Status bar will display the connection status to the server's database.



4.6 Current user bar

The Current User bar on the Log in screen is not enabled and will not show any information.



Figure 20: Log in Screen – Current User bar

4.7 Log in Landing Screen

When you log in to the application, the landing page (Figure 21) will open the Summary screen. The left panel is the list of all the sites and if applicable, Organisations that have been created by you or others in your organisation.

Figure 21: Log in landing page

The default settings for the landing page (Summary screen, Figure 21) will show Organisations (Figure 21 [2]) and the first site listed below Sites (Figure 21, [1]), and the Site Information (Figure 21, [3]) associated with it.

Each site that has been listed below Site Setups (Figure 21, [1]) will be highlighted in blue when it is selected, with its associated properties shown in the Site Information (Figure 21, [3]) panel.

4.8 Tool tips

Tool tips are shown on a computer or laptop display when the Cygnus Configuration tool is used with a mouse.

Move the cursor over each touch button, object, or list. A pop-up window may display useful information about that item.

Move the mouse away from the touch button, object, or list to hide the tool tip.

5 Common Screen Areas

There are three areas on each screen that are common to all screens.

1. Menu bar,
2. Navigation bar, and
3. Connection status.

5.1 Menu bar

The menu bar (Figure 22) has three items that govern the operation of all screens. These are

1. File (refer to Table 3)
2. Administration (refer to Table 4)
3. Help (refer to Table 5).

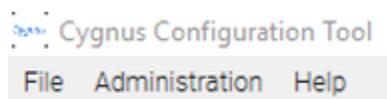
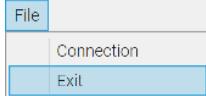
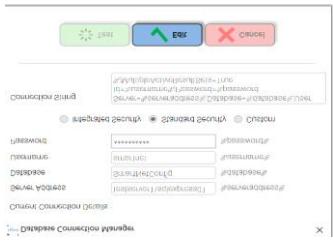
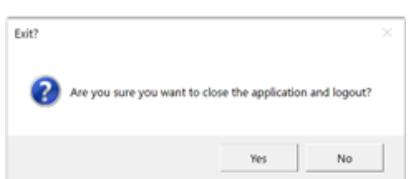


Figure 22: Menu Bar

Table 3: File menu bar items

Menu bar:	File	Administration	Help
	File	select the File menu option to display a dropdown list of setup actions:	
	Connection	Select this option to open the Database Connections Manager page. From here you can allocate the correct database to be used. This is normally configured on installation, but an Administrator can change it later if required (paragraph 5.3).	
	Exit	Select this option to close the application and log out.	

5.1.1 File menu item

Select **File** from the Menu bar to open the **Connections** and **Exit** items from the dropdown panel (Figure 23).

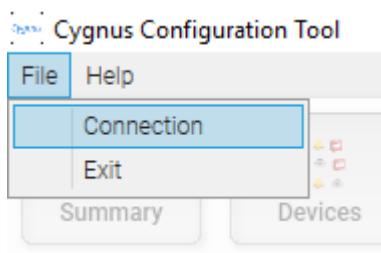


Figure 23: File dropdown panel

5.1.2 Administration menu item

Select **Administration** from the Menu bar to open the **User Administration** dropdown panel (Figure 24).

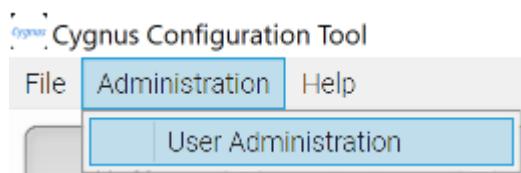
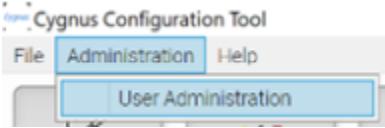
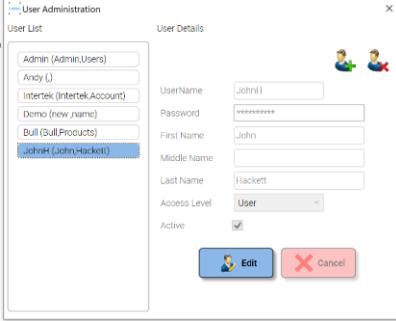


Figure 24: Administration dropdown panel

Select **User Administration** from the dropdown panel to open the **User Administration** panel (Figure 24) from which new user profiles can be created, amended, or deleted. These may be personal details, security levels or configuration administration. For further information refer to Table 4.

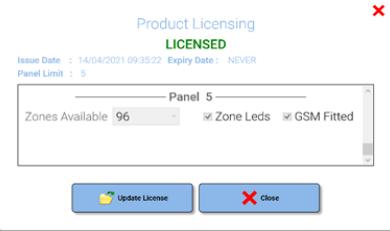
Table 4: Administration menu items

Menu bar:	File Administration Help
 	Administration Select the Administration menu item, then select User Administration

5.1.3 Help menu item

Select the Help from the Menu bar to open the Product Licensing page. The information on this page will tell you how many panels are licensed to the user, and if any GSM options are available. For further information refer to Table 5.

Table 5: Help menu items

Menu bar:	File Administration Help
	Help Select the Help menu option to show links to the Product Licensing page and About page.
	Licensing Select Licensing to view the time, date, and issue of the licence
	About Select About to view the version data of the Cygnus Configuration tool installed

5.2 Navigation bar

The touch buttons on the Navigation bar are further explained at paragraph 5.2.1. Touch buttons that are greyed out are not available.



Figure 25: Common touch buttons

5.2.1 Navigation Buttons

The navigation bar ribbon has buttons at the top of the screen that are visible on every screen.

Table 6: Navigation Buttons

Button	Description
 Summary	Select the Summary button to display the Summary of your sites and organisations (see section 6).
 Devices	Select the Devices button to add, edit and delete devices from the site file that you have selected (see section 6.3).
 Cause & Effect	Select the Cause & Effect button to set the rules for Cause & Effect for the site you have selected (see section 7.5).
 Networking	Select the Networking button to set the Networking connections for the CIE control panel and the fire-zones for the site you have selected (see section 9).
 Portable Programmer	Select the Portable Programmer button to configure the PPU (Portable Programmer Unit)
 Firmware	Select the Firmware button to update the panel software with the Cygnus Configuration tool. Only personnel with the appropriate User Level authority can do the tasks available from this touch button (see section 0).
 Interrogate Device	Select Interrogate Device button to download detail information from any device. Please note you will have to have the device connected using the correct cable
 EN54 Check	Select EN54 Check for your site. This check will confirm if all configuration settings conform to the EN54 standard. There are certain features in the configuration settings that do not comply with EN54, therefore it is important that great care is taken to ensure compliance with legislation.
 User Admin	Select User Admin button to add or delete Users from the system, or change access levels.
 Logout	Select the Logout button to exit the CygnusConfig tool.
 Add	Select the Add button to add a new site or organisation to your list.
 Delete	Select the Delete touch button to remove any selected item in your list.

5.3 Connection status bar

The status of the connections to the database and the control panel can be determined from the two indicators along the bottom, left-hand edge of all screens (*Figure 26: Connection Status*).

If the indicator of either connection is good, then it will be **GREEN**. If disconnected, then it will be **RED**.



Figure 26: Connection Status

5.4 User information bar

Brief details about the current site and user are visible in the User information bar at the bottom right-hand corner of the Log in screen.

The current site and user are displayed on the right-hand side.

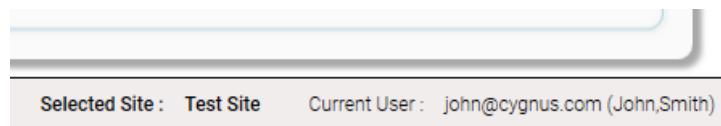


Figure 27: Current site and user information

6 Summary Screen

The Summary screen will be opened each time the Summary button (Figure 28) is selected, no matter where you are in the system.

6.1 Summary Button

At the top left of the screen (Figure 25) select the Summary button with the cursor (Figure 28) to display the Summary screen (Figure 29).

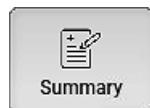


Figure 28: Summary Button

6.2 Summary Screen

The Summary screen displays a summary of the selected site, including the site name and address, numbers of panels, zones, and devices and when the site was created and last modified.



Note: The default site will always be the first one at the top of the list.

Figure 29: Summary screen

The screen is labelled below in sections which are summarised in Table 7.

The list of organisations [7] and sites [1] that have been created are shown on the left of the screen. Scroll down the list to select the site you want to view [2]. The selected item will be lit in a blue highlight and the relevant details will be visible in the Site Information panel [3].

The Summary screen displays a summary of the selected site, including the site name and address, numbers of panels, zones and devices.

Greyed out buttons show the function as not available. This could be due to a panel or device not being connected with the programming cable.

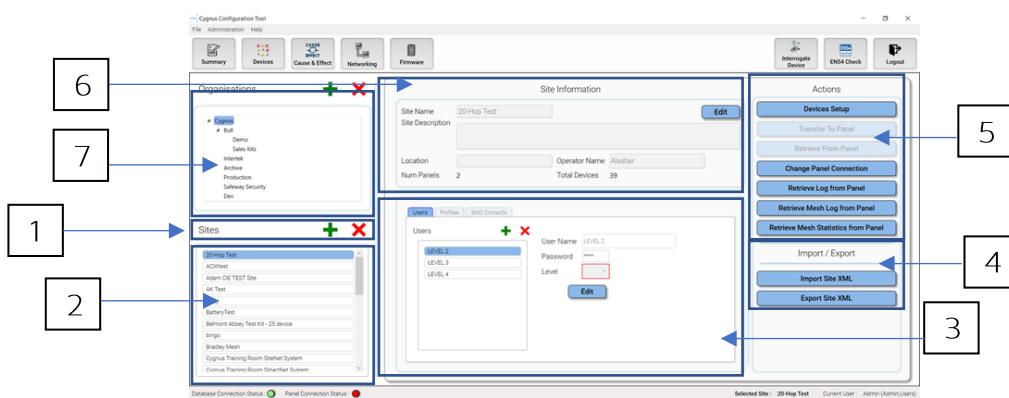


Figure 30: Summary Screen Sections

Table 7: Site Setups

Section Name	Description
Sites panel Sites 	All site configurations are listed in the left-hand panel under the Sites panel (Figure 30, [1]) New sites can be added, edited, or deleted. Select a site name (Figure 30, [2]) to select it and display its information in the Site Information panel.

Table 8: Users panel

Section Name	Description
Site Information area 	All information about the selected site is shown on the Site Information area of the screen. Figure 30, [6]). When details are changed the Edit button will change to Save and Cancel.

Table 9 Summary screen – Site Information

Section Name	Description
Users area	All user information is accessed through the Users area of the screen.

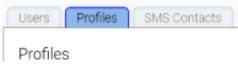
Section Name	Description
Figure 30, [3]	<p>There are three user tabs that need to be completed (see paragraph 6.4).</p> <p>Users, Profiles, and SMS Contacts.</p>
Users tab	<p>All Panel users are listed on this tab. New users can be added, and existing users deleted. User's password and access level can be edited (section 6.4.2).</p> 
Profiles tab	<p>The Profiles tab shows the settings for the alarm sounder tones and beacon flash rates (section 6.4.3).</p> 
SMS Contacts	<p>SMS contacts are listed and can be edited here. New contacts can be added, and existing contacts deleted. The contact's name and phone number, and when they will be contacted can be edited (section 6.4.4).</p> 

Table 10 Summary screen - Actions

Section Name	Description
Actions panel	<p>Touch buttons for the Actions panel are shown below (see Figure 30, [5]).</p> <p>Some are specific to the initial system setup (see paragraph 5.2).</p> <ol style="list-style-type: none"> 1. Devices Setup, 2. Transfer to Panel 3. Retrieve from Panel 4. Change Panel Connection 5. Retrieve Log from Panel. 6. Retrieve Mesh Log from Panel 7. Retrieve Mesh statistics from Panel <p>Devices Setup Select the Devices Setup button to display the Devices screen where you can add, edit and delete devices from within the site file (section 6.3).</p> <p>Transfer To Panel Select the Transfer to Panel button to transfer the site file to a control panel.</p> <p>Retrieve From Panel Select the Retrieve from Panel button to upload the site data from a panel to update the Config GUI.</p> <p>Change Panel Connection Select the Change Panel Connection button to select a different COM port or to select a different panel.</p> <p>Retrieve Log from Panel Select the Retrieve Log from Panel button to download full events log, including faults and fires etc.</p>

Section Name	Description
Retrieve Mesh Log from Panel	Select the Retrieve Mesh Log from Panel button to download up to date Mesh status
Retrieve Mesh Statistics from Panel	Select the Retrieve Mesh Statistics Log from Panel button to download full Mesh history log

Table 11 Action panel

Section Name	Description
Import/Export section	Touch buttons for the Import/Export panel are shown below (see Figure 30, [4]). There are two tasks that can be completed at this panel (see paragraph 5.2). Import Site XML, and Export Site XML.
Import Site XML	Select the Import Site XML button to import a XML file for a site which has been created off line.
Export Site XML	Select the Export Site XML button to save the current site data onto an excel file.

6.3 Organisation & Sites Section

This section has lists of Organisations and Sites. An organisation must be selected before a site can be selected. You should only be able to see organisations relating to your access rights.

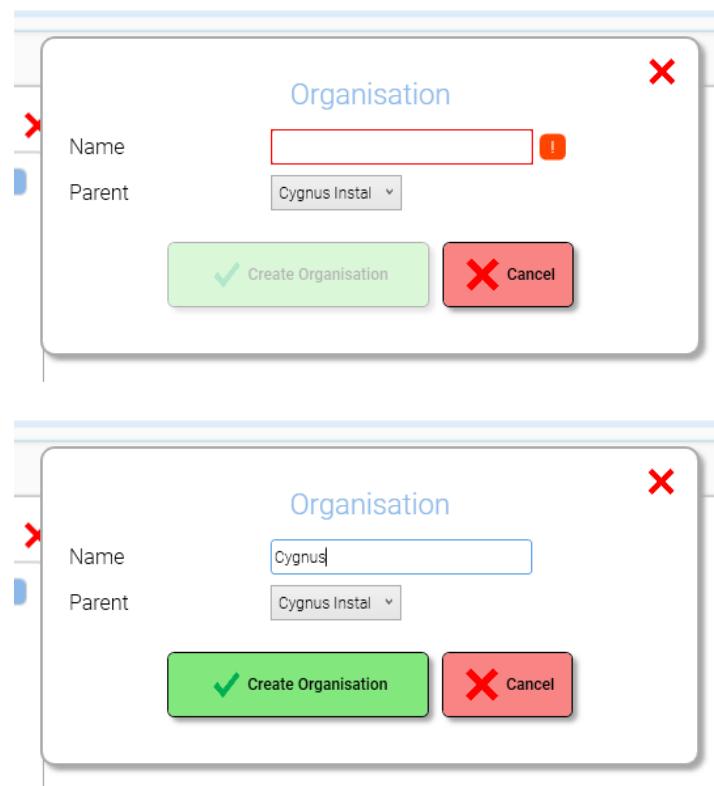
6.3.1 Create Organisation

To create an Organisation, select the  button next to the Organisation section title.

Organisations



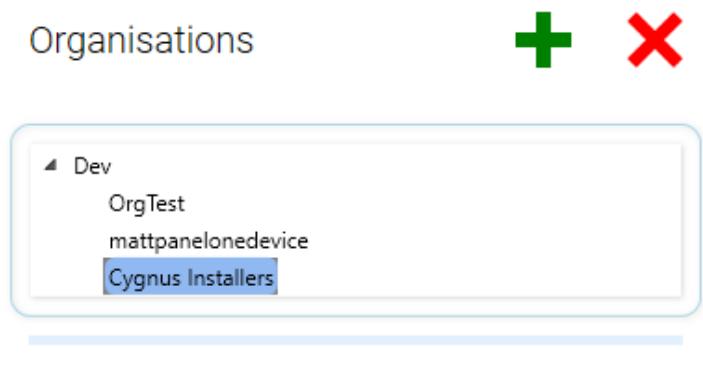
The new Organisation window will appear.



Select your parent organisation (you should only be able to see organisations relating to your access rights), create a name for the site and press the Create Organisation button.

6.3.2 Select Organisation

Select your organisation in the list. When selected, it stays highlighted blue.



6.3.3 Create Site

To create a new Site, select the **+** button next to the Site section title.

Organisations



The new Organisation window will appear.



Site Information

Site Name

Number Of Panels

Create Site Cancel

Site Information

Site Name

Number Of Panels

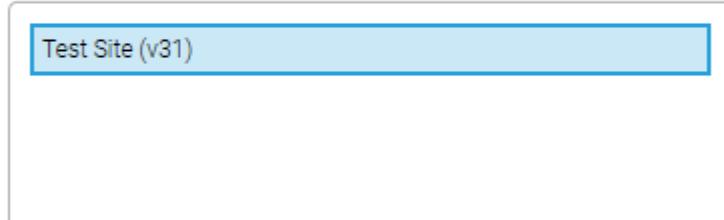
Create Site Cancel

Select the number of panels required on the network, create a name for the site and press the Create Site button.

6.3.4 Select Site

Select your site in the list. When selected, it stays highlighted blue.

Sites



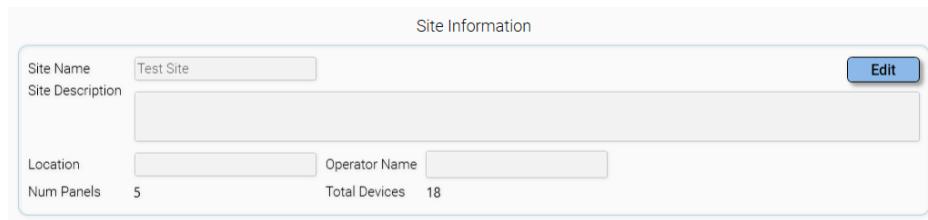
Test Site (v31)

6.4 Site Information Section

The site and user information should be edited so enough information is available for the next user to understand what the site is for.

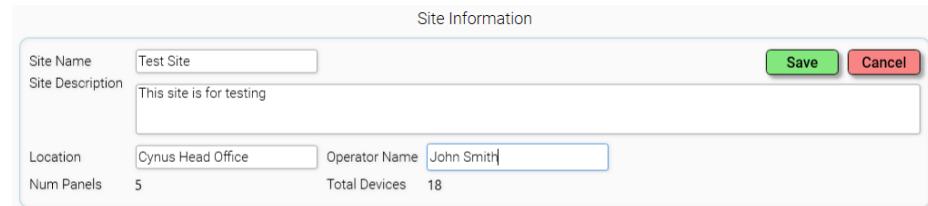
6.4.1 Site Details

To edit the site, press the blue Edit button.



The screenshot shows the 'Site Information' window in edit mode. It contains fields for Site Name (Test Site), Site Description (empty), Location (empty), Operator Name (empty), Num Panels (5), and Total Devices (18). A blue 'Edit' button is visible in the top right corner.

The window changes to edit mode and allows the user to edit all fields in the window. It is useful to put as much information as possible about the site in the Site Description box, to help other users in the future, or during technical support.



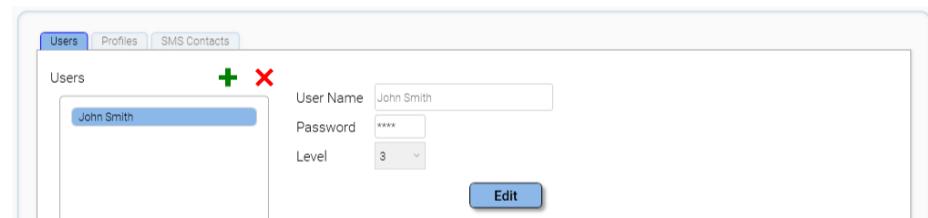
The screenshot shows the 'Site Information' window after editing. The Site Description field now contains the text 'This site is for testing'. The Save and Cancel buttons are visible in the top right corner.

Once complete, press the green Save button.

6.4.2 Users (Panel Users)

This section allows control panel users to be added. Control panel users are those who operate the control panel. These are Level 2, 3 and 4 users. This is not the users of Cygnus Config (see section 13 for Cygnus Config user setup).

New site users can be added to the site file, along with individual configuration.



The screenshot shows the 'Users' window. On the left, there is a list of users with 'John Smith' selected. On the right, there are input fields for User Name (John Smith), Password (*****), and Level (3). A green '+' button is at the top left, and a red 'X' button is at the top right. An 'Edit' button is located at the bottom right.

To add users to the site file, press the **+** button next to the Users title.



Enter the User Name. It is preferred to have first and surname to make identification easier (it is not recommended to use just first names).

A password must be entered for the User to get into the User Level assigned to them on the panel. This password is the PIN number entered at login screen on the Control Panel display. It must be 4 numbers long (the system will not accept letters or any other characters).

Select the User level (level 2, 3 or 4) to assign to this user. See the table below for allowed user level access.

Table 12 Add a user

Field name	Information required
Username	Type in a unique username for the user.
Password	Enter the password for the user. This should be at least five characters long.
Access Level	Select the required access level for the user from the dropdown list:
	1 Primary user
	2 Standard user – can modify some settings.
	3 Admin user – can modify all settings
	4 Engineer – can modify all settings and upgrade firmware



Note: Do NOT give a higher level of access to the user than required as this will affect certification.

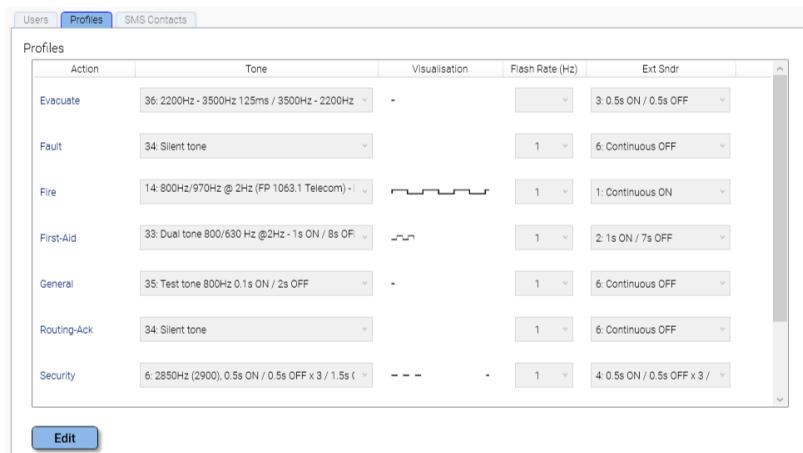
Table 13: User access levels

User Level	User Job	Access Description
1	General use	Level 1 is the default security level. At this level fire alarms, fault messages, and current disablements can be viewed, and the CIE internal buzzer can be muted.

2	Admin	Intended for use only by an authorised person on the site (e.g., site manager). A Level 2 user can also reset the CIE's fire and fault messages, to silence or re-sound alarm devices, disable and enable devices, enter test mode, add or remove delays, initiate an evacuation, and view the site configuration.
3	Installation/ maintenance engineer	A qualified engineer with Level 3 access can add/ remove devices, alter device configurations, configure delays, set day/ night timer, change re-sound options, and identify the CIE's software version reference.
4	Service engineer/ manufacturer	Level 4 access is restricted to qualified service engineers and the manufacturer for access to all functions of the panel during installation, configuring of new systems and updating the firmware.

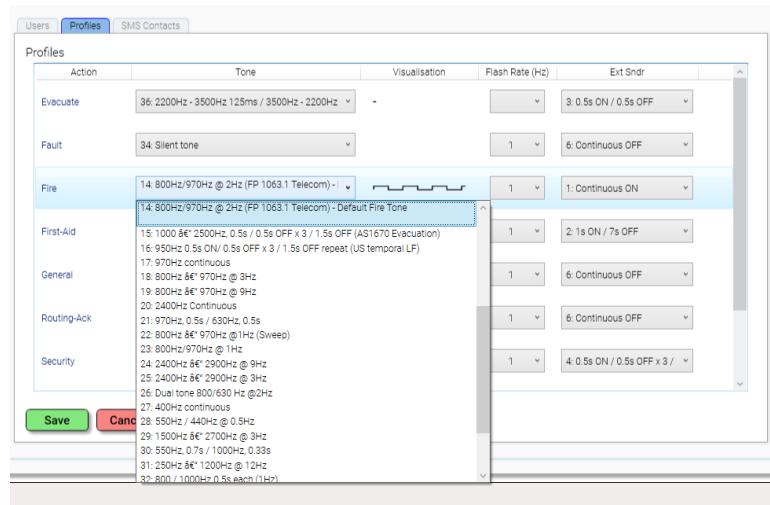
6.4.3 Profiles

Each alert profile can have its own tone configured to it. For example, the Fire tone might require to be a specific tone that all building occupants recognise as the sound they will hear in the event of a fire.



The Profiles tab shows the tone assigned to each alert type. It also has the description of the tone and the waveform diagram of the sound patterns for each tone.

To change a tone, press the edit button. Each tone can be selected from the pull-down menu.



Once the tones have been selected, press the Save button.

6.4.4 SMS Contacts

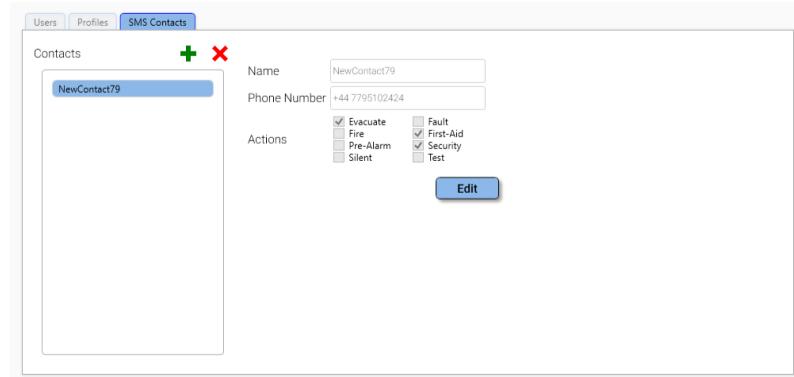


Figure 31: Summary screen, users tab

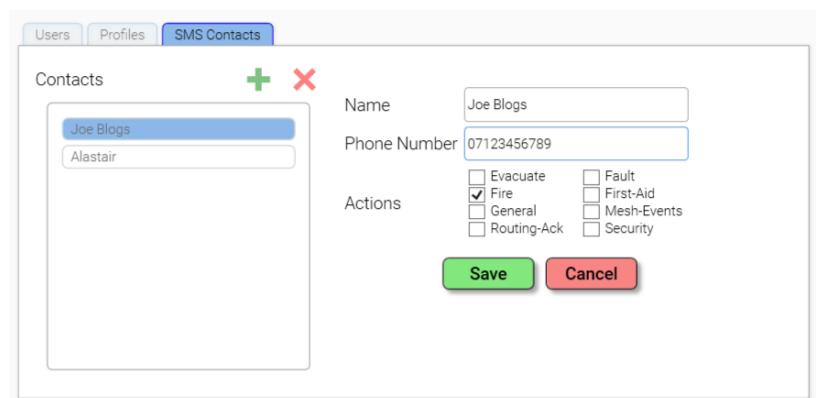
From the Summary screen, select the SMS Contacts tab to show the contacts who will receive SMS messages when an alarm occurs.

The list of existing contacts displays on the left-hand panel.

Select a Contact

Select a name in the Users List.

The contact will be highlighted and that contact's name, phone number and the actions selected for that contact will be displayed.



The screenshot shows the 'SMS Contacts' section of the Cygnus Config Tool. At the top, there are tabs for 'Users', 'Profiles', and 'SMS Contacts'. Below the tabs, there's a 'Contacts' list containing 'Joe Blogs' and 'Alastair'. A green '+' icon is positioned above the contact list, and a red 'X' icon is to its right. To the right of the contact list, there are input fields for 'Name' (set to 'Joe Blogs') and 'Phone Number' (set to '07123456789'). Below these fields is a 'Actions' section with several checkboxes. The 'Fire' checkbox is checked, while 'Evacuate', 'Fault', 'First-Aid', 'General', 'Mesh-Events', and 'Security' are unchecked. At the bottom of the form are two buttons: a green 'Save' button and a red 'Cancel' button.

Figure 32 Select a contact screen

Add a Contact

Select the **+** icon.

Enter the contact's name and phone number, then select the required action.

Table 14 Add a contact

Field Name	Information Required
Name	Enter the contact's name.
Phone Number	Type in contact's phone number. This should be the phone which they carry with them as any SMS messages and alarms will be sent to this number.
Actions	Select the actions required for an SMS message to be sent to the contact, for example, a tick against Fire means that the contact will receive a text message if a Fire alarm occurs.

Select Save to save the new user or Cancel to leave without saving the user.

Edit a Contact

Select a contact.

Select Edit and enter the amended user information:

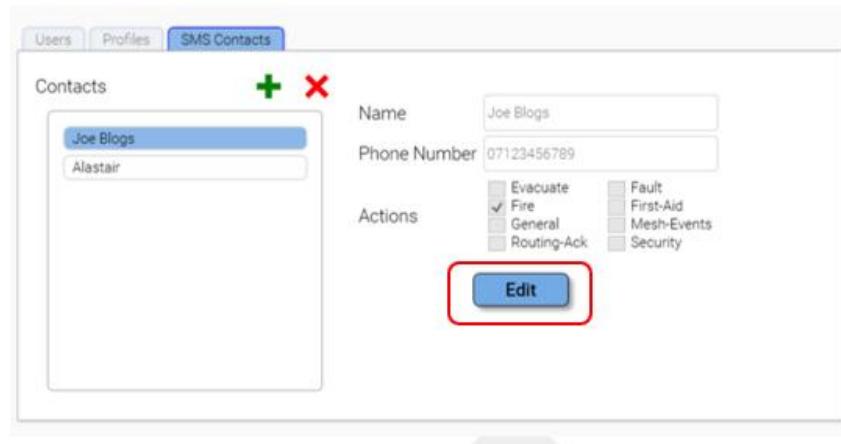


Figure 33 Edit a contact screen

Table 15 Edit a contact

Field Name	Information Required
Name	Enter the contact's name.
Phone Number	Type in contact's phone number. This should be the phone which they carry with them as any SMS messages will be sent to this number.
Actions	Select the actions required for an SMS message to be sent to the contact, for example, a tick against Fire means that the contact will receive a text message if a Fire alarm occurs (multiple actions can be selected for each user).

Select Save to save the new user or Cancel to leave without saving the changes.

Delete a Contact

Select a contact.

Select the **×** icon, then select Yes in the confirmation dialog to delete the user.

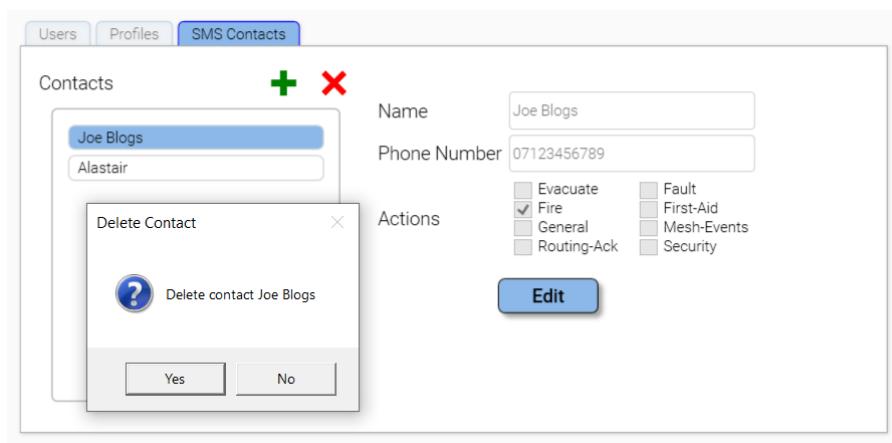


Figure 34 Delete a contact screen

Click No, to cancel.

6.5 Actions Buttons

The Actions section has the following buttons.

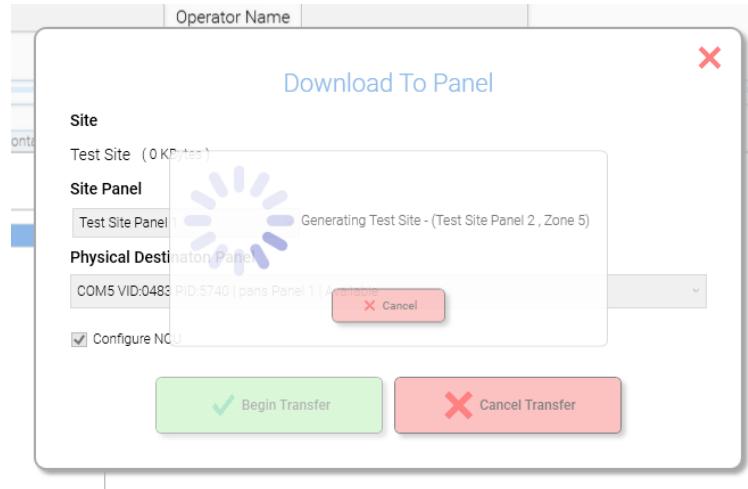
6.5.1 Devices Setup Button

Select the Devices Setup touch button to display the Devices screen where you can add, edit and delete devices from within the site file.

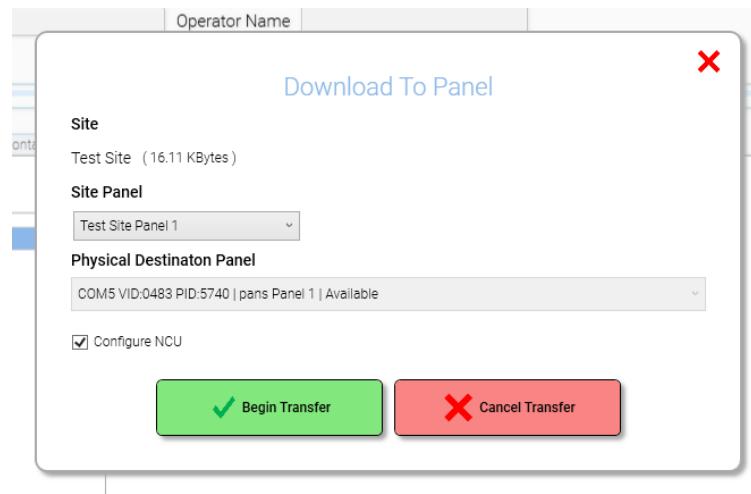
This is the same as pressing the Devices navigation button at the top of the screen.

6.5.2 Transfer to Panel Button

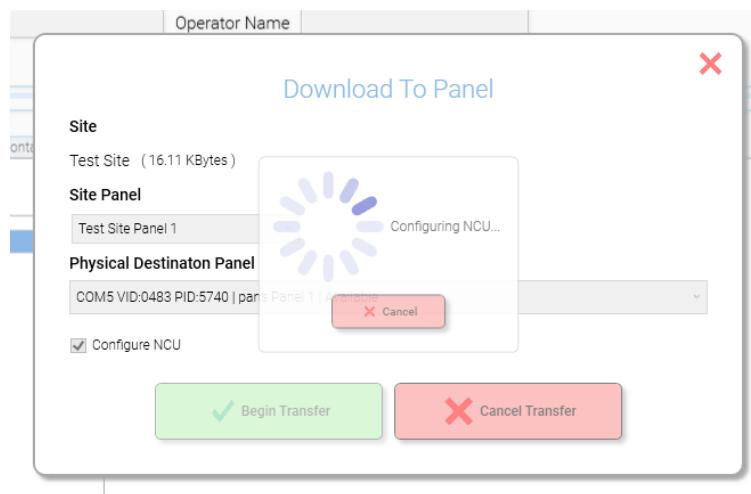
Select the Transfer to Panel touch button to transfer the site file to a control panel.



Press Begin Transfer button

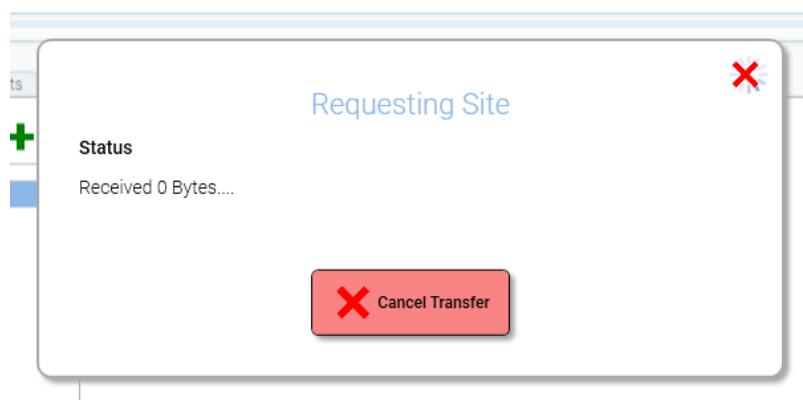


During transfer, progress percentage is shown



6.5.3 Retrieve from Panel Button

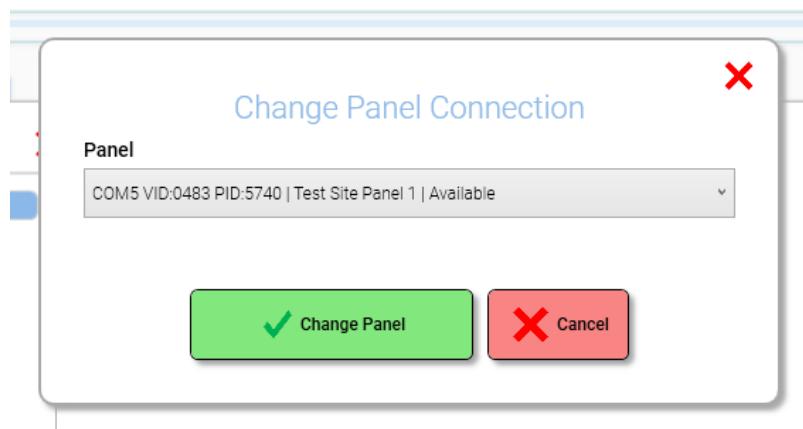
Select the Retrieve from Panel touch button to upload the site data from a panel to update the Config GUI.



Once downloaded, the site data will be populated in all of the fields in Cygnus Config.

6.5.4 Change Panel Connection Button

Select the Change Panel Connection touch button to select a different COM port or to select a different panel.

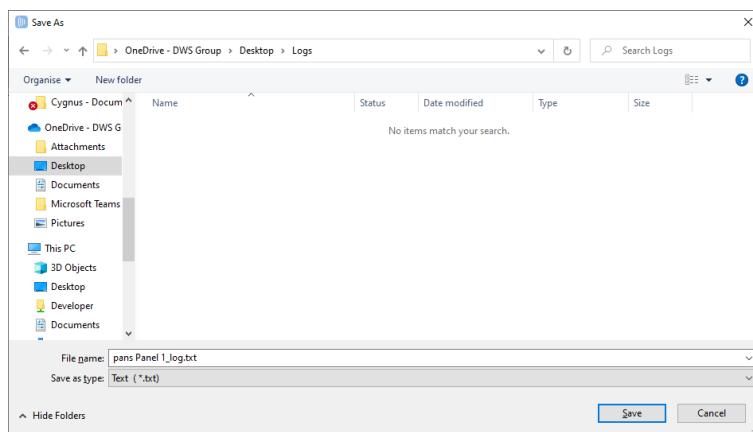


Once the panel has been selected, the Panel Connection Status indicator will be green and the Actions and Import / Export buttons will be available.

6.5.5 Retrieve Log from Panel Button

Select the Retrieve Log from Panel touch button to download full events log, including faults and fires etc.



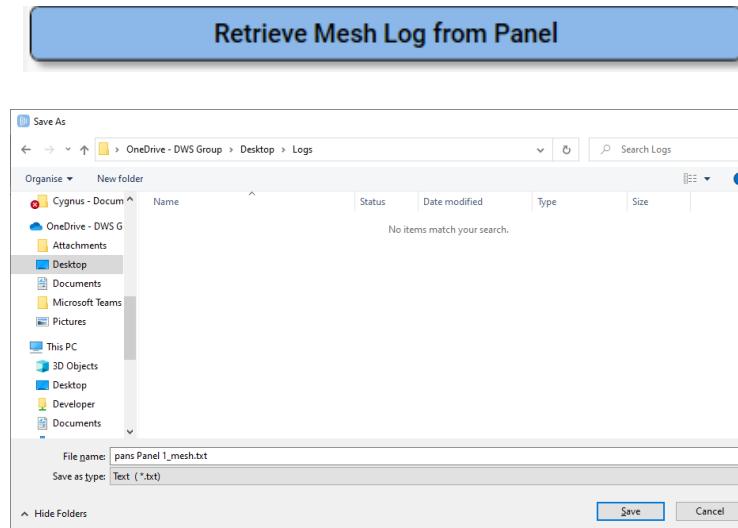


Type a suitable filename to name the log file and press the Save button.

The Log file will be saved to the selected location. Please access the folder to retrieve the file.

6.5.6 Retrieve Mesh Log from Panel Button

Select the Retrieve Mesh Log from Panel touch button to download the up-to-date Mesh status log file.

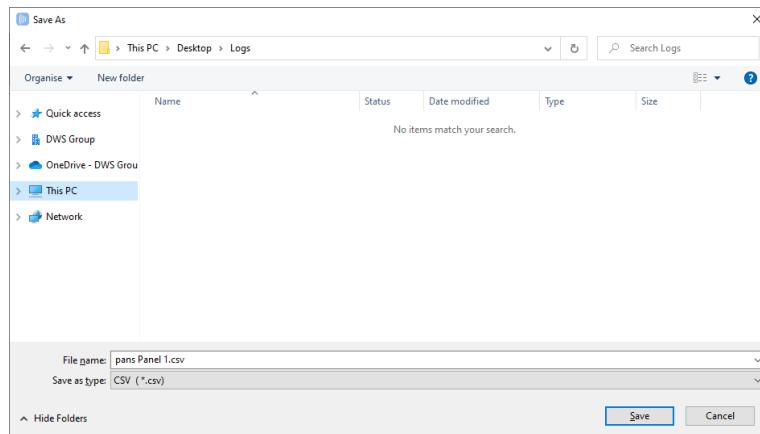


Type a suitable filename to call the log file and press the Save button.

The Mesh Log file will be saved to the selected location. Please access the folder to retrieve the file.

6.5.7 Retrieve Mesh Statistics from Panel Button

Select the Retrieve Mesh Statistics Log from Panel touch button to download the up-to-date Mesh Statistics log file.

Retrieve Mesh Statistics from Panel


Type a suitable filename to call the log file and press the Save button.

The Mesh Statistics file will be saved to the selected location. Please access the folder to retrieve the file.

Type	Primary RSSI	Secondary RSSI	Ambient Heat	Ambient Smoke	Battery	Backup Battery	Parent
Manual Call Point (Red Base)	-57	-	?	?	3162mv (9/10)	2404mV	Panel
Sounder Base with Wall VAD	-67	-	?	?	3178mv (9/10)	2694mV	Panel
Manual Call Point (Red Base)	-69	-	?	?	2972mv (8/10)	2712mV	Panel
Sounder/VI Base with Combi Smoke/A1R	-63	-	23	24	2558mv (4/10)	2558mV	Panel
Standard Base with Smoke	-64	-	?	21	2956mv (7/10)	2728mV	Panel
Sounder Base with Smoke	-60	-	?	21	3218mv (10/10)	2636mV	Panel
Sounder Base with Blanking Plate	-62	-	?	?	2946mv (7/10)	2734mV	Panel
Sounder Base with Heat B	-62	-	18	?	3112mv (9/10)	2656mV	Panel

Secondary	Primary Children	Secondary Children	Rank	Input Delays	Silence Generation	Reset Generation	Non Latching	Delayed Callpoint	Location
-	0	0	1	No	No	No	No	No	
-	0	0	1	No	No	No	No	No	
-	0	0	1	No	No	No	No	No	
-	0	0	1	No	No	No	No	No	
-	0	0	1	No	No	No	No	No	
-	0	0	1	No	No	No	No	No	
-	0	0	1	No	No	No	No	No	

Table 16 Mesh Statistics Columns

Column	Description
Type	This is the device type description
Primary RSSI	This is the signal strength of the primary parent
Secondary RSSI	This is the signal strength of the secondary parent (if connected)
Ambient Heat	This is for Heat B detectors only. The value displayed is the last value received by the Panel from the Heat B detector. A '?' means no Heat B detector is fitted. Rate-of-rise heat detectors do not pass their values to the panel.

Column	Description
Ambient Smoke	The value displayed is the last value received by the Panel from the Smoke detector. A '?' means no Smoke detector is fitted.
Battery	Voltage of main ER26500 batteries measured under load in milli-Volts. The figure 9/10 gives indication that the batteries are at 90% capacity
Backup Battery	Voltage of backup CR123 battery measured under load in milli-Volts.
Parent	The number of the parent device that it has connected to. If connected directly to the panel, then the cell says 'Panel'
Secondary	The number of the secondary device it has connected to. There cannot be a secondary panel parent
Primary Children	Number of children that the device has, which are using this device as a primary parent
Secondary Children	Number of children that the device has, which are using this device as a secondary parent
Rank	The rank number of the device. The panel is rank 1
Input Delays	States if any input delays are active
Silence Generation	States if the device is set to generate a silence, to silence the system once triggered
Reset Generation	States if the device is set to generate a reset of the system
Non Latching	States if the device is set to latch once triggered. A system reset will reset the latch
Delayed Callpoint	If the device has a call point with a delay currently set, then the value will be 'Yes', otherwise will show 'No'
Location	The descriptive location of the device, as entered at the time of configuration

6.6 Import Site XML

An XML file containing site data can be prepared and saved offline and uploaded into the panel.

From the Summary screen (paragraph

- 3 *Figure 30), select the Import Site XML touch button (Figure 35).*



Import Site XML

Figure 35: Import Site XML touch button

- 4 Navigate to the location where the xml file is saved, then select the required file. Select Open.

The site data is imported into the Cygnus Configuration tool:

- If the site does not exist on the Site Setups list, it is added from the panel.
- If the site already exists on the Site Setups list, but it is the same version as the panel site, a dialog will state that an import is not required.
- If the site on the Site Setups list is a different version to the panel site, a dialog will ask for confirmation that it should be updated to the panel version.

6.7 Export Site XML

An XML file containing site data can be prepared and saved offline and uploaded into the panel.

1. From the Summary screen (section 6), select the Export Site XML touch button (Figure 36).



Export Site XML

Figure 36: Export Site XML touch button

2. Navigate to the location where the xml file is to be saved. Select Save.

7 Devices Screen

The Devices screen is where the mesh configuration is designed and saved.

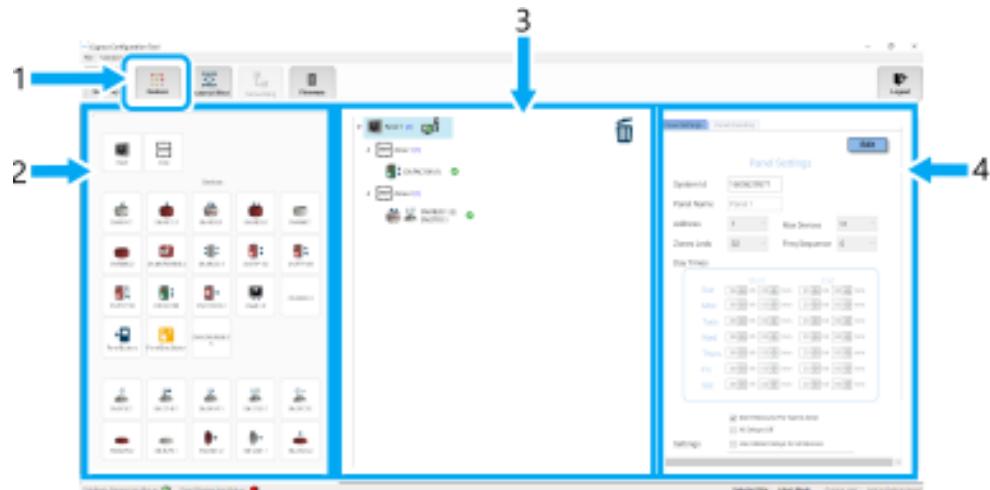


Figure 37: Devices Screen Sections

Table 17 Devices Screen

Section	Description
Devices button	Opens the Devices screen. Available on every screen
Device List panel	The left-hand panel shows all available devices for the current site.
Design panel	The Design panel is where each zone and site layout are put together. Items are dragged from the Device List panel with a mouse/cursor to the zones in the Design panel
Configuration panel	The Configuration panel is where each device is configured with specific requirements.

7.1 Devices Button

To display the Devices screen, first select the Devices (Figure 38) button at the top of any screen, or the Device Setup button (see Table 10 Summary screen) on the Summary Screen.



Figure 38: Devices Button



Figure 39: Common Buttons

7.1.1 Device List Section

The Device List is a library of graphical representations that show all of the elements that can be utilised to form, design and build a fire alarm system with the Cygnus Configuration tool. Each graphical element (except for zones) has a device description below it.

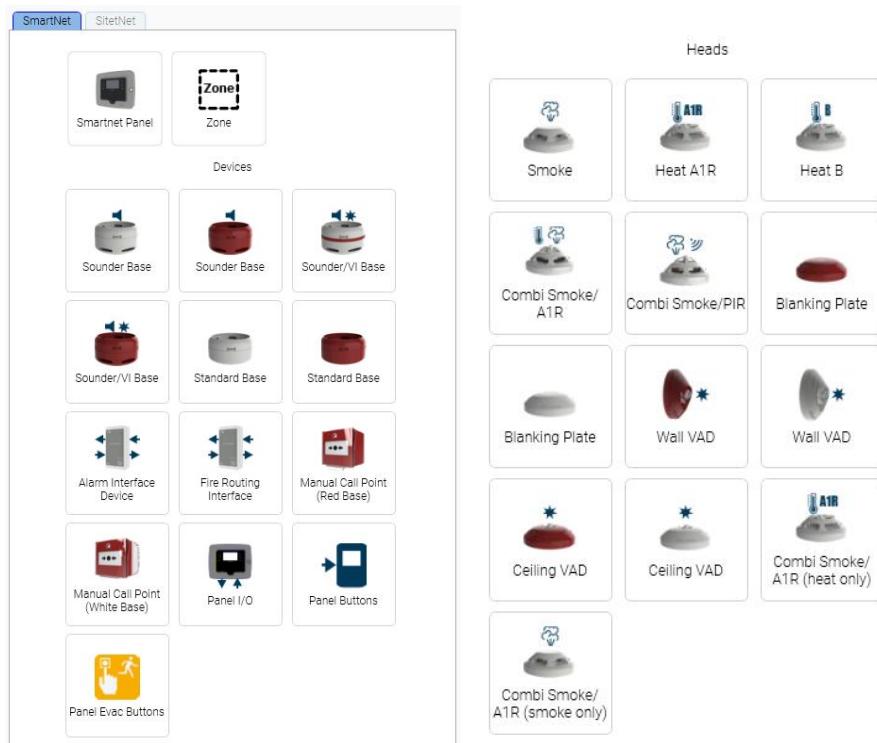
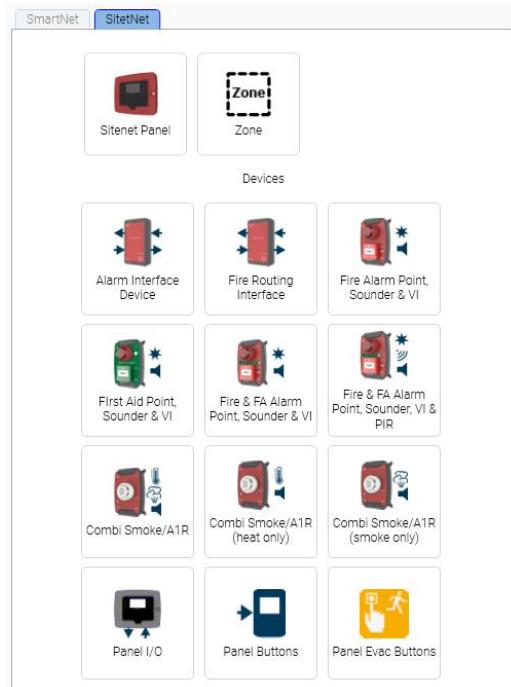
Refer to paragraph 7.1.2 for an itemised list of SmartNet components.

Refer to paragraph 7.1.3 for an itemised list of SiteNet components.

Select the device list required by pressing the SmartNet tab or SiteNet tab.



Note: Your Organisation could be locked down to using SmartNet products only or SiteNet products only, so only one tab may be available.

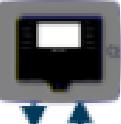

Radio Products
Heads
Figure 40: SmartNet Device List

Figure 41: SiteNet Device List

7.1.2 SmartNet Device Descriptions

The following radio devices shown in the table above have the following functions:

Table 18: SmartNet Radio Device Descriptions

Device	Images	Description
Control Panel		The Control Panel is the central hub of the fire alarm system. The Mesh network is controlled here and all radio devices are controlled here.
Fire Alarm Interface		The Fire Alarm Interface (FAI) is an input output device that has two inputs and two outputs. The inputs can be from an external sensor or switch (for example a reed switch or light sensor). The outputs can connect to an external device to be activated (for example a magnetic door hold or sprinkler solenoid).
Fire Routing Interface		This is the same product and part number as a Fire Alarm Interface (FAI), but is software configured for Fire Routing applications when selected as a Fire Routing Interface in Cygnus Config.
Standard Radio Base		This is a circular radio device available in white or red. It has a head interface.
Sounder Radio Base		This is a circular radio device available in white or red. It has a built-in sounder and a head interface.

Device	Images	Description
Sounder Visual Indicator Radio Base	 	This is a circular radio device available in white or red. It has a built-in sounder, visual indicator ring and a head interface.
Manual Call Point	 	This is a square radio device available in white or red body, with red call-point face. There is an option for a clear plastic cover. <i>Note: the white base is not EN 54 approved.</i>
Panel I/O (virtual)		This allows the user to configure the control panel inputs and outputs as part of the configuration.
Panel Buttons (virtual)		This allows the user to configure the control panel two user configurable touchscreen buttons as part of the configuration.
Panel Evac Buttons (virtual)		This allows the user to configure the control panel user level 2 evacuation touchscreen button as part of the configuration.

The following heads shown in the table above have the following functions:

Table 19: SmartNet Head Descriptions

Device	Images	Description
Heat B Detector Head		Fits to any white, circular radio base. Detects heat at a fixed temperature and notifies the panel through the radio base when the heat trigger point is exceeded.

Device	Images	Description
Hear A1R Detector Head		Fits to any white, circular radio base. Detects heat by monitoring the rate-of-rise of temperature and notifies the panel through the radio base when the rate-of-rise is exceeded.
Smoke Detector Head		Fits to any white, circular radio base. Detects smoke using an optical smoke sensor notifies the panel through the radio base when the smoke trigger point is exceeded.
Smoke & PIR Combi-detector Head		Fits to any white, circular radio base. Detects smoke using an optical smoke sensor notifies the panel through the radio base when the smoke trigger point is exceeded. Also has PIR movement detection to alert if heat-based movement is detected.
Combi Smoke / A1R Heat Detector Head		Fits to any white, circular radio base. Detects smoke using an optical smoke sensor notifies the panel through the radio base when the smoke trigger point is exceeded. Also detects heat by monitoring the rate-of-rise of temperature and notifies the panel through the radio base when the rate-of-rise is exceeded.
Combi Smoke/A1R (heat only)		As Combi Smoke / A1R Heat Detector Head, but with smoke detection disabled in configuration.
Combi Smoke/A1R (smoke only)		As Combi Smoke / A1R Heat Detector Head, but with heat detection disabled in configuration.

Device	Images	Description
Wall Beacon Head	 	Fits to any white or red, circular radio base. Radio base is mounted to the wall. A lens directs light towards the floor to get visible coverage.
Ceiling Beacon Head	 	Fits to any white or red, circular radio base. Radio base is mounted to the ceiling. A lens directs light 360° around the room to get visible coverage.
Blanking Plate SN.BLP	 	Fits to any white or red, circular radio base. Used when no head is required, covering the visible contacts on the radio base

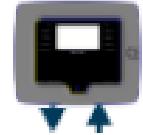
7.1.3 SiteNet Device Descriptions

The following radio devices shown in the table above have the following functions:

Table 20: SiteNet Radio Device Descriptions

Device	Images	Description
SiteNet Panel CN.CIE00.2 CN.CIE10.2		The Control Panel is the central hub of the fire alarm system. The Mesh network is controlled here and all radio devices are controlled here. Available with 16 or 32 zones
Zone (virtual)		This icon allows zones to be easily added to the panel. Devices can then be added to each zone.

Device	Images	Description
Alarm Interface Device CN.IOU000.2		The Fire Alarm Interface (FAI) is an input output device that has two inputs and two outputs. The inputs can be from an external sensor or switch (for example a reed switch or light sensor). The outputs can connect to an external device to be activated (for example a magnetic door hold or sprinkler solenoid).
Fire Routing Interface CN.IOU000.2		This is the same product and part number as a Fire Alarm Interface (FAI), but is software configured for Fire Routing applications when selected as a Fire Routing Interface in Cygnus Config.
SiteNet Fire & First Aid Alarm Call Point with Sounder CN.FFP100.2		Fire alarm call point with First Aid button. With sounder and beacon.
SiteNet Fire & First Aid Alarm Call Point with Sounder & PIR CN.FFP110.2		Fire alarm call point with First Aid button. With sounder, beacon and PIR detector.
SiteNet Fire Alarm Call Point with Sounder CN.FAP100.2		Fire alarm call point with sounder and beacon.
Sounder Visual Indicator Radio Base CN.FAC100.3		First Aid call point with sounder and beacon.
SiteNet Detector Alarm Smoke & Heat A1R CN.DTC.000.2		Optical Smoke and Heat A1R combi-detector with internal sounder.

Device	Images	Description
SiteNet Detector Alarm Smoke & Heat A1R Heat Only (Smoke disabled) CN.DTC.000.2		This is the same as the above device, but has the Optical Smoke detector will be disabled if this icon is selected.
SiteNet Detector Alarm Smoke Only (Heat A1R disabled) CN.DTC.000.2		This is the same as the above device, but has the Heat A1R detector will be disabled if this icon is selected.
Panel I/O (virtual)		This allows the user to configure the control panel inputs and outputs as part of the configuration.
Panel Buttons (virtual)		This allows the user to configure the control panel two user configurable touchscreen buttons as part of the configuration.
Panel Evac Buttons (virtual)		This allows the user to configure the control panel user level 2 evacuation touchscreen button as part of the configuration.

7.1.4 Design Area

The design area in the centre section has levels of hierarchy when it comes to designing the layout of a new system. The order of levels in descending order are:

1. Level 1: CIE Control Panel
2. Level 2: Zone
3. Level 3: Device

Figure 42 shows the Panel has the number (3) against it. This means that there are 3 zones in the designed system for that panel.

Zone 1, 2 & 3 each have a number shown against them. This represents a number of devices configured into the zone. These devices are radio base units, beacons, repeaters, etc that will form the substance on the final design.

Figure 42 shows the system design In the Design panel you will see some devices are shown with blue numbers against them in brackets. For example, in the tree below, the panel has [3] zones, Zone 1 has [4] devices, Zone 2 has [1] device and Zone 3 has [2] devices.



Figure 42: Devices Design Area

When new devices, zones or panels are added to the design, the numbers against each level will change. The graphical layout clearly explains to the user which devices are assigned to each zone, the types and part numbers of the devices that form the content of their system, and the number of zones available.

7.2 Create a Site

Creating a site has been designed to be simple to use, using drag and drop of each device into the network tree.

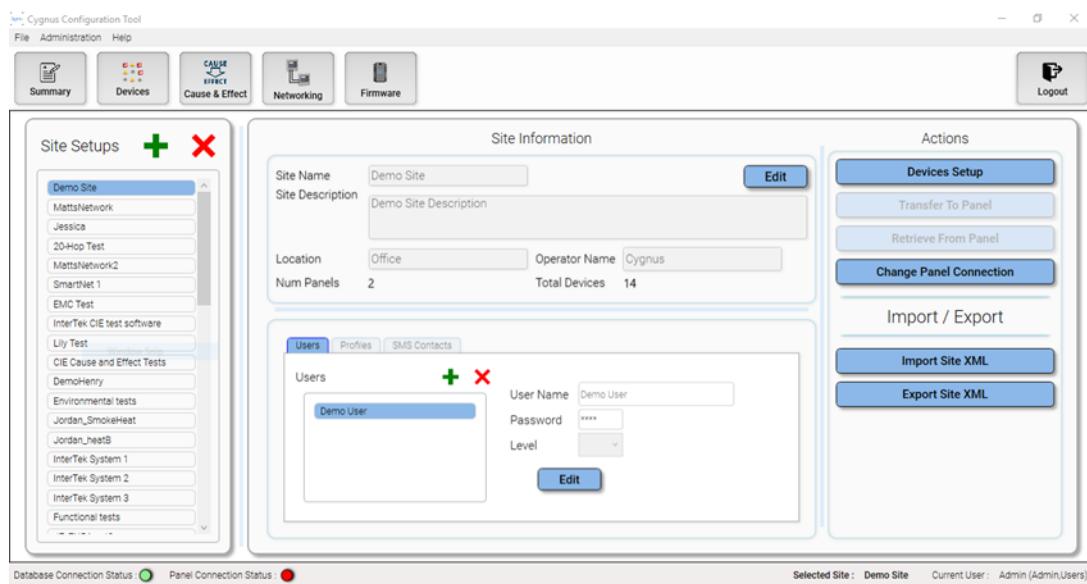


Figure 43: Create a new site

On the Summary screen, Select the **+** icon on the left-hand Sites panel (Figure 43).

The Site Information dialog page will display (Figure 44: Site Information dialog).

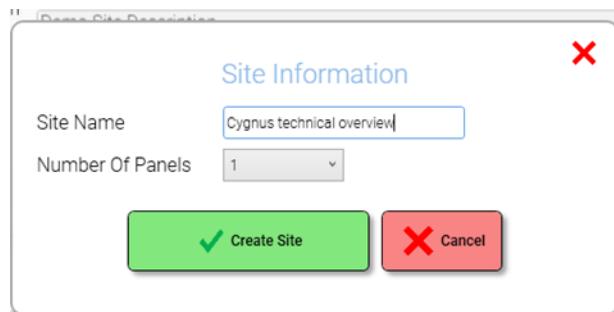


Figure 44: Site Information dialog

Enter the site name and select the number of control panels required for the site.

Select the Create Site touch button.

The new site will be added to the Sites panel and its information shown in the Site Information panel.

Select the Devices or Devices Setup buttons (Figure 45).



Figure 45: Devices and Devices Setup Buttons

A new Devices screen will display, with the number of control panels selected in step 3 shown in the centre panel, and all the available devices shown in the left-hand panel (Figure 46).

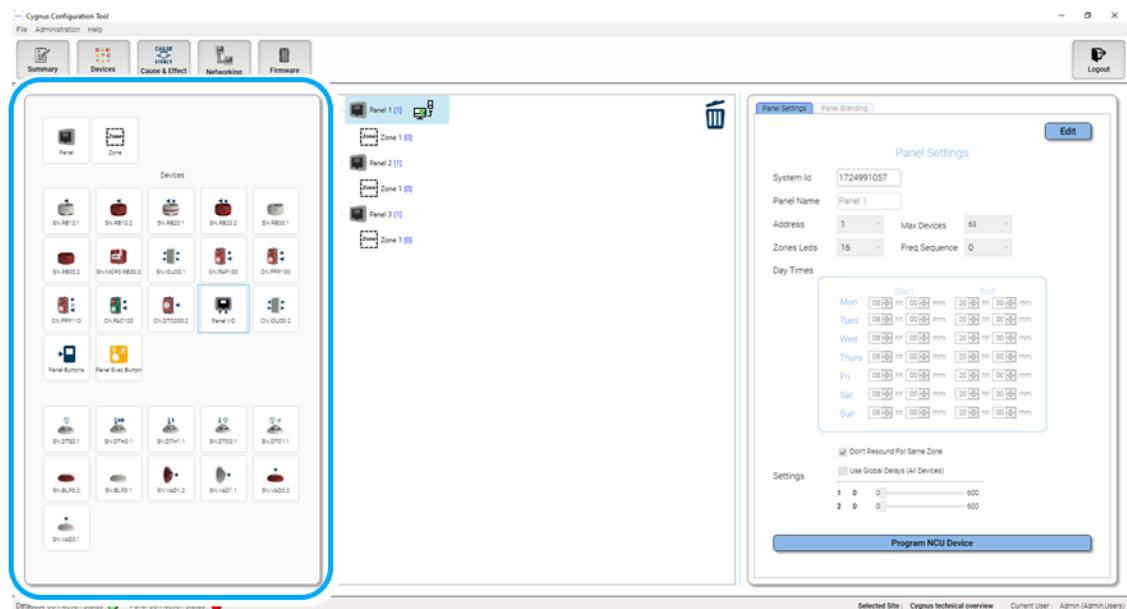


Figure 46 Devices screen

7.2.1 Adding Control Panels

While in the Device screen, select the SmartNet or SiteNet tab at the top of the devices section to select the desire product range (for this example, we will use SmartNet).

To add a panel, hover over the SmartNet Panel icon and press and hold your right mouse button down.



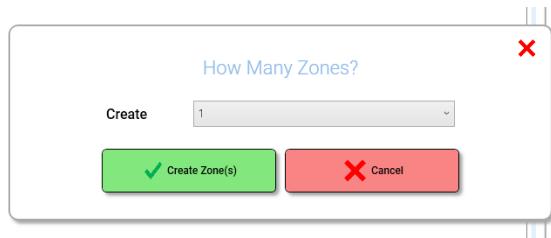
Drag the icon to the open space at the bottom of the tree and let go of the mouse button. The new panel will now appear in the list. Up to 5 panels can be added to the tree and will be automatically numbered (incremented by one each time).

7.2.2 Adding Zones

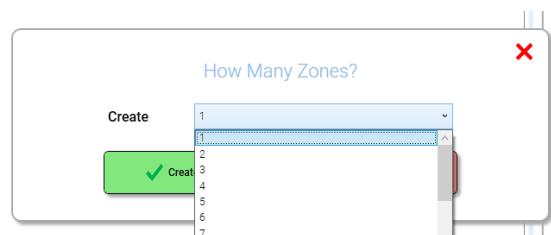
To add a zone, hover over the Zone icon and press and hold your right mouse button down.



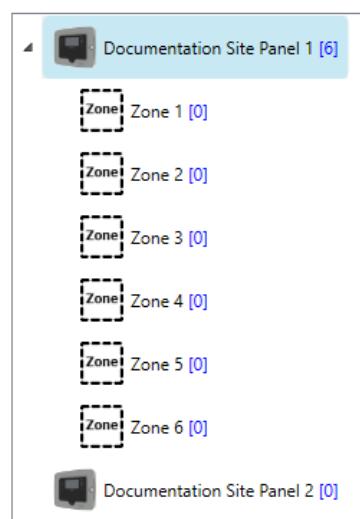
Drag the icon to the control panel you want to add the Zone to and let go of the mouse button. A window will ask you how many zones you want to create.



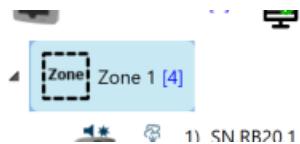
Using the pull-down menu, select the number of zones from 1 to 96.



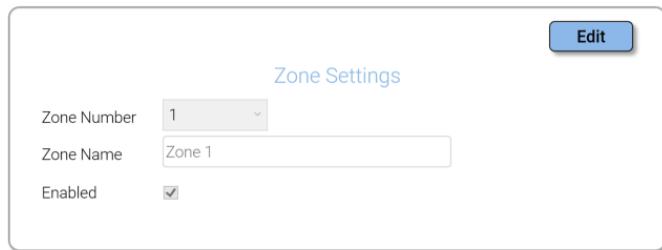
Press the Create button. The number of additional zones (in this example, 5 were selected) will be added to the tree.



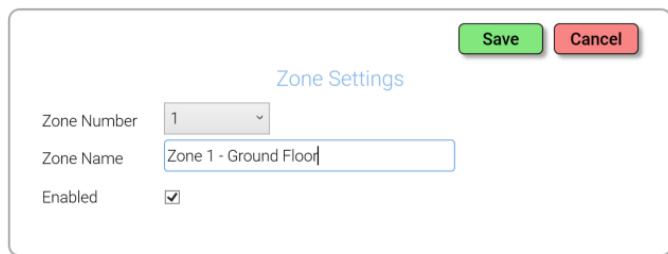
To configure a Zone, select the zone so it's highlighted in a blue rectangle.



Press the Edit button to configure the settings.



It is important to write a meaningful zone description in the Zone Name text box.



7.2.3 Adding Devices

To add a device, hover over the required device icon and press and hold your right mouse button down.



Example Device Type

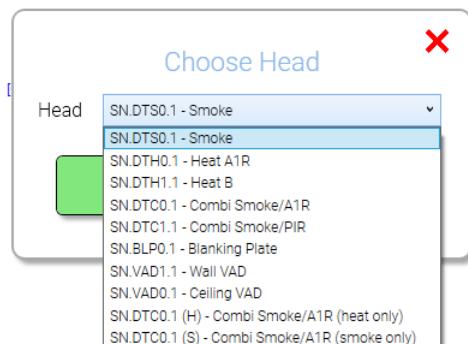
Drag the Device over the Zone you want to add the device to and let go of the mouse button. The device will now be shown in the tree diagram under the zone you placed it.

If the  symbol appears, the device cannot be placed in the current area. The device must be placed in a zone.

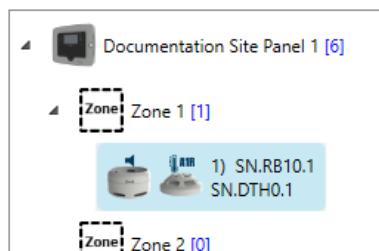
A window will ask you which head type you want to add to the device.



Click on the pull-down menu and the list of available head types will appear. Select the head required and press Continue.



You will now see the new device appear in the product tree, with the selected head.



7.2.4 Device Settings

The configuration panel displays on the right-hand side of the screen (Figure 47).

Select a device in the main panel to select it. The device parameters display on the configuration panel.

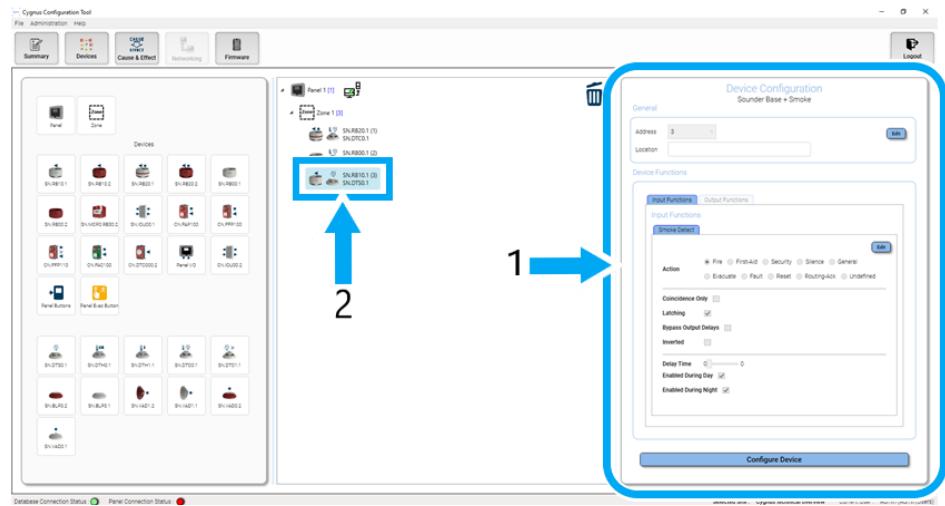


Figure 47: Devices screen with device highlighted

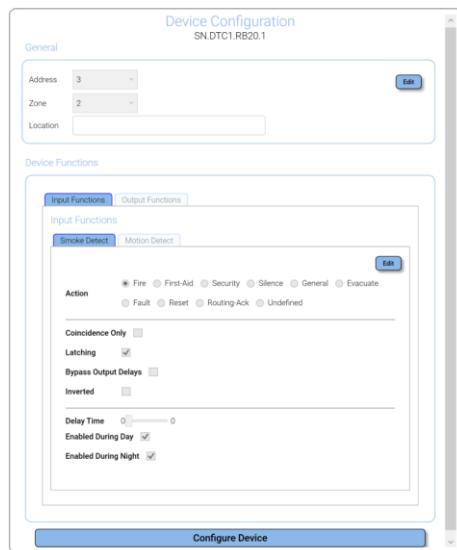


Figure 48: Devices screen configuration panel for a multi sensor smoke

Select the **Edit** touch button next to the information that you need to edit. For example:

2. Select the top **Edit** touch button (Figure 48) to edit the address and location information, or
3. Select the lower **Edit** touch button (Figure 48) to edit the device input functions.



Note: The information contained in the configuration panel depends on the device selected. Configuration options are described below.

Table 21 Device settings

Option	Description
Address	Select an address from the dropdown list of available addresses. It is recommended not to change this address, as there is normally no need to change the address given to the device.
Zone	Select a zone number from the dropdown list of available zones. Any device can be placed on any zone.
Location	Enter a descriptive location of the device that other users will understand. This location text will be displayed on the panel.
Input Functions Tab	A separate tab is displayed for each input function for the device, for example, a multi sensor smoke and A1R heat detector will display a smoke detect tab and heat detect tab. <i>Note: Not all the following parameters will be displayed.</i>
Actions	Select one or more actions required for the input functions. For example, a detector will normally just have Fire selected.
Co-incidence Only	Tick this box if the input should coincide with another input to force an action. See Cause & Effect section.
Latching	If Latching is selected, the input will remain in the triggered state until the panel is reset using the reset button.
Bypass Output Delays	If a zone is configured to have a delay action, this particular device has the option to override the output delays.
Inverted	Select the Inverted check box to invert the input function. For example, where a high makes an input go active, then a low will make the input go active instead.
Delay Time	Move the delay time slider to set the delay time for the input.
Enable During Day	Tick the box to enable the delay during the daytime. Both Day and Night can be selected at the same time.
Enable During Night	Tick the box to enable the delay during the night-time. Both Day and Night can be selected at the same time.
Output Functions	A separate tab is displayed for each output function for the device, for example, for a sounder and/or visual indicator. <i>Note: Not all of the following parameters will be displayed.</i>

Option	Description
Actions	Select one or more actions required for the input functions using the tick boxes.
Active Low / Normally High	Inverted Output – Select the check box to make the output Active Low in the active state and Normally High in the inactive state. This would normally be left unticked.
Silenceable	Select the Silenceable check box to allow this output to be silenced from the panel Silence button.
Ignore Night Delays	Select the Ignore Night Delays check box to force the output to ignore all night delays set.
Use Global Delays	Select the tick box if you want the device to ignore Global Delays and use its own local delays as set by the Delay 1 and Delay 2 sliders.
Delay 1	Move the Delay 1 slider to set the 1 st delay time for the output.
Delay 2	Move the Delay 2 slider to set the 2 nd delay time for the output.
Enabled	Select the Enabled check box to enable the input.
Volume	Move the volume slider to set the volume for the output sounder. There are 3 volume levels. Level 1 is the quietest and Level 3 is the loudest. See individual datasheets for volume levels in dB.
Fixed Volume	For devices with sounders without a volume level option, it shows the fixed volume level (such as SiteNet Detectors).

3. [Select Configure Device](#).



Note: You may need to scroll to the bottom of the Device Configuration panel to display the Configure Device touch button.

4. Select the destination device from the dropdown list and [Select Program Device](#) to send the new settings to the panel or [Cancel](#) to leave without sending the settings.

7.3 Panel Settings

The Panel settings tab must be configured with the following settings.

Table 22 Panel settings

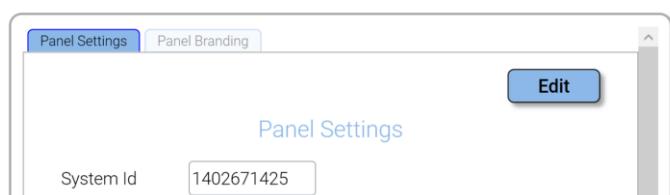
Field Name	Information Required
System ID	This cannot be edited. It is allocated by the system when the panel is first added.

Field Name	Information Required
Panel Name	Type in a new name for the panel. It could be useful to give it a meaningful name, for example its location.
Address	Select an address from the dropdown list of available addresses.
Fire-zone LEDs	Select the number of fire-zones LEDs that are fitted to the panel from the dropdown list.
Freq Sequence	When networking panels, set each Panel up with a different sequence 0-9. Default is set to 0. This will reduce interference between each of the panel's networks.
Day Times	Use the ▲ / ▼ touch buttons next to each setting to specify the normal working hours for each day in the area where the pane is located. This is to allow for shift working, Alarms will be sent to nominated contacts outside of these hours.

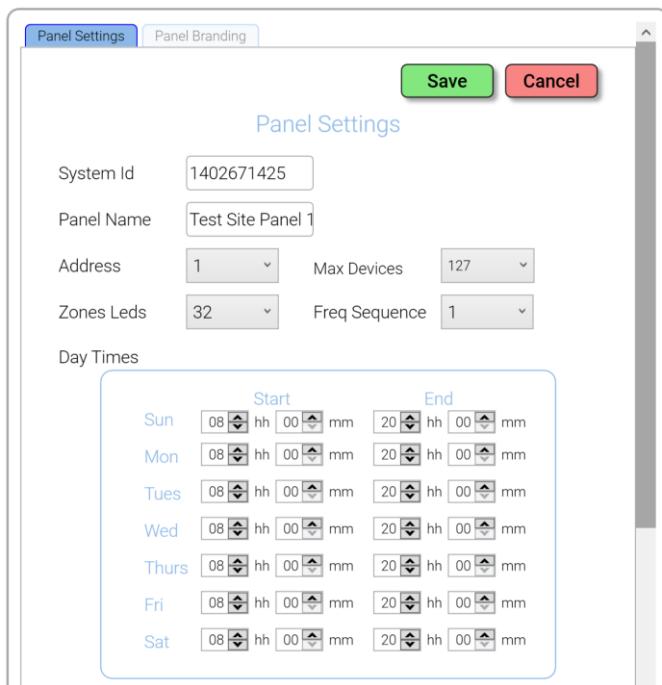
Panel Settings

System Id	1402671425		
Panel Name	Test Site Panel 1		
Address	1	Max Devices	127
Zones Leds	32	Freq Sequence	1

Press Edit button to edit the configuration fields.



The text fields will become editable.



7.3.1 System ID

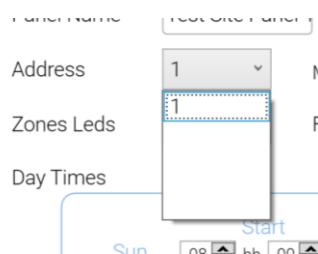
The System ID is configured in all devices connected to the network. If a device doesn't have the correct System ID, then it can't join the network.

7.3.2 Panel Name

This is the name of this particular panel. If more than one panel is in the system configuration, then a different panel name is recommended for each panel.

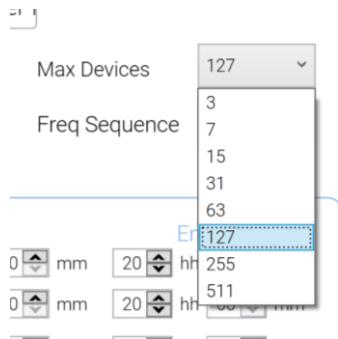
7.3.3 Address

The Address number is the actual number of the panel in the tree. This isn't normally changed. This is a pull-down menu.



7.3.4 Max Devices

Due to the nature of the Mesh network, it takes longer to form a network if there are a larger number of devices. It is recommended that the number of devices required on the system design, plus the number of expected future devices are added to this number, then rounded up to the next Max Devices number. This is a pull-down menu.

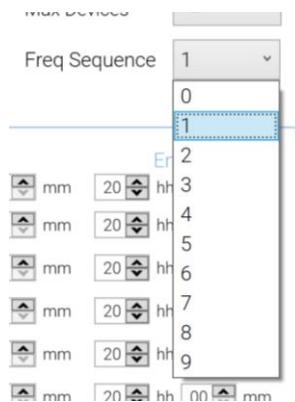


For example, if you have 50 devices on your network and you know you will be adding 20 more devices in the future, then this totals 70 devices. Rounded up to the next available number, the Max Devices should be set to 127.

If you don't leave enough overhead for future installation of devices, the Max Devices number will need to change for ALL devices installed on the network, which can be time-consuming to change as each device will need to be reprogrammed.

7.3.5 Freq Sequence

The frequency sequencing setting gives the option to set different channel hopping sequences for areas with multiple systems installed nearby. If you install more than one panel, then select a different frequency sequence for each, to ensure reliable communication. This is a pull-down menu.



7.3.6 Day Times

For day settings and night settings, this gives the option to set the start time and end time of the daytime mode. Night mode is any time outside of the daytime hours.

Day Times

	Start	End
Sun	08 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm	20 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm
Mon	08 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm	20 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm
Tues	08 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm	20 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm
Wed	08 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm	20 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm
Thurs	08 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm	20 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm
Fri	08 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm	20 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm
Sat	08 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm	20 <input type="button" value="▲"/> hh <input type="button" value="▼"/> 00 <input type="button" value="▲"/> mm

For example, this could be used to set intruder PIR detectors or smoke sensors in dusty areas, off in the day and on at night.

Each day of the week can be set individually, including weekend days.

7.3.7 Settings

Additional settings can be configured in this section.

<input type="checkbox"/> Don't Re-Sound For Same Zone
<input type="checkbox"/> All Delays Off
<input type="checkbox"/> Use Global Delays for all devices
Settings
1 0 0 <input style="width: 100px;" type="button" value="—"/> 600
2 0 0 <input style="width: 100px;" type="button" value="—"/> 600

Don't Re-Sound For Same Zone

When a zone is silenced, if another device in the same zone is then activated, you can choose to not re-sound the same zone again (as this zone has just been silenced). Select this tick box if you don't want any devices in the same zone to re-sound.

This function is available to prevent multiple triggering of alarms in the same zone, saving someone from having to keep silencing the alarms

All Delays Off

Turns all delays off, regardless of their settings.

Use Global Delays for all devices

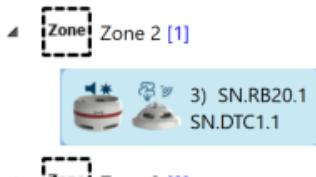
This tick box forces all devices to use the global delay settings set by the two sliders for first delay and second delay.

If a device has its local delays enabled, then Global delays will override any Local delay settings.

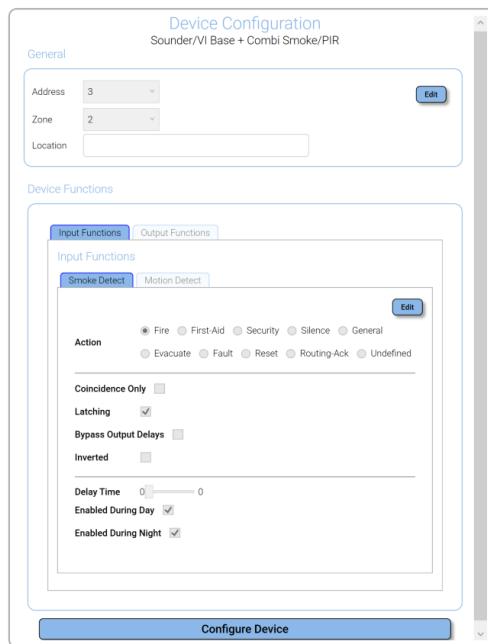
7.4 Device Configuration

As each device is added to the network tree, the Device Configuration section is populated with the options available for that device.

To view the settings for a device, select the device from the tree by hovering your mouse over the device and press the right mouse button. The selected device will be highlighted in a blue rectangle.



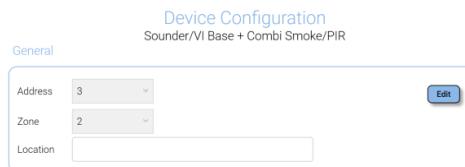
In this instance, a sounder & visual indicator radio base with a smoke & PIR detector head has been selected. The available options will now appear in the Device Configuration section.



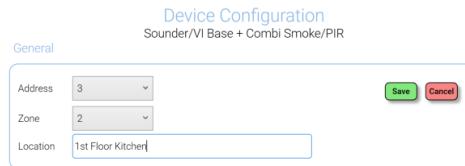
A General section and Device Functions section are available. Under the Device Functions area, there are tabs for selecting Input Functions and Output Functions.

7.4.1 General Settings

Under the General area, the device address and Zone can be edited. A Location Description field allows a description to be added to the device. Press the Edit button to make changes.



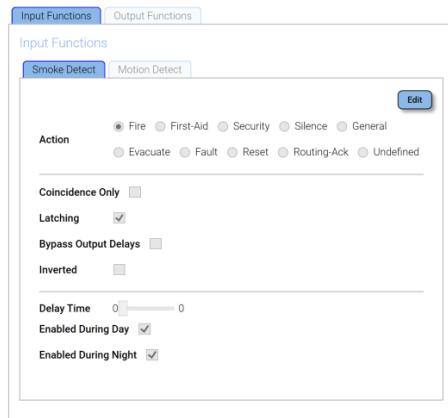
It is recommended that a description is added to make it easy for future users to understand what this device is for. Location information, such as '1st Floor Kitchen', or 'Bedroom 6' make it easy to understand.



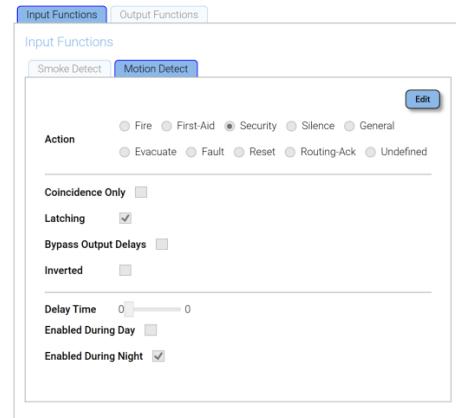
Press the Save button to save the changes or Cancel to ignore the changes.

7.4.2 Input Functions Tab

The Input Functions tab allows the user to configure the input settings for the selected device. Different options will appear depending on the device type. If there are multiple functions, such as smoke, heat, motion detect, etc, then a second tab will appear with the settings for the additional input conditions.

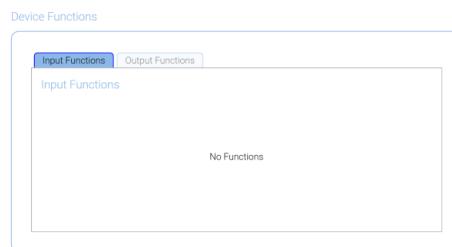


First Input Tab Example



Second Input Tab Example

Where there are no input functions (if the device is an output only device) then no options will be present under the Input tab.

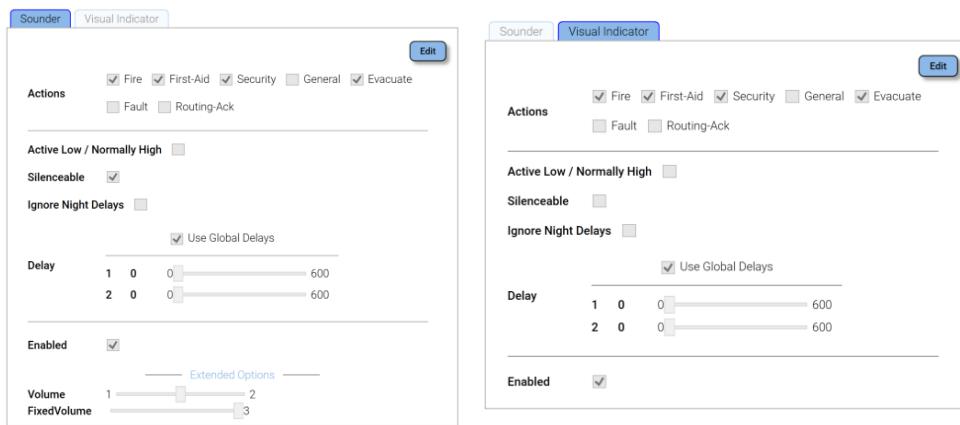


No Input Functions Available

7.4.3 Output Functions Tab

The Output Functions tab allows the user to configure the input settings for the selected device. Different options will appear depending on the device type.

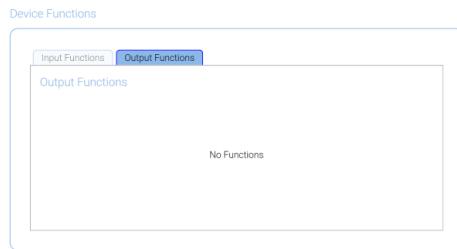
If there are multiple output functions, such as PIR intruder detection, then a second tab will appear with the settings for the additional output conditions.



First Output Tab Example

Second Output Tab Example

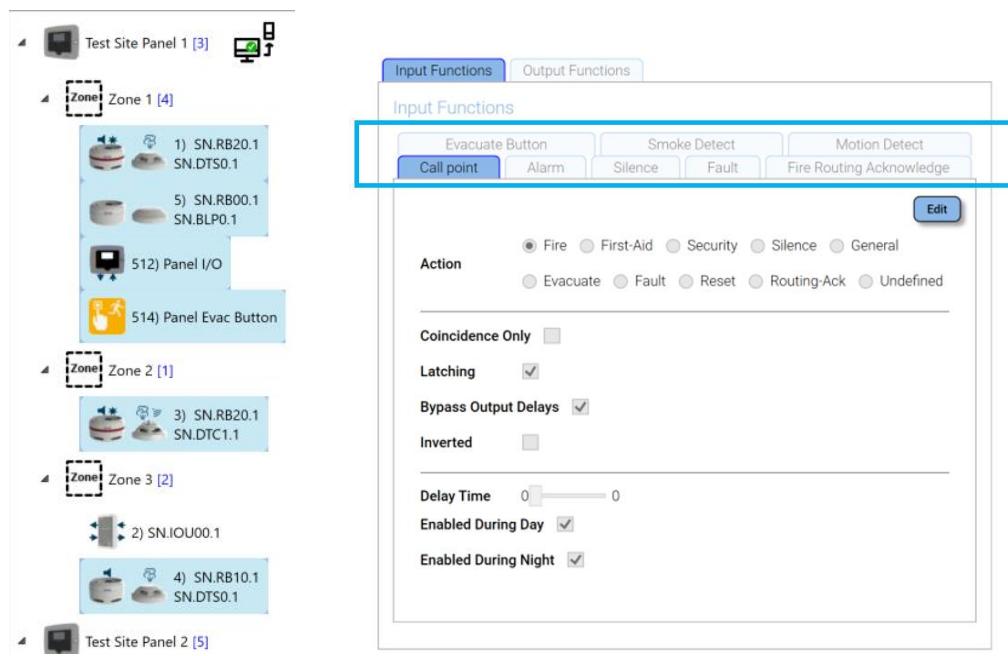
Where there are no output functions (if the device is an input only device) then no options will be present under the Output tab.



No Output Functions Available

7.4.4 Multiple Select

To save time, Multiple devices can be selected and configured at the same time. Just select all the required devices using shift-select and control-select with your mouse button. The selected devices will be highlighted with a blue rectangle. The Device Configuration sections will now show all the available settings for all of the selected devices (see the additional tabs now available in the light blue rectangle on the right image).



Multiple Selected Devices

Multiple Function Tabs

Note: multiple devices are highlighted in blue as shown in the left image above.

For example, where a specific setting is to be changed on all selected devices, the setting will be applied to all devices which use this function. Where some devices might not have this function available, the setting will just be ignored.

Note: if there are any highlighted devices already configured for specific settings, these settings will be overwritten in the multi-select mode.

7.5 Delete Panels, Zones & Devices

To delete any panel, zone or device that has been added to the site design:

1. Select the item to be deleted. It will be highlighted
2. Select the icon
3. Select Yes in the confirmation dialog to delete the item, or No to keep it.

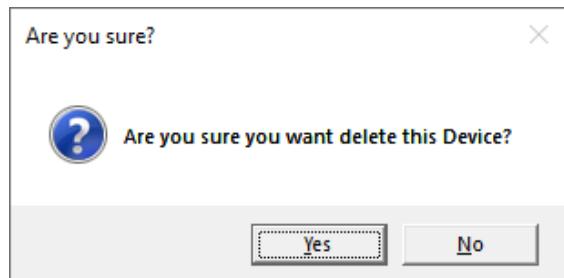


Figure 49 Show confirmation dialogue screen.

8 Cause-and-Effect

Cause & Effect within Cygnus Config can be used to configure Cygnus SmartNet and SiteNet devices to implement Dependencies on more than one alarm signal before the CIE enters full Fire Alarm mode. The full types of dependency are described in EN54 Part 2 clauses 7.12.



Note: Cause and Effect rules are not compliant with EN 54, unless otherwise stated.

The Type A dependency will stop the CIE entering full fire alarm mode until it receives confirmation of a fire event from the same detector or a detector in the same Zone.

This would typically be within an industrial kitchen where a heat detector is triggered, but the system can be configured only to sound the full fire alarm sound and visual indicators once the CIE receives a second confirmation fire alarm event. This can be from the same detector (a smoke trigger on a Combi detector) or a detector in the same zone.

8.1 Cause & Effect Button

To display the Cause & Effect screen (Figure 50), first select the Cause & Effect touch button at the top of any screen.



Common Buttons

The Cause-and-Effect screen (Figure 50) for the selected site will be shown.

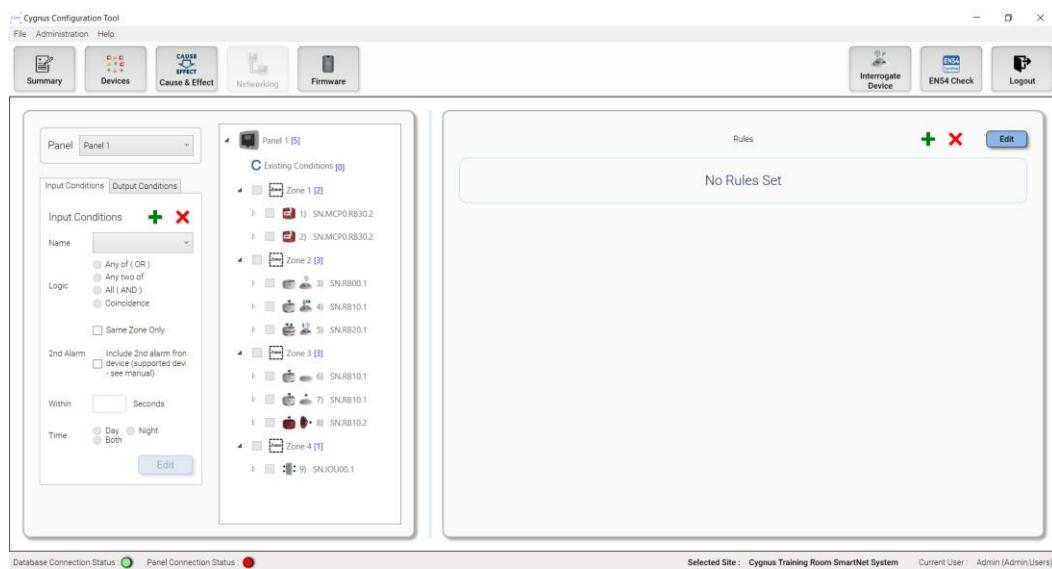


Figure 50: Cause-and-Effect Screen

The information in *Table 23* must be used with *Figure 50*.

Table 23: Cause-and-Effect Screen

Section	Description
Panel	This section is where the input and output conditions are selected.
Panel (Number)	Select the control panel from the Panel dropdown list.
Input Conditions tab	Select the Input Conditions tab to create, edit or delete the input conditions required for the Cause-and-Effect scenarios.
Output Conditions tab	Select the Output Conditions tab to create, edit or delete the output conditions required for the Cause-and-Effect scenarios.
Device list section	The selected panel and the IO, zones and devices under that panel are displayed in this area.
Right-hand section	The rules for input and output conditions are created, edited, or deleted in this section.

8.2 Cause & Effect Input Conditions

Use the Cause-and-Effect feature to configure how the system reacts to a series of alarms and inputs which then create outputs.

Cause-and-Effect rules consist of combinations of Input Conditions and Output Conditions. Difference C&E rules can use the same Input or Output Conditions as other rules.

Select the Cause-and-Effect touch button from the Menu Bar (Figure 51: *Menu Bar touch buttons*) to display the larger Cause & Effect screen (Figure 52).



Figure 51: Menu Bar touch buttons

The screen now shows three panels across the page. All the devices that form part of your system are identified in the centre panel under their respective Control Panel, and then, Zone.

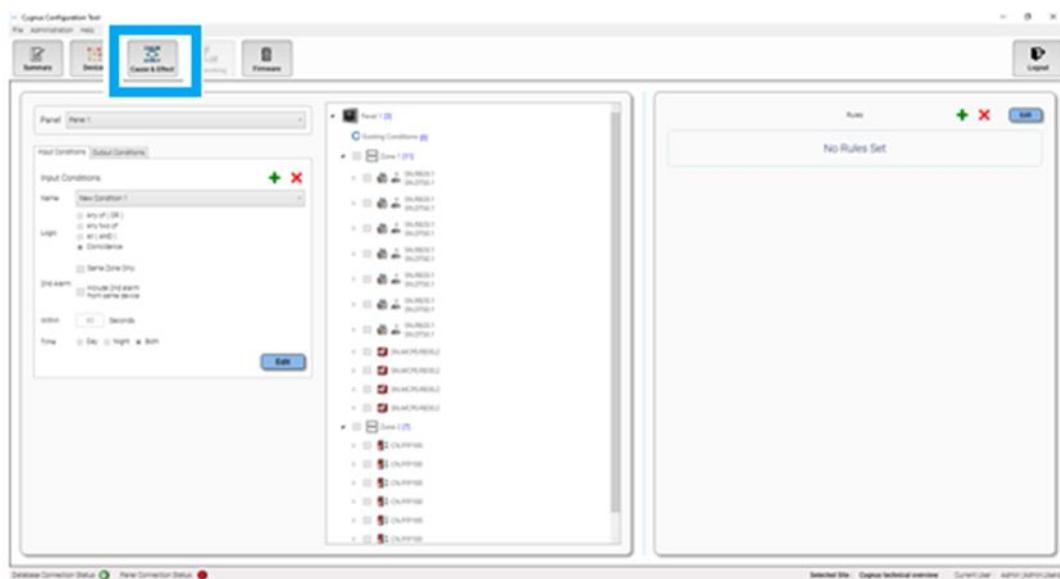


Figure 52 Cause-and-Effect screen

From the left-hand panel, select a control panel from the Panel dropdown list (Figure 53).

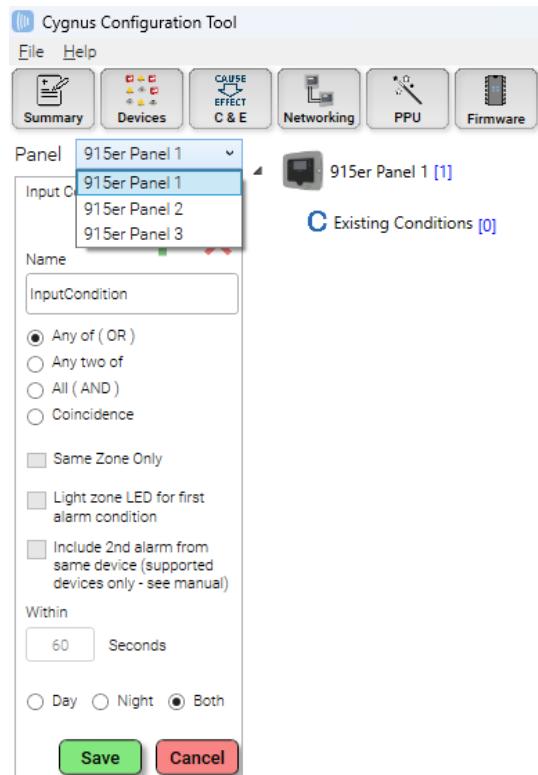
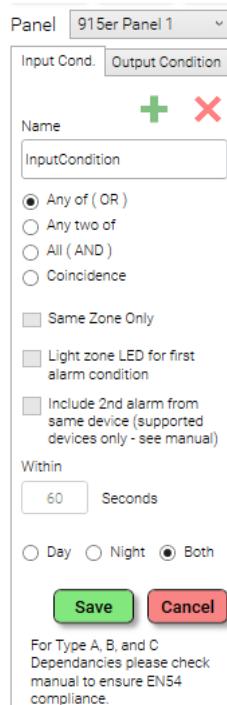


Figure 53: Control panel selection

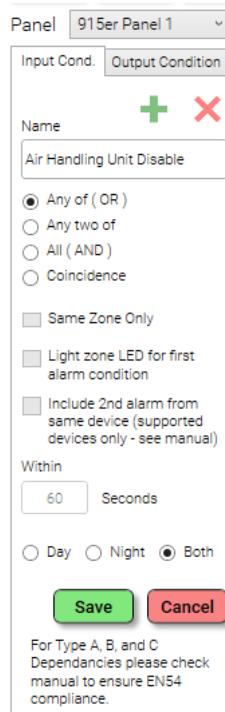
8.2.1 Add an Input Condition

Select the  icon to add an input condition.



Enter the following information:

Field	Description
Panel	Select the Panel you are writing the Input condition for.
Name	Type in a suitable name for the input condition
Logic	Select one of the following logic conditions to select it: Any of (OR) Any two of All (AND) Co-incidence
Time	Select the time of day required for the input condition: Day Night Both



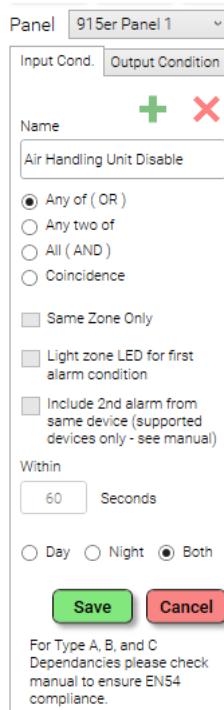
In this instance, the Input Condition has been named Air Handling Unit Disable, to disable the air handling unit fans during a fire condition, to prevent forced air entering the building and feeding the fire.

In any Fire condition the fans must be disabled, so the 'Any of (OR)' tick box has been selected so this rule is not dependant on any other input condition.

Select Save to save the changes or Cancel to exit without saving.

8.2.2 Edit an Input Condition

Select the input condition from the Name dropdown list, select Edit and change the fields as required.

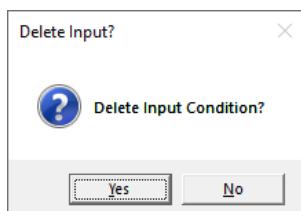


Select **Save** to save the changes or **Cancel** to exit without saving.

8.2.3 Delete an Input Condition

Select the input condition from the Name dropdown list.

Select the  icon.

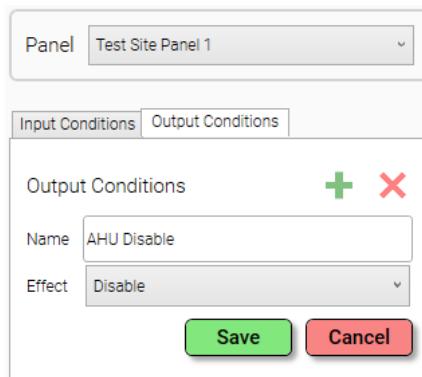


Select **Yes** in the confirmation dialog box to delete the input condition, or **No** to exit without deleting.

8.3 Cause & Effect Output Conditions

All output conditions are listed in the Output Conditions Name dropdown list.

Now select the Output Conditions tab and Name the output condition and the Effect. In this instance, the effect is to disable the Air Handling Unit.

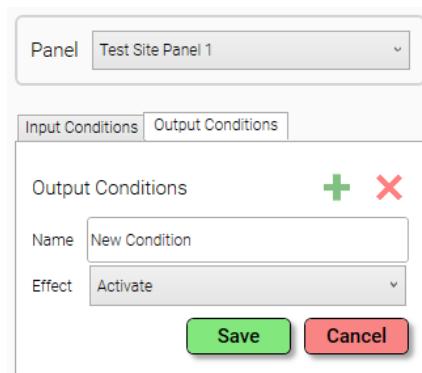


The screenshot shows the 'Output Conditions' dialog box. At the top, there's a dropdown menu labeled 'Panel' with 'Test Site Panel 1' selected. Below it are two tabs: 'Input Conditions' and 'Output Conditions', with 'Output Conditions' being the active tab. In the main area, there's a green plus sign icon followed by a red minus sign icon. A table row contains the name 'AHU Disable' and the effect 'Disable'. At the bottom are 'Save' and 'Cancel' buttons.

Select Save to save the changes or Cancel to exit without saving.

8.3.1 Add an Output Condition

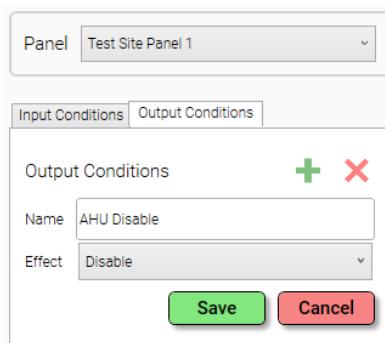
Select the  icon to add an output condition.



The screenshot shows the 'Output Conditions' dialog box. At the top, there's a dropdown menu labeled 'Panel' with 'Test Site Panel 1' selected. Below it are two tabs: 'Input Conditions' and 'Output Conditions', with 'Output Conditions' being the active tab. In the main area, there's a green plus sign icon followed by a red minus sign icon. A table row contains the name 'New Condition' and the effect 'Activate'. At the bottom are 'Save' and 'Cancel' buttons.

Enter the following information:

Field	Description
Name	Type in a suitable name for the output condition
Action	Select one of the following actions to select it: Activate Enable Disable

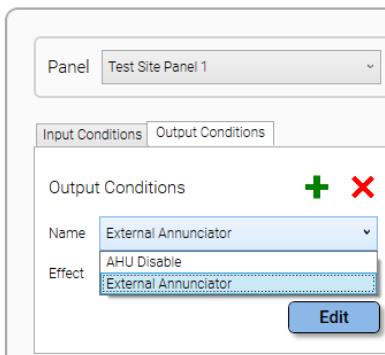


In this instance, an Air Handling Unit output condition has been labelled and configured, so that on a Fire event, the air handling unit is disabled to prevent forced air from feeding the fire.

Select Save to save the changes or Cancel to exit without saving.

8.3.2 Edit an Output Condition

Select the output condition from the Name dropdown list.



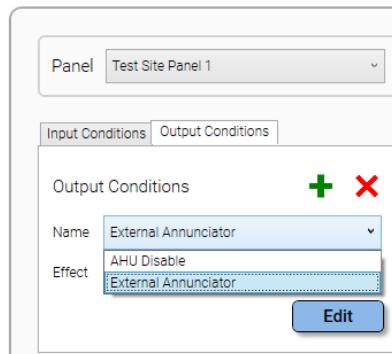
Select Edit.

Change the fields as required.

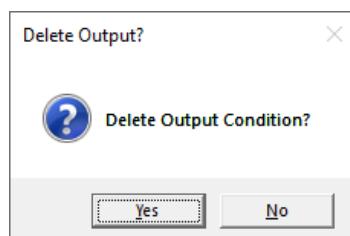
Select Save to save the changes or Cancel to exit without saving.

8.3.3 Delete an Output Condition

Select the output condition from the Name dropdown list.



Select the icon.



Select Yes in the confirmation dialog box to delete the output condition, or No to exit without deleting.

8.3.4 Configuring Rules

For input and output conditions to work, one or more rules must be generated.

Select the icon to create a new rule.

Rules							
Name	Input	Latch	Action	Output	Profile	Delay (s)	Show Rule in Zone
New Rule	Air Handling Unit Disable	<input type="checkbox"/>	Fire	New Condition	First And	0	Don't show

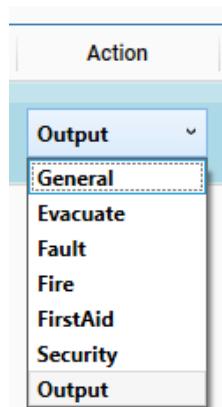
Type a suitable descriptive name for the rule in the Name text box.

Select the pre-configured Input condition required for this new rule, from the pull-down menu.

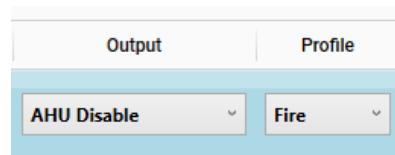
Select how you want this rule to react by selecting 'When True' or 'When False' from the pull-down menu.

If you require the rule to stay latched until reset of the panel, then check the Latch tick box. For example, you may want an air handling unit to remain disabled until the Panel has been reset, otherwise it may be turned back on again during investigation.

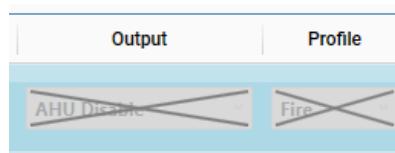
Next, select the Action pull-down menu and select the option required. For example, if you wanted this rule to activate its output for a Fire event, then select Fire from the menu. If you wanted a specific single output on a Fire Alarm Interface to activate, then select Output.



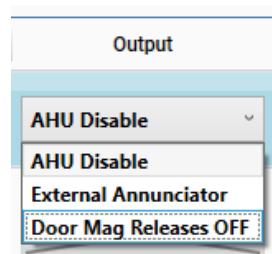
If Output has been selected, then the Output and Profile pull-down menus will be configurable.



If General, Evacuate, Fault, Fire, FirstAid or Security are selected, then the Output and Profile options are crossed out. This is because no single Output rule can be assigned to a Global configuration.



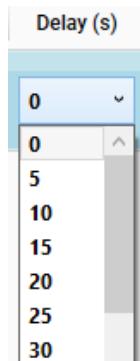
When the Action pull-down menu is set to Output, then the Output pull-down menu allows you to select the output condition required.



Now select the Profile pull-down menu. Select the required option, allowing you to assign the alert type to the rule.



Set the output delay in seconds from the pull-down menu. This is given in 5 second steps, from 5 seconds to 295 seconds.



Finally, select the Show Rule In Zone from the pull-down menu. This is the zone associated with the rule when the event happens. For example, if the Profile is Fire and Source Zone is set to Zone 6, then if the rule activates when in fire, zone LED 6 will be displayed on the control panel. If no zone is required to be shown, then select Don't show in the pull-down menu.

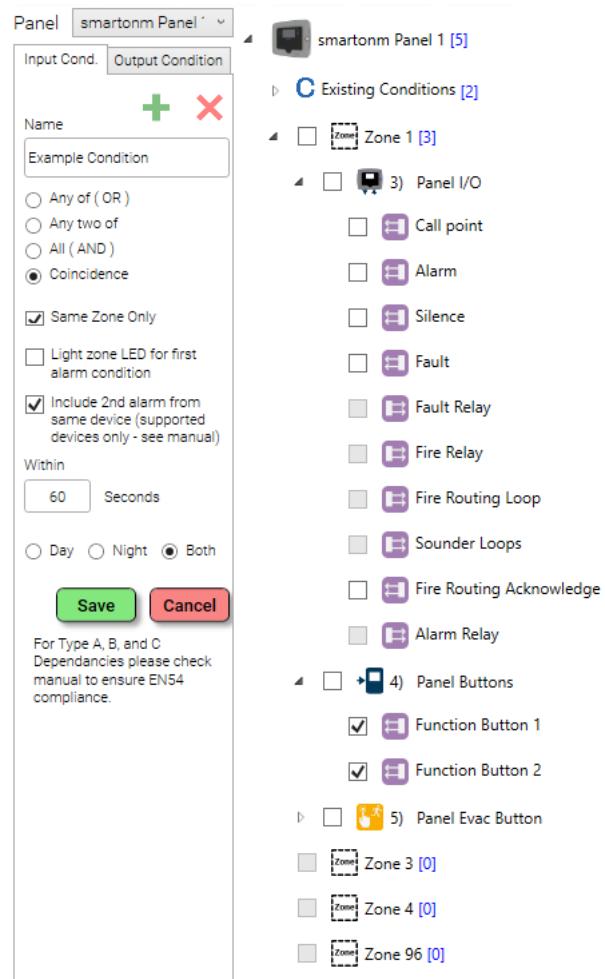


8.3.5 Input Device Selection

The tick boxes are greyed out until the edit button is pressed.

All output devices are greyed out when selecting input devices. You can select one or many input devices to trigger the input conditions. Note that where more than one input device is selected, the input rule will apply (such as AND, OR, etc).

Select Edit to allow the tree to become active for tick box selection.



The tick boxes can now be selected. Tick each device you require to be activated when the input or output condition is applied.

To expand a zone to see the individual devices, select the white triangle icon ▷ on the left-hand side of the icon.



Note: A scroll bar appears if there are too many items to show on a single screen.

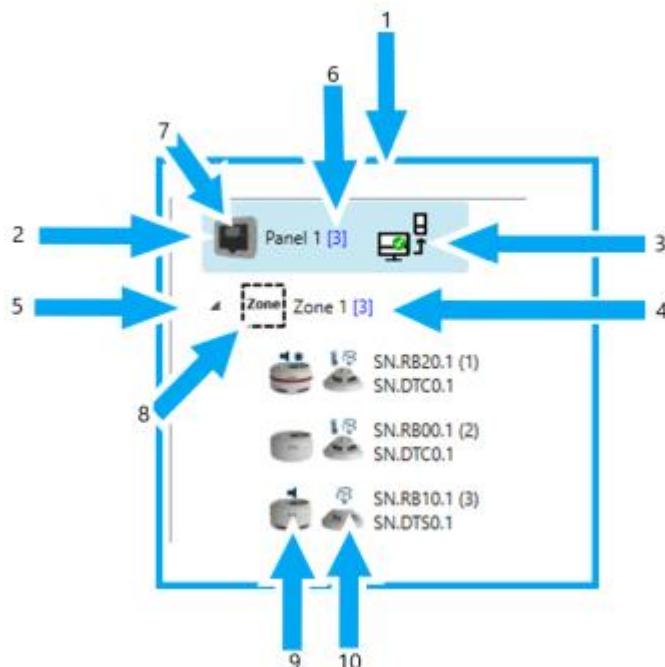


Figure 54 Design explanation

The items picked out by arrows in Figure 54 are listed below.

1. Design page
2. Selected item highlighted in blue.
3. Panel selected
4. Number of devices in zone
5. Expanded list icon
6. Number of zones linked to the control panel
7. SmartNet control panel
8. Zone
9. Radio base units
10. Heads (detectors).

8.4 Type A Dependency (EN54 Part 2 Clause 7.12.1)



Note: using Dependency Type A and B with the combi-detector smoke and heat detectors; when the confirmation signal comes from the same combi-detector device in the case of a low heat fire, it will cause the heat sensor on the combi-detector not to trigger a confirmation signal to Control Panel until the smoke sensor on the same detector has also triggered.

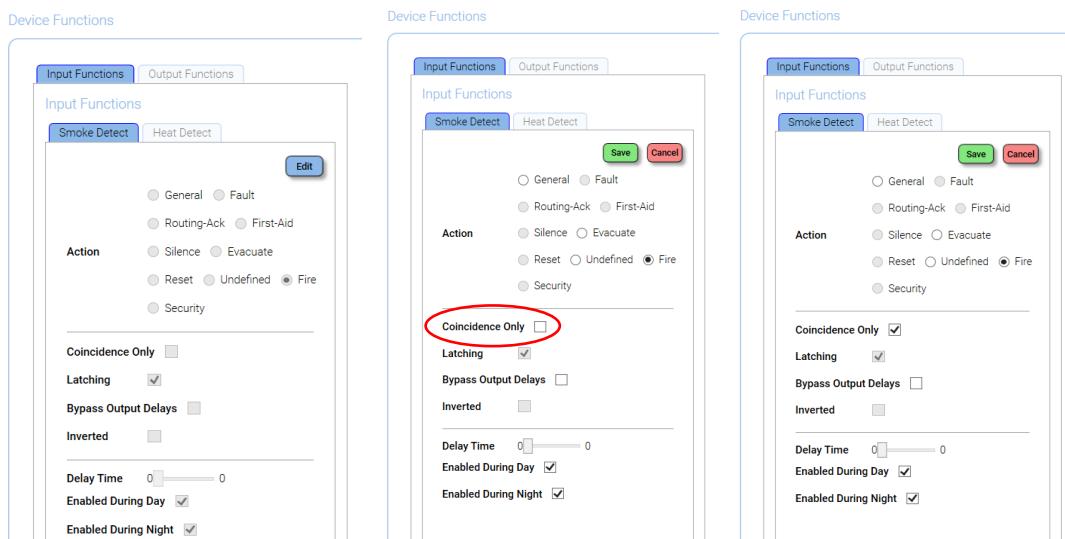
8.4.1 Setting the Detectors to Coincidence Only

Select the site you want the Type A rule applied to.

Select Devices using the Devices button to see the devices on the site.



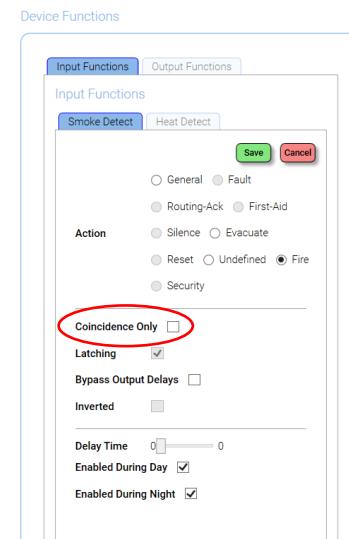
Select the Device you want to apply the rule to and scroll down the Device Configuration section to the Device Functions area.



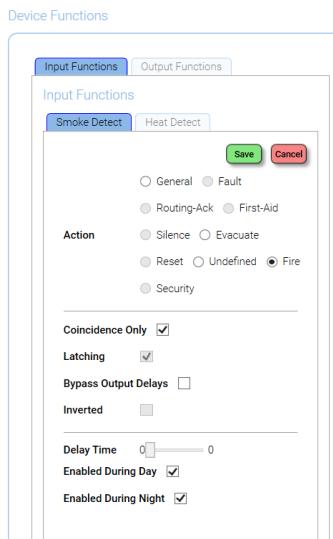
Press on the Edit button



Tick the Coincidence Only Option



Press Save to save the setting



Also change the Coincidence Only setting for the Heat Detect and press Save to save this setting.

Repeat this process for all the detector devices you would like the Type A rule applied to. Note – for a Type A dependency, all devices must be in the same zone.

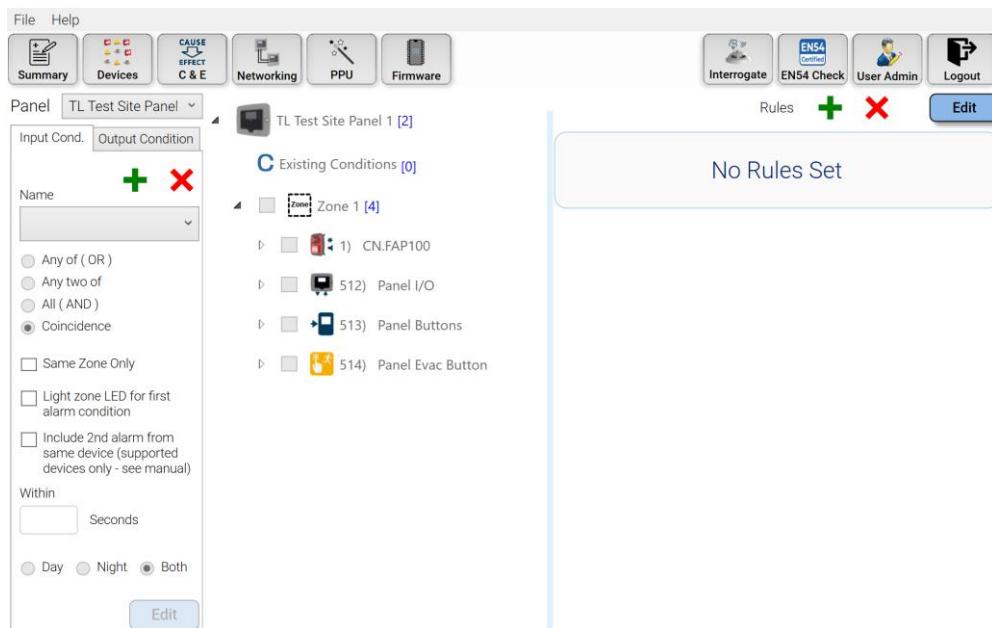


Figure 55: Cause and Effect screen

8.4.2 Setting the Type A Input Conditions

Use the Cause & Effect button to view the Cause and Effect screen.



In the Input Conditions Screen, use the + icon to create a new Input Condition

Figure 56: Setting the Type A Input Conditions

Name the Condition something memorable, like Kitchen Fire Event.

Set the Logic to Coincidence, then set the 'Same Zone Only' tick box and the 'Include 2nd alarm from the same device' tick box. For EN 54 compliant Type A dependencies, uncheck 'Light zone LED for first alarm condition'.

Set the number of minutes within which the confirmation signal must be received (i.e. 10 minutes in the example shown; 30 minutes is the maximum for Type A EN 54 compliance).

On the right-hand side of the Conditions section, select the devices you want the Type A rule to apply to. You can simply select the Zone, the devices or the detector inputs as shown below. Press Save on the Input Conditions page after you have finished with your selection. Note – for a Type A dependency, all devices within a Condition must be in the same zone.

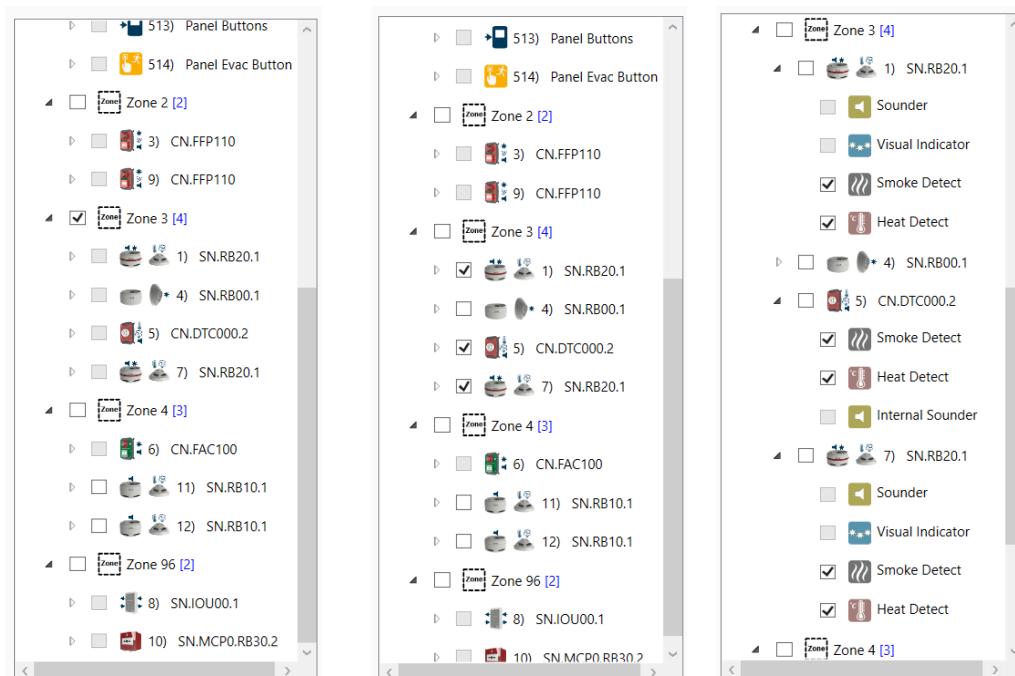


Figure 57: Select the devices you want the Type A rule to apply

8.4.3 Setting the Type A Rule

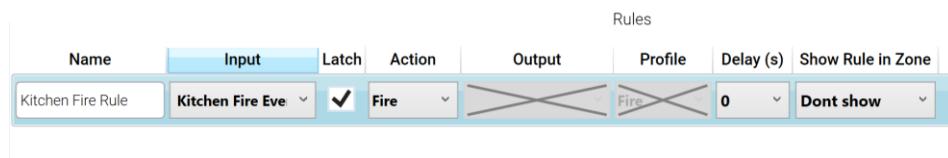
In the rules section, as default there will be no rules set.



Press the **+** button to create a new rule.



Change the name to something meaningful, leave the Input condition as "Kitchen Fire Event", tick the Latch option, change the Action to Fire And set Show Rule in Zone to "Don't Show".



Press on the Save button when you are happy with the Rule you created.

8.4.4 Saving Dependencies to Control Panel

Refer to section 6.5.2 as the process is the same.

8.4.5 Testing the Dependency

In order to test this rule, apply smoke or heat on the first device you applied the rule to, depending on device type.

The Panel will show the fire has been detected and show the device that has entered the first fire condition.

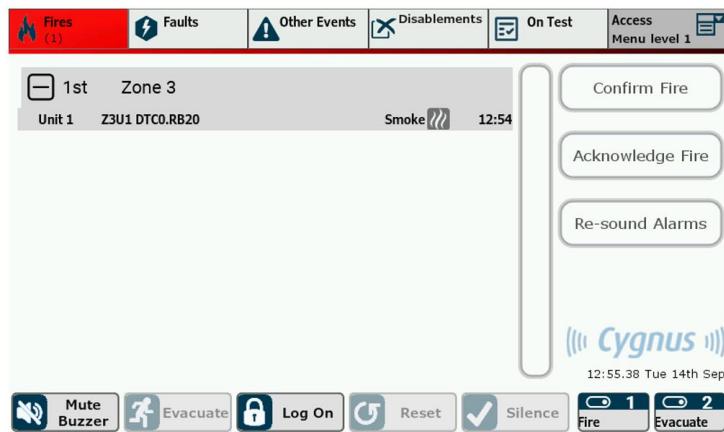


Figure 58: A Fire has been detected

Spray smoke on the second detector with the Type A rule applied.

In the event the second trigger is from the same device (for example a combi sensor with smoke and heat sensors), the panel will trigger a full alarm state if you use a heat gun on the first detector, as the 'Include 2nd alarm from the same device' has been selected. Use care if performing this action to only hold heat on the device for about eight seconds to prevent damage to the detector.

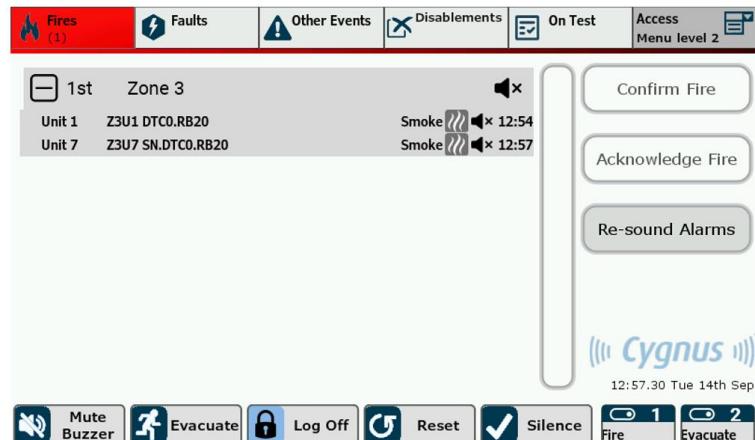


Figure 59: 2nd event

The panel will now enter full fire alarm mode, all wireless sounders will activate, and the Fire LED will be illuminated. You can silence the sounders using the Silence button (CIE Access level 2 and above).

You have successfully tested the Type A dependency.



Note: multiple Type A dependencies can be configured on the site covering different zones. If a fire event triggers the first rule and that event is silenced, on the first trigger event of the second rule a new fire event is shown in the Fires tab and the panel waits for the confirmation event from the same zone. At this point the panel re-enters full fire mode with the device sounders and internal buzzer sounding.

To configure multiple Type A dependencies, repeat the entire process described in this section – each Type A dependency requires a new Condition and Rule for that dependency.

8.5 Type B dependency (EN54 Part 2 Clause 7.12.2)

The Type B dependency will stop the CIE entering full fire alarm mode until it receives confirmation of a fire event from the same detector or a detector in the same or different Zone.

This would typically be in a stairwell where we want a secondary confirmation alarm from a detector to the side of the first alarm (i.e. fitted in a corridor) or an alarm on the next floor to activate before triggering the full fire alarm.



Note: using Dependency Type A and B with the combi-detector smoke and heat detectors; when the confirmation signal comes from the same combi-detector device in the case of a low heat fire, it will cause the heat sensor on the combi-detector not to trigger a confirmation signal to Control Panel until the smoke sensor on the same detector has also triggered.

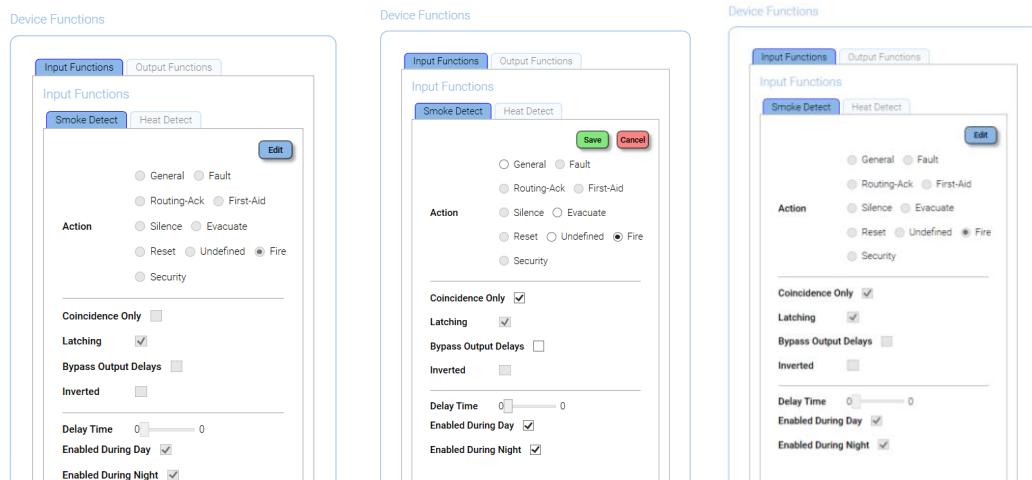
8.5.1 Setting the Detectors to Coincidence Only

Select the site you want the Type B rule applied to.

Now select Devices using the Devices button to see the devices on the site.



Select the Device you want to apply the rule to and scroll down the Device Configuration section to the Device Functions area.

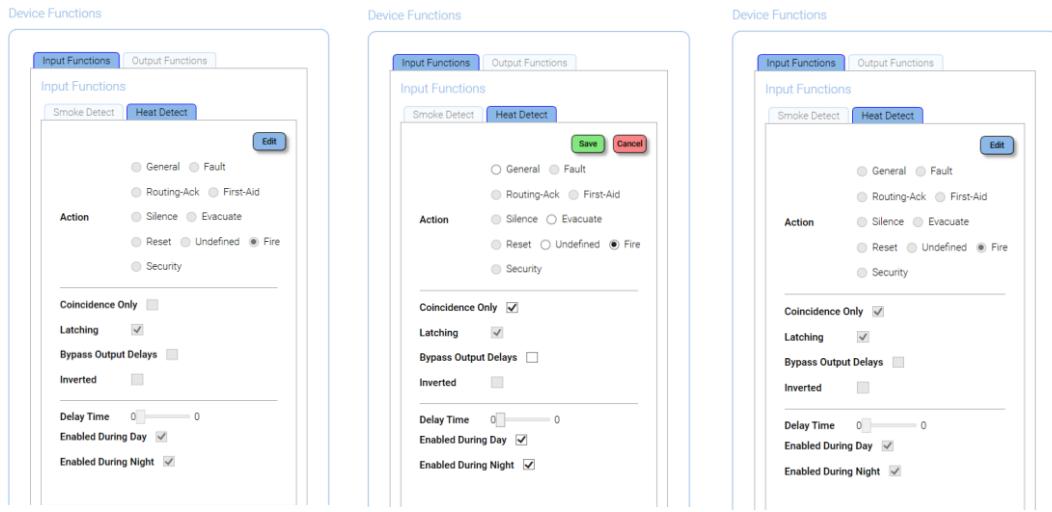


Press on the Edit button

Tick the Coincidence Only Option

Press Save to save the setting

Also tick the Coincidence Only setting for the Heat Detect and press Save to apply this setting.



Repeat this process for all the detector devices and Zones you would like the Type B rule applied to.



Note: the only way a type B dependency can be triggered from the same device is by using a combi head detector triggering for either smoke then heat, or heat then smoke.

8.5.2 Setting the Type B Input Conditions

Use the Cause & Effect button to view the Cause and Effect screen.

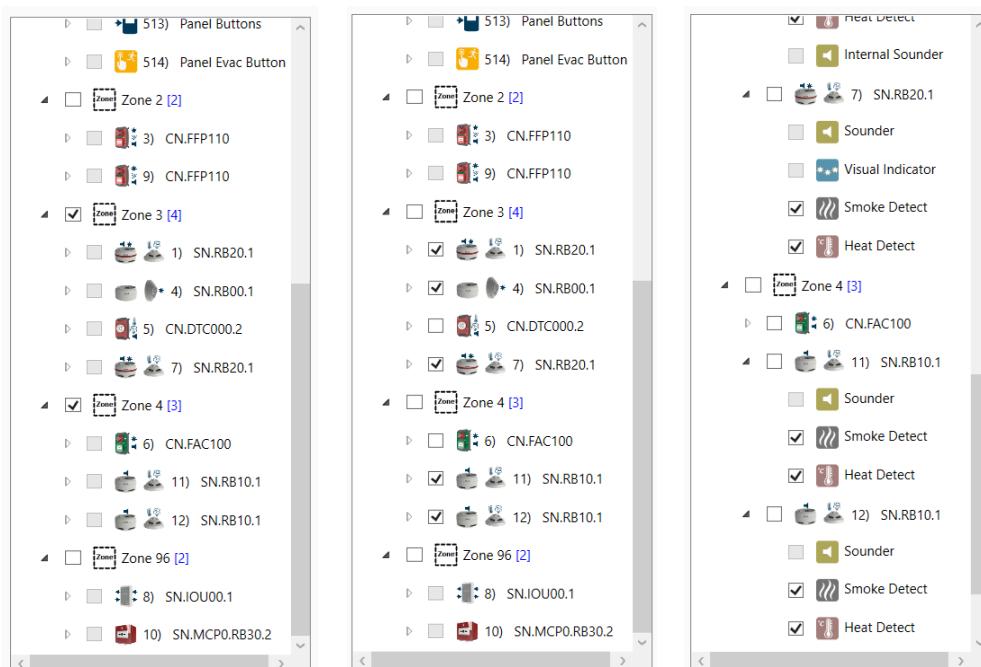


In the Input Conditions Screen, use the + icon to create a new Input Condition

Name the Condition something memorable, like Stairwell Fire Event. Set the Logic to Coincidence, leave the 'Same Zone Only' unticked and the 'Include 2nd alarm from the same device' ticked. For EN 54 compliant Type B dependencies, tick 'Light zone LED for first alarm condition'.

Set the number of minutes within which the confirmation signal must be received (i.e. 10 minutes in the example shown; 5 minutes is the minimum for Type B EN 54 compliance).

On the right-hand side of the Conditions section, select the devices and Zones you want the Type B rule to apply to. You can simply select the Zone, the devices or the detector inputs as shown below. Press Save on the Input Conditions page after you have finished with your selection.



8.5.3 Setting the Type B Rule

In the rules section, the existing Kitchen fire rule will be displayed.

Rules							
Name	Input	Latch	Action	Output	Profile	Delay (s)	Show Rule in Zone
Kitchen Fire Rule	Kitchen Fire Eve	<input checked="" type="checkbox"/>	Fire	X	X	0	Dont show

Press on the **X** to delete this Rule and press on the Yes button to confirm deleting this Rule



Press the **+** button to create a new rule

Rules									+	X	Save	Cancel
Name	Input	Latch	Action	Output	Profile	Delay (s)	Show Rule in Zone					
New Rule	Kitchen Fire Eve	<input type="checkbox"/>	Output	<input type="checkbox"/>	Fire	0	Dont show					

Figure 60:

Change the name to something meaningful like 'Stairwell Fire Rule'.

Change the Input condition to 'Stairwell Fire Event'.

Tick the Latch option, change the Action to Fire and set Show Rule in Zone to "Don't Show".

Name	Input	Latch	Action	Output	Profile	Delay (s)	Show Rule in Zone					
Stairwell Fire Rule	Stairwell Fire Eve	<input checked="" type="checkbox"/>	Fire	<input type="checkbox"/>	Fire	0	Dont show					

Figure 61:

Press on the Save button when you are happy with the Rule you created.

8.5.4 Saving Dependencies to Control Panel

Refer to paragraph 6.5.2 as the process is the same.

8.5.5 Testing the Dependency

To test this rule, spray smoke on the first device in the first Zone you applied the rule to. This will simulate the first fire event being detected.

The Panel will show the fire has been detected and the device that has entered the fire condition and the internal buzzer will sound. The Zone 3 LED will be lit Red at this point too.

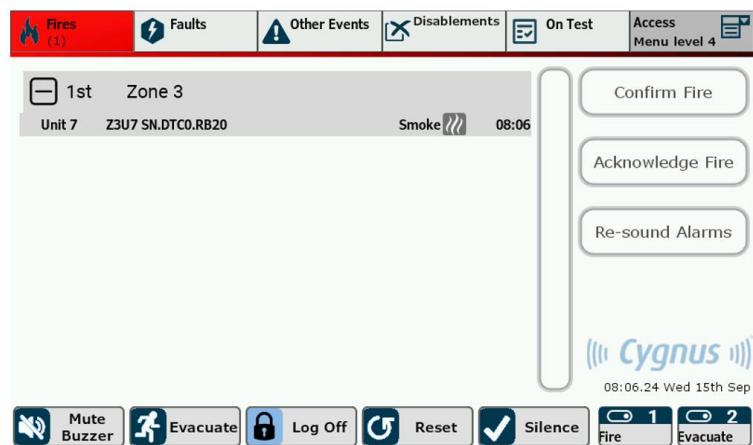


Figure 62: Testing the Dependency



Note: you will need to trigger the second confirmation device within 10 minutes or this alarm will be cancelled by the panel automatically.

Spray smoke on a second detector in the second Zone with the Type B dependency applied. This will simulate smoke entering the next floor in the stairwell.

Alternatively, the panel will trigger a full alarm state if you use a heat gun on the first detector, as the 'Include 2nd alarm from the same device' has been selected. Use care if performing this action to only hold heat on the device for about eight seconds to prevent damage to the detector.

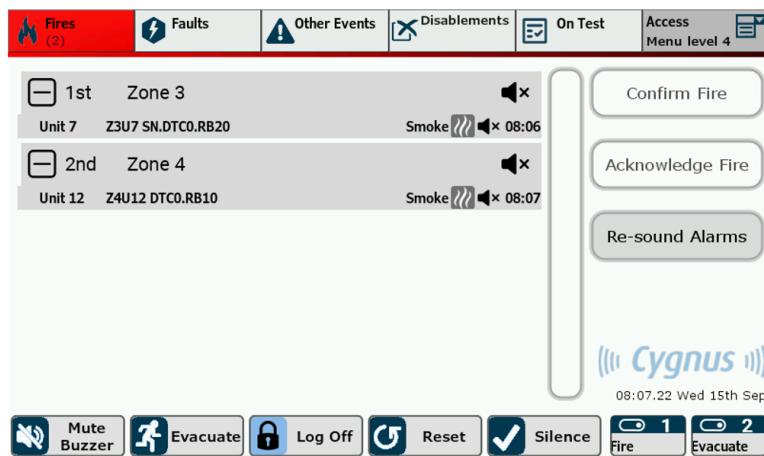


Figure 63: Alternative testing the Dependency

The panel will now enter full fire alarm mode, all wireless sounders will activate, and the Fire LED will be illuminated. The second Zone LED will light up on the panel too.

In the event the second initiation is from the same device, for example a combi sensor with smoke and heat sensing, the panel will trigger a full alarm state if the "Include 2nd alarm from the same device" has been selected.

You can silence the sounders using the Silence button (CIE Access level 2 and above).



Note that triggering the full fire alarm state can also be performed by activating two detectors in the same zone. In our scenario this would indicate a fire moving up a corridor.

You have successfully tested the Type B dependency.



Note that if the fire event is silenced, subsequent device detections in the same or different zones with the Type B rule applied will not force the panel to resound the external sounders and internal buzzer.

As the fire event has already been silenced, confirmational detection events will not change the state of the panel.

Multiple Type B dependencies can be configured on the site to allow triggering from different zones not covered by the first rule. To configure multiple Type B dependencies, repeat the entire process described in this section – each Type B dependency requires a new Condition and Rule for that dependency.

If combining multiple dependencies (of Type A, B and/or C) on the same system, it is recommended not to use different dependency types within the same zone.

8.6 Type C Dependency (EN54 Part 2 Clause 7.12.3)

The Type C dependency can be used to activate outputs if certain criteria are met. In a Type C dependency, the system will enter full alarm mode. The output we select to control can either be a Fire Alarm Device, Fire Alarm Routing Equipment or Fire Protection Equipment.

This would typically be in a warehouse or laboratory where a fire door/curtain would be triggered to be closed if a fire is detected close to the entrance of an area needing protection.

To simulate this, the setup shown below will control the Fire Routing Relay output to simulate the control to close the Fire Door.

8.6.1 Setting up the Type C dependency

The detectors for Type C dependencies do not need to be set to coincidence only.

We will modify the Fire Routing Relay so it only activates when the Type C dependency conditions are met.



Note: Untick the default fire tick-box when using Type C dependencies.

8.6.2 Modifying the Fire Routing Relay Action

Press on the Devices button to view the site Devices.



Click on the Panel I/O device to show the Device Configuration



On the Device Functions section of the Device Configuration area select the Output Functions tab and then click on the Fire Routing Output

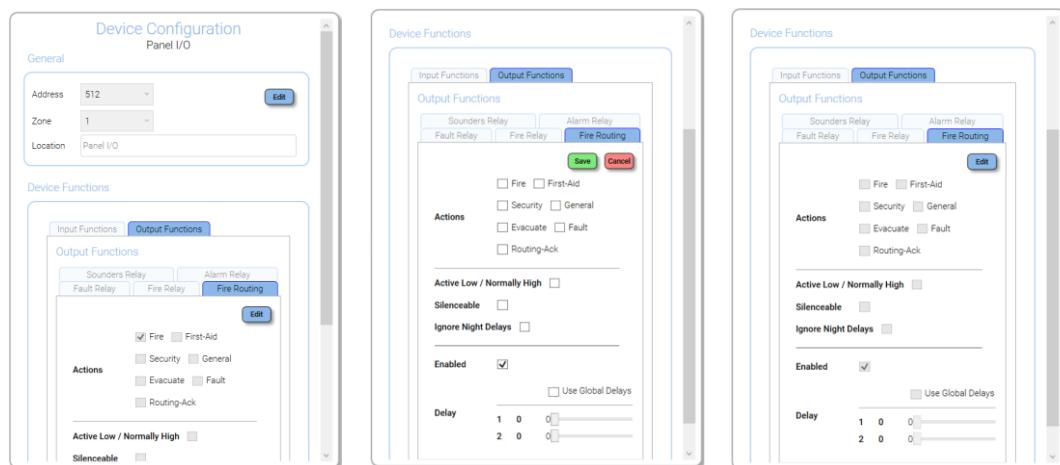


Figure 64:

Click on the Edit button, untick the Fire checkbox, then click on the Save button to save these changes.

When configuring a wireless device for Type C dependency, changes to the output function of the device will require configuring the device (right-click the device icon, then Configure) via a cabled connection.

8.6.3 Setting the Type C Input Conditions

Use the Cause & Effect button to view the Cause and Effect screen.



In the Input Conditions Screen, use the  icon to create a new Input Condition

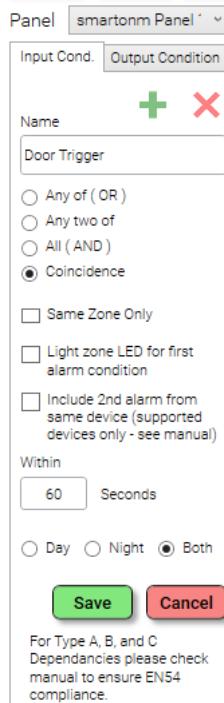


Figure 65:

Name the Rule something memorable, like Fire Door Trigger. Set the Logic to Coincidence, leave the 'Same Zone Only', 'Include 2nd alarm from the same device' and 'Light zone LED for first alarm condition' unticked too. The Within time field has no significance to Type C dependencies, so may be left at its default value.

On the right-hand side of the Conditions section, select the devices and Zones you want the Type C rule to apply to. You can simply select the Zone, the devices or the detector inputs as shown below. Press Save on the Input Conditions page after you have finished with your selection.

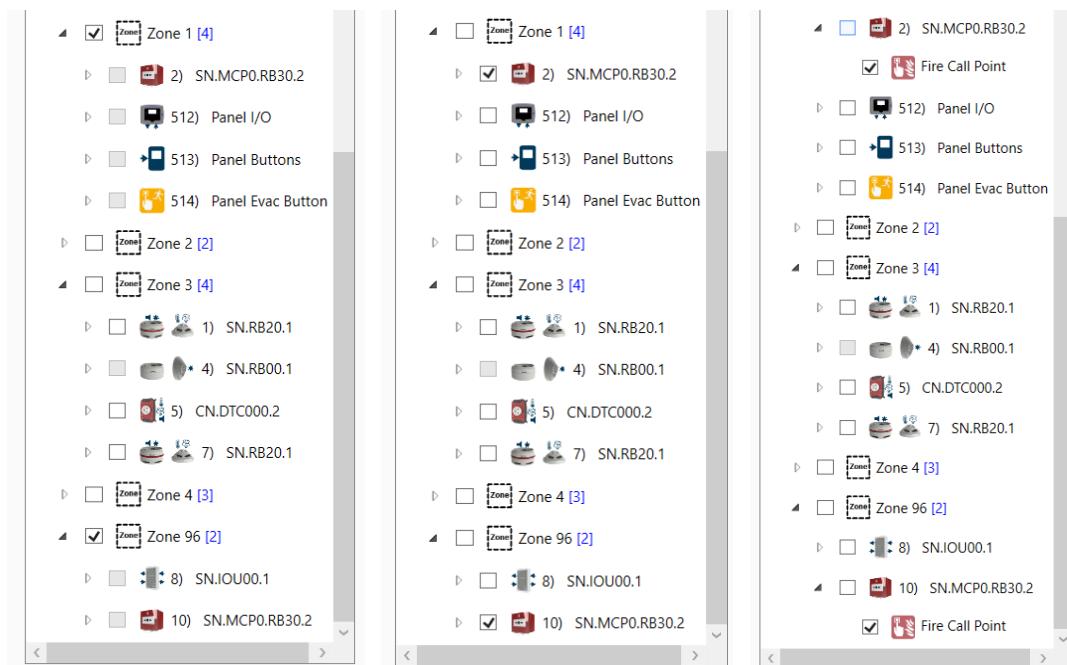


Figure 66:

8.6.4 Setting the Type C Output Conditions

On the Cause & Effect screen click on the Output Conditions tab

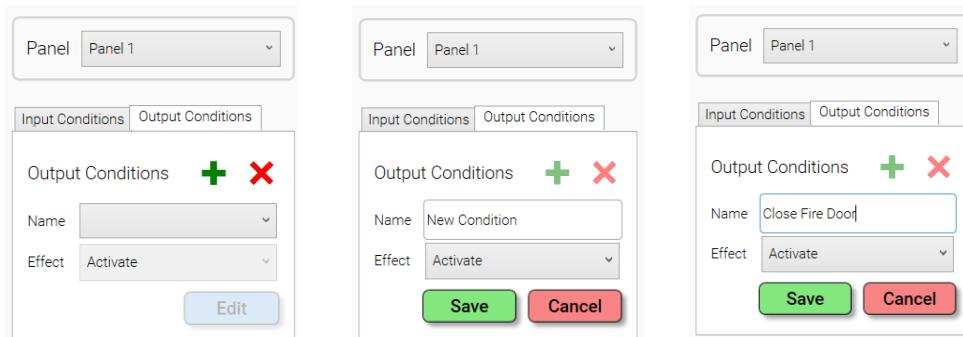


Figure 67: Type C Output Conditions

Click on the **+** button to create a new Output Condition. Rename the Name to something meaningful like 'Close Fire Door'. Set the type to "Activate".

On the right-hand side of the Conditions selection expand the Panel I/O device and select the Fire Routing relay.

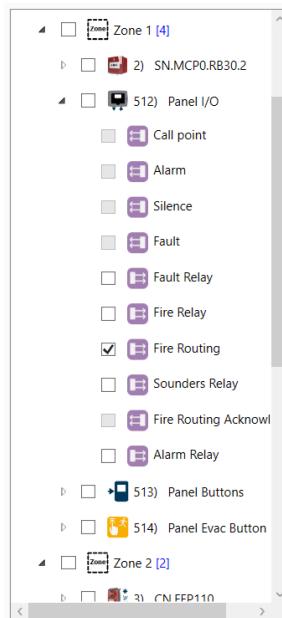


Figure 68: Panel I/O Device

Press **Save** on the Output Conditions to save this selection.

8.6.5 Setting the Type C Rule

Press the **+** button to create a new rule

Rules							
Name	Input	Latch	Action	Output	Profile	Delay (s)	Show Rule in Zone
New Rule	Kitchen Fire Eve	<input type="checkbox"/>	Output		Fire	0	Dont show

Change the name to something meaningful like 'Fire Door Close rule', change the Input condition to 'Fire Door Trigger', tick the Latch option, leave the Action as Output, change the Output to the 'Close Fire Door' and change the Profile to Fire.

Name	Input	Latch	Action	Output	Profile	Delay (s)	Show Rule in Zone
Fire Door Close Rule	Fire Door Trigge	<input checked="" type="checkbox"/>	Output	Close Fire Door	Fire	0	Don't show

Press on the Save button when you are happy with the Rule you have created.

Rules							
Name	Input	Inversion	Latch	Action	Output	Profile	Delay (s)
Fire Door Close Rule	Fire Door Trigger	When True	<input checked="" type="checkbox"/>	Output	Close Fire Door	General	0

8.6.6 Type C Dependency Delays

It is possible to delay the Type C Dependencies as the Type C rules are not exclusively for Manual Call Points, Cygnus Config allows delays to be set.



Note: with Delays set in the Cause & Effect Rule, the fire event is shown on the panel, but the panel does not enter full fire alarm mode until the delay has expired.

If the Input Conditions include Manual Call Points, EN54 does not allow delays to the activation of a fire (Clause 7.1.4), therefore setting a Delay (highlighted above in the blue box) will mean the rule is outside of EN54.

8.6.7 Saving Dependencies to Control Panel

Refer to paragraph 6.5.2 as the process is the same.

8.6.8 Testing the Dependency

In order to test this rule, trigger two Manual Call Points. Trigger the first call point. The system will enter full alarm mode with the wireless sounders activating. The Zone LED will be illuminated as will the Fire LED.

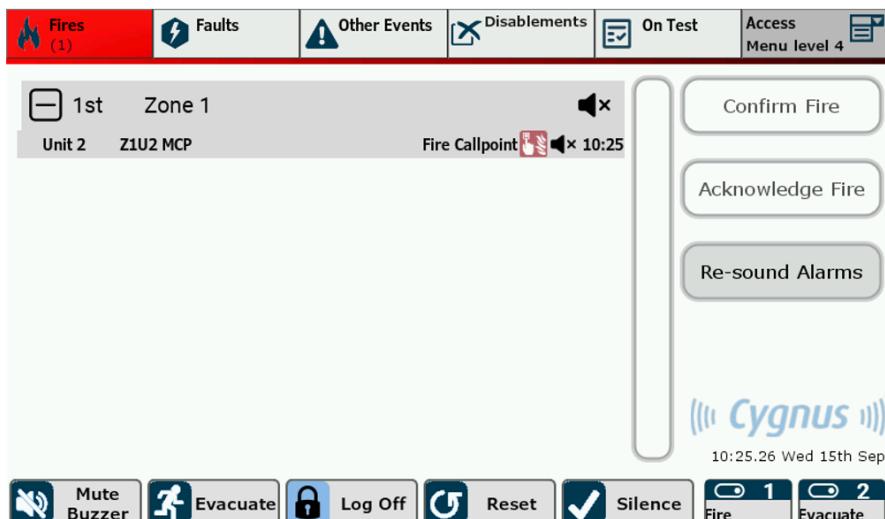


Figure 69:

Trigger the second call point to invoke the Type C dependency.

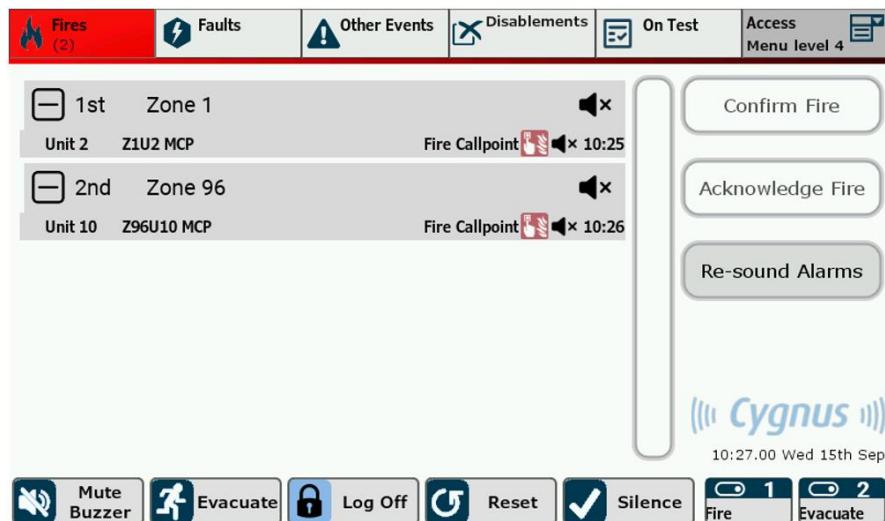


Figure 70:

The panel will display a second fire, will now enter full fire alarm mode again and all wireless sounders will activate.

You can silence the sounders using the Silence button (CIE Access level 2 and above).

At this point the Fire Routing Relay will be activated, in our case activating the mechanism to close the fire door.

You have successfully tested the Type C dependency.



Note: Multiple Type C dependencies can be generated on the site allowing control of Fire Alarm devices, output to Fire Alarm Routing Equipment (e.g. Fire Routing Relay control) and Fire Protection Equipment (e.g. IOU device Output relay control). Just ensure the input conditions are unique to trigger the output condition you require.

To configure multiple Type C dependencies, repeat the entire process described in this section – each Type C dependency requires new Conditions and a Rule for that dependency.

Type A and Type B dependencies cannot usually be combined with Type C dependencies as Type C dependencies occur with the panel in full fire alarm mode. As soon as a type C input condition is triggered, the panel will enter full fire alarm mode ignoring the input conditions of the Type A and Type B dependency.

8.7 Saving Dependencies to Control Panel

Open the CIE front door. Connect a USB (A to B) lead from the PC to the 'PC USB' connector on the MCU.

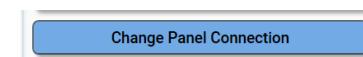
8.7.1 Summary

On Cygnus Config, press the Summary button



8.7.2 Change Panel Connection

Click on the Change Panel Connection button



This will show the window:

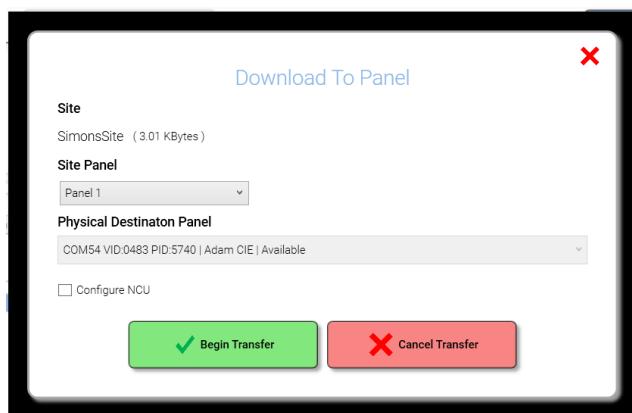


The connected panel USB port details will then be shown, click on the Change Panel button to select the USB port shown.

Click on the 'Transfer to Panel' button to send the new site setting information to the panel.



This will show the window:



If you are updating settings on a working system, make sure that the Configure NCU option is unticked so the mesh remains intact, then press on the '**Begin Transfer**' button.

A confirmation popup will appear on both Cygnus Config and the panel indicating the site transfer was successful.

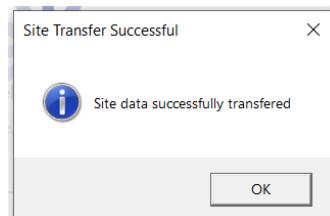


Figure 71: Transfer successful



Figure 72: Progress screen

8.8 Removing Dependencies

Dependencies can be removed from the Control Panel using the Cause & Effect button in Cygnus Config.

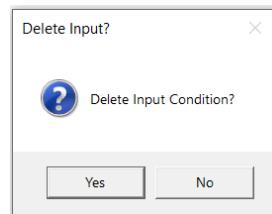


Note: When rules are no longer required, make sure they are removed from the list at section 8.8.1. Failure to delete unused rules may cause unwanted operation.

Use the Cause & Effect button to view the Cause and Effect screen.

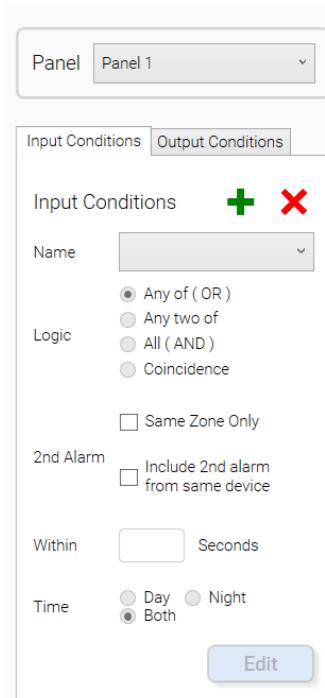


In the Input Conditions Screen, use the  icon to delete all of the unwanted Input Conditions

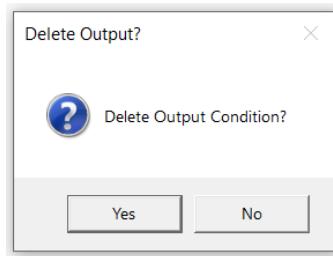


Click on Yes to confirm the deletion of the Input Condition.

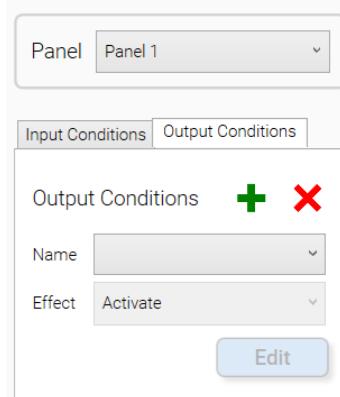
If you have deleted all of the Input Conditions, no Input Conditions should be shown in the Input Conditions section.



Click on the Output Conditions section and use the  icon to delete the single Output Condition.



If you have deleted all of the Output Conditions, there should be no Output Conditions shown in the Output Conditions section.



8.8.1 Removing Rules

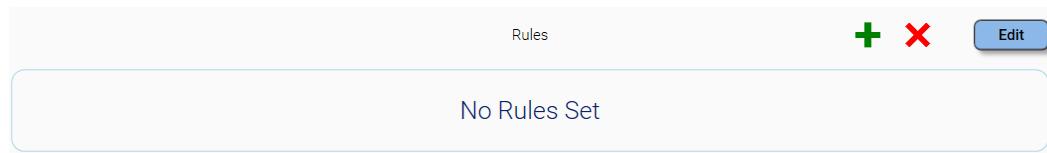
In the Rules section of the Cause & Effect screen, you will see the Input and Output conditions have disappeared from the Rule.

Rules					
Name	Input	Inversion	Latch	Action	Output
Fire Door Close Rule		When True	<input checked="" type="checkbox"/>	Output	

Use the **X** icon to delete the Fire Door Close Rule



Press on the Yes button to delete the rule.



A screenshot of a rules management interface. At the top, there is a toolbar with a 'Rules' button, a green plus sign button, a red minus sign button, and a blue 'Edit' button. Below the toolbar is a large, light-blue rounded rectangle containing the text 'No Rules Set'.

There are now no Cause & Effect rules set on the site

9 Networking Screen

The site networking settings determine how a system using multiple control panels are connected and what options are available between panels. Some panels may have more information passed to them, especially if located in a monitored area. Some panels may not need certain message types if they are located away from regular monitoring.

9.1.1 Networking Button

Select the Networking button.



The Networking screen will open and will list the control panels as configured in the Devices tree. The receiving panel you are currently setting up is shown in the pull-down menu.

9.1.2 Networking Screen

Depending on the networking option tick-boxes selected on each transmitting panel the checkboxes can be ticked to select what types of alerts are received at the receiving panel selected in the pull-down menu.

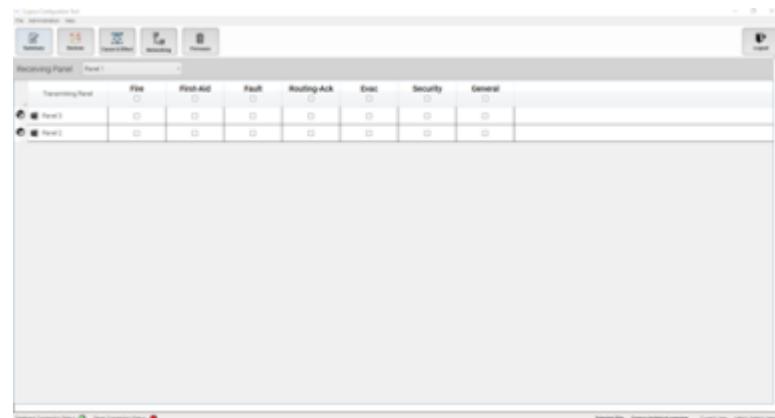


Figure 73: Networking screen

9.1.3 Networking Settings

The main areas of the networking screen (Figure 73) are the:

- Common touch buttons (Figure 74, [1])
- Receiving Panel selected (Figure 74, [2])
- Transmitting Panels available (Figure 74, [3]), and
- Types of alarm (Figure 74, [4]).



Figure 74: Areas of the Networking screen

Select receiving panel and tick the relevant message types that are required to be received from each panel, see (Figure 74, [4]):

- Fire
- First Aid
- Fault
- Routing Acknowledgement
- Evacuation
- Security

Checkboxes aligned next to each transmitting panel can be stepped through three options:

Each panel can be set against any of the available alarm types. This is done by stepping through each checkbox and selecting the relevant options which need to be displayed on each networked control panel.

The three options that can be selected from the checkboxes are shown in the table below:

Table 24: Networking Checkboxes

Networking checkboxes			
Symbol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Text display	Off	Display	Process and Display

Off

If the tick box is not selected, then this message will be ignored and the panel will not respond to the event at all.

Display

If the tick box is ticked, then Display only mode will be selected. This simply displays the event on the panel display and won't go into alarm. For example, if a fire event message is received, it will visually display the event on screen, but won't activate the sounders/beacons/output devices.

Process and Display

If the tick box is clicked twice, the tick box will become a solid black square. In this case, any event sent to the panel will be displayed and processed as an event. For example, if a fire event message is received, it will visually display the event on screen as well as activating the sounders/beacons/output devices according to any rules set.

Repeat the configuration for all panels, noting that each panel can be configured differently depending on how the designer wants the panels to respond.

9.1.4 Example Panel Networking Configuration

The following is an example only. This gives an idea of a configuration to put panel networking into context. Panels are unlikely to be configured in this way. Consult your system designer for correct panel networking configuration for the system you are installing.

There is a master panel (Panel 1) near the maintenance office that needs to have all information from all panels on the network displayed so the maintenance engineer can act quickly. There is one panel (Panel 2) located near to a First Aid office which is regularly monitored and needs to have all First Aid alarms alerted on this panel. There are three more panels (Panels 3, 4 & 5) elsewhere within the building near ground floor entrances which are not regularly monitored and don't require monitoring of other panels, apart from Fire and Evac alerts.

In this case, each control panel configuration would be as follows.

Panel 1:

Receiving Panel	Test Site Panel 1	Fire	First-Aid	Fault	Routing-Ack	Evac	Security	General	Silence	Reset
Transmitting Panel		<input checked="" type="checkbox"/>								
Test Site Panel 2	<input checked="" type="checkbox"/>									
Test Site Panel 3	<input checked="" type="checkbox"/>									
Test Site Panel 4	<input checked="" type="checkbox"/>									
Test Site Panel 5	<input checked="" type="checkbox"/>									

Panel 2:

Receiving Panel	Test Site Panel 2									
Transmitting Panel	Fire	First-Aid	Fault	Routing-Ack	Evac	Security	General	Silence	Reset	
Test Site Panel 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Panel 3:

Receiving Panel	Test Site Panel 3									
Transmitting Panel	Fire	First-Aid	Fault	Routing-Ack	Evac	Security	General	Silence	Reset	
Test Site Panel 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Panel 4:

Receiving Panel	Test Site Panel 4									
Transmitting Panel	Fire	First-Aid	Fault	Routing-Ack	Evac	Security	General	Silence	Reset	
Test Site Panel 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Panel 5:

Receiving Panel	Test Site Panel 5									
Transmitting Panel	Fire	First-Aid	Fault	Routing-Ack	Evac	Security	General	Silence	Reset	
Test Site Panel 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Test Site Panel 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10 Portable Programmer Screen

The portable programmer is a hand-held device used to upgrade the firmware on devices on the Mesh network without having to uninstall them. It must be connected to a PC/Tablet with Cygnus Config installed.

10.1 Limitations of the Portable Programmer

The following limitations must be understood before programming devices on the network.

1. The Portable Programmer has a limited range and will only update devices who are within radio range of the Portable Programmer. It does not work as a Mesh device, so for larger installations, you may need to run the Portable Programmer in several locations on site to make sure all devices have been updated. In an average building, it is best to find a central location and run the PPU from there to give all device a chance to connect.

Note: When devices are in programming mode, they leave the network and will not be able to operate as a fire device (i.e. no detection, sounder or beacon operation). Ensure that a manual fire watch procedure is in place during firmware upgrade. If devices are left on the Mesh, they might drop off if their parent has its firmware updated.

10.2 Mass Portable Programming of Devices

This will update the firmware on all devices on the network. Please refer to section 10.5 for updating of firmware on individual devices.

To use the Portable Programmer to upgrade the firmware on all devices connected to the Panel:

1. Press the Portable Programmer button.



2. The portable programmer screen will appear.

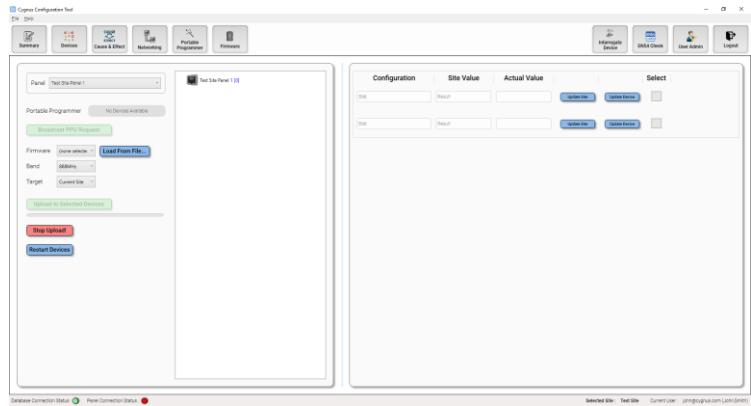
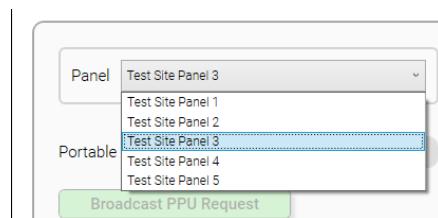


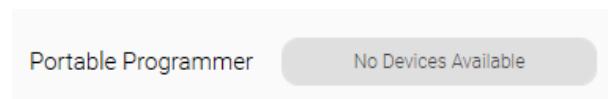
Figure 75: Portable Programmer Screen

3. Select the control panel from the drop-down list, that you want to update firmware on its connected devices.

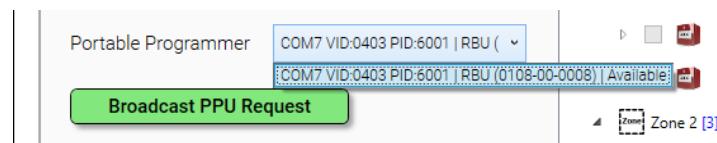


Firmware updates can only be done on one panel at a time. If you have more than one panel, you will need to upgrade each panel and its associated devices separately (due to each panel having a different network key).

4. Select the Portable Programmer required from the drop-down menu. This is the PC/Tablet USB COM port of the lead connected to the Portable Programmer. There will normally just be one PPU connected to the PC, but if more than one is seen, select the desired PPU.



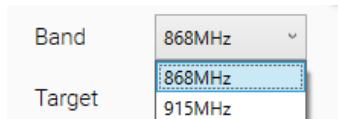
No Devices Available is shown if no PPUs are Connected.



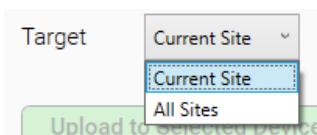
5. Select the Firmware revision from the drop-down menu. If the latest revision is not available there, then it can be loaded into the list using the “Load From File...” button. Note the drop-down menu is a quick way of selecting commonly used firmware revisions.



6. Select the Band using the drop-down menu. The correct frequency MUST be selected to communicate with the network you need to configure.



7. Select the Target. This can be the “Current Panel” or “All Sites” on the network (all control panels and their devices).



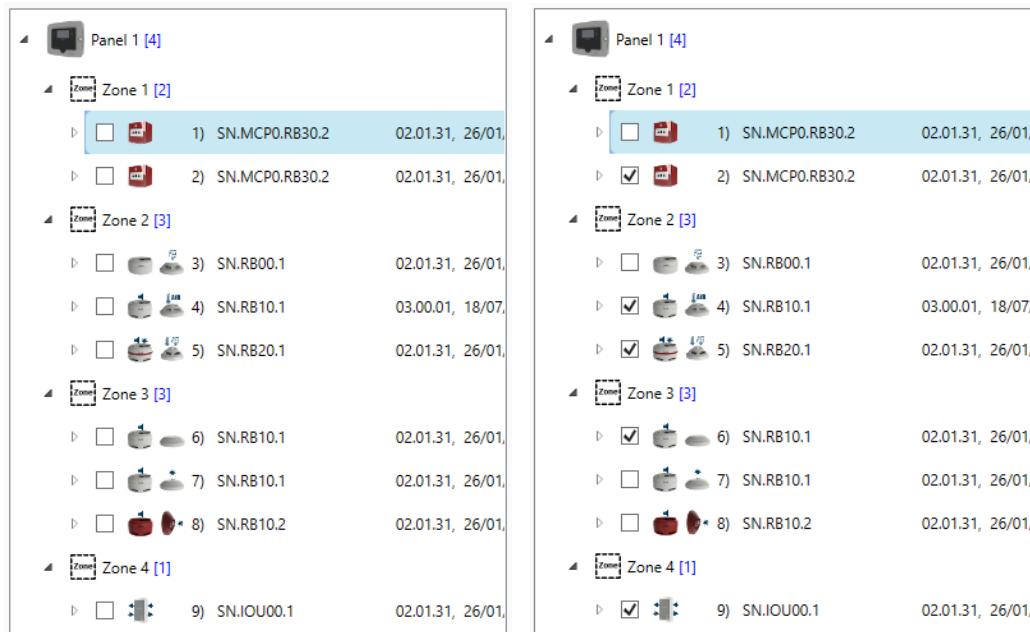
8. Press Broadcast PPU Request.

Broadcast PPU Request

This will attempt to put any device in range of the Portable Programmer antenna into portable programming mode by means of a broadcast message. Devices that are in range, will drop off the mesh and sit in programmer mode until they are programmed, or time out (after 2 hours in Portable Programmer mode, devices will leave this mode and try to re-join the Mesh).

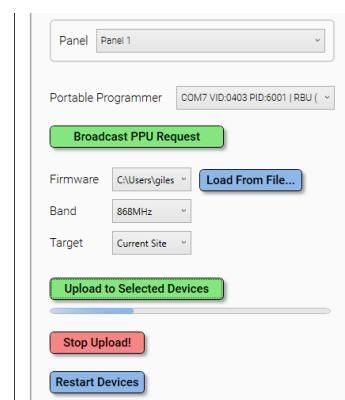
Once a device is in PPU mode, its LED will flash red, green and blue. CygnusConfig will refresh its screen with the device tick box going from greyed-out to selectable.

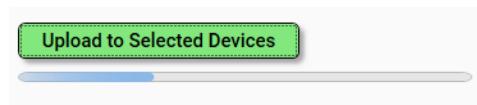
- Select the devices you want to update by selecting the tick box against each one. In the example below, 5 devices have their tick boxes selected. These 5 will be updated and the unticked devices will be ignored.



Note: even if some devices don't have their boxes ticked, they will still be in PPU mode, so will be disconnected from the network. If you only require selected devices to be updated, then use the method in section 10.5 for Selectable Portable Programming of Devices.

- Once the settings have been correctly entered, press the "Upload to Selected Devices" button to start the firmware upgrade process. This will take some time to complete, but the progress bar will show progress.

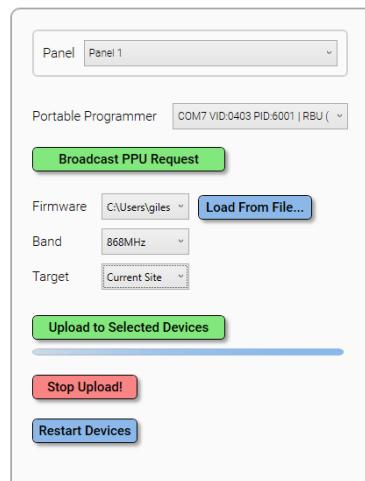




Progress bar

Due to the slow data rates, it takes a minimum of 15 minutes to complete a firmware upgrade. It will take longer if the signal is poor as the Portable Programmer needs to retry any missing data during the process.

When the progress bar gets to the end, the PPU will check if each device has received the file ok. If not, then the PPU progress bar will show a few progress cycles as any missing packets are resent. Once the progress bar is steady, all devices have been updated.



10.3 Stop Upload! Button

If you need to stop the firmware update, press the “Stop Upload!” Button.



This will immediately stop the firmware update process. All devices will stay in Portable Programmer mode until the firmware update has re-started and completed, or the 2-hour window times out.

Note that this button is not normally used during firmware update.

10.4 Restart Devices Button

Once the firmware upgrade is complete, all devices on the network will remain in Portable Programmer mode until they are restarted.

Restart Devices

Pressing the ‘Restart Devices’ button will force them to re-boot in normal operating mode, where they will re-join the Mesh network.

Each device will go out of PPU mode (will no longer flash red, green and blue) and will restart, starting with the quick blue flash (see User Manuals for flash sequence details). Devices will synchronise with the panel and follow the usual joining sequence found in the device manuals.

10.5 Selective Portable Programming of Devices (from the Panel)

PPU mode can be forced on the Control Panel for individual devices or zones, where the whole network doesn’t require firmware updating. This also allows the remaining devices to stay on the network, monitoring fire.

- a Login to the panel at User level 3 or 4.
- b Select ‘Access’ followed by ‘Test’.

Add a screen shot of the Panel here

- c In the Test menu, select whole zones, or individual devices within a zone by pressing the ‘Drop to PPU’ button. This will tell the device to drop off the network.

Add a screen shot of the Panel here

- d In the CygnusConfig application, select the same tick boxes for the devices you have pressed the Drop to PPU buttons.

Note: *DO NOT press the ‘Broadcast to PPU Request’ button, as all devices will enter PPU mode. In this instance, you only want to update the devices you have put into PPU mode on the Panel.*

- e Now press the “Upload to Selected Devices” button. Refer to section 10 for further detail.

11 Firmware Screen

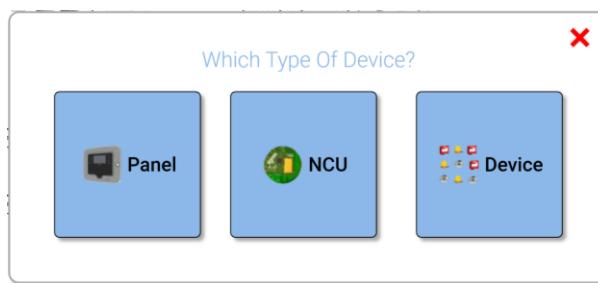
Cygnus will provide firmware upgrades from time to time. To update any cygnus device, you will need the relevant cables.

Press the Firmware button.



Figure 76: Navigation Bar - Firmware

A window will appear giving 3 options for type of device.

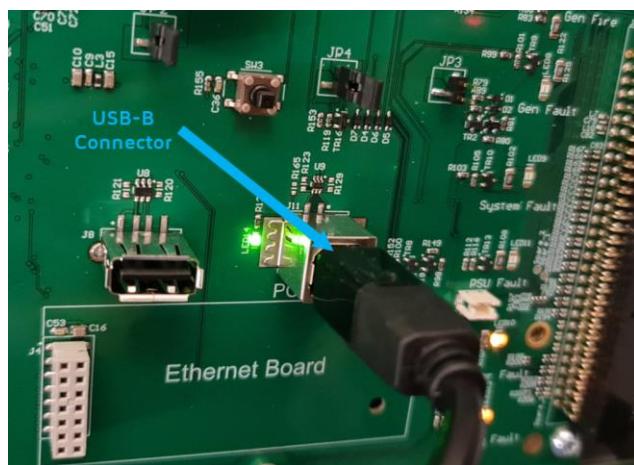


Select 'Panel' to upgrade the firmware inside the control panel main processor board, which controls the display and user interfaces. Select 'NCU' to upgrade the firmware inside the control panel radio board (the circular board inside the panel) which is the heart of the Mesh radio network.

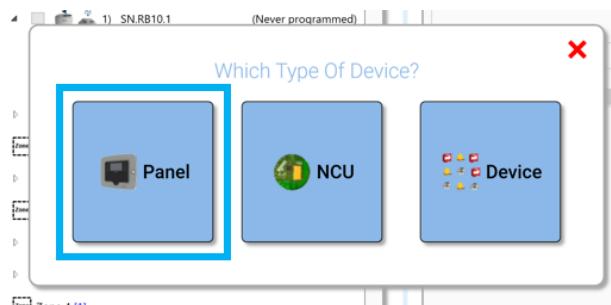
Select 'Device' to upgrade the firmware in any SmartNet or SiteNet device (any device that isn't a control panel).

11.1 Panel Firmware Upgrade

Open the control panel door. Connect the USB lead to the PC/Tablet and panel (USB-A connector to your PC/Tablet and the USB-B end to the control panel USB-B connector on the back of the MCU board (behind the display).



USB-B Connector Located Behind Door



When the 'Panel' button is selected, a window shows the destination panel (the panel you have connected with your USB lead).

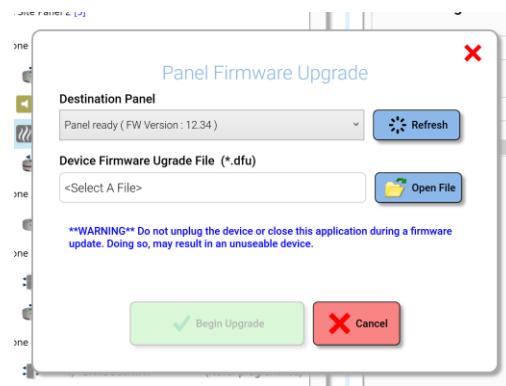
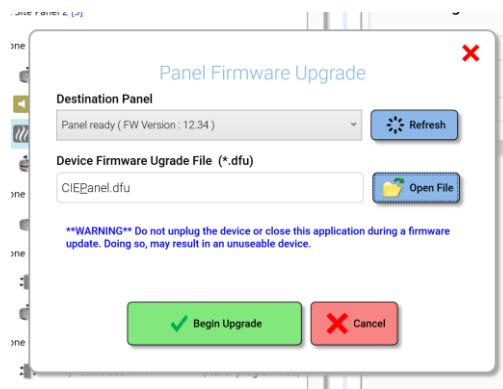


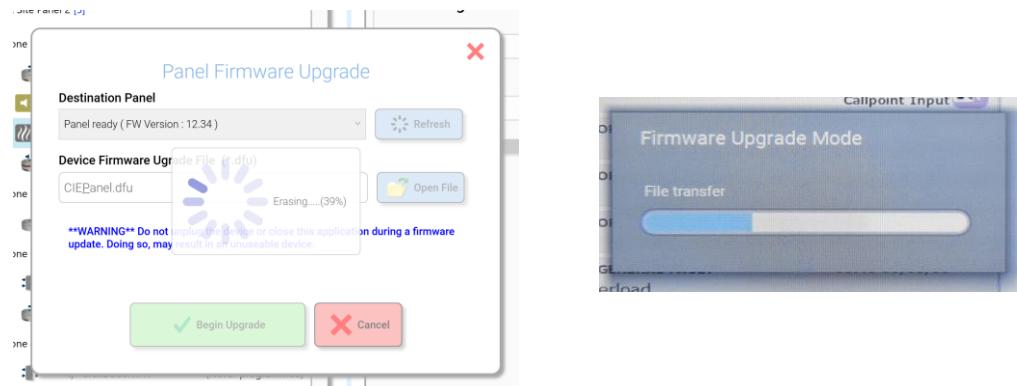
Figure 77: Firmware upgrade mode

Press 'Open File' and select the correct version of .dfu file you want to upgrade. This points Cygnus Config to the correct file stored on your PC/Laptop or network location.



Once selected, the 'Begin Upgrade' button highlights ready to upgrade the firmware on the panel.

While the firmware upgrades, Cygnus Config will show the progress status as the firmware goes through its upgrade process. The control panel will show this progress bar.



Once upgrade has completed, the control panel will restart automatically.

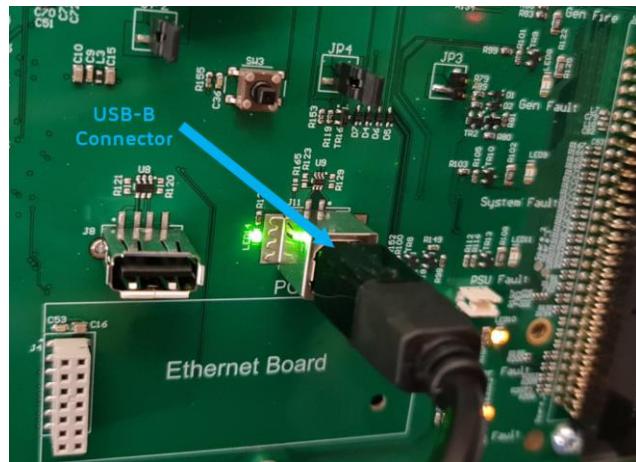
11.2 NCU Firmware Upgrade

The NCU is the Network Coordinating Unit, which is the circular radio board inside the control panel.

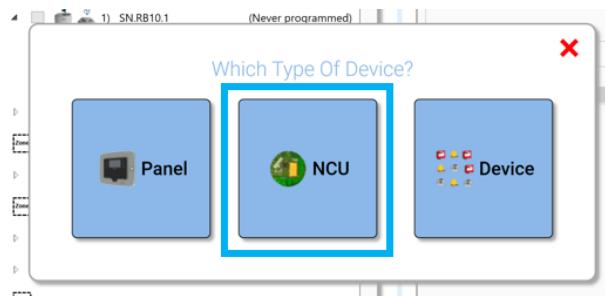


Note: The firmware on the NCU MUST be the same revision as all the devices on the network. When the NCU firmware is upgraded, every device must have its firmware upgraded too. If the firmware revisions are different, then a firmware mismatch fault will be displayed and unknown operation could occur. Devices with different firmware is outside of EN 54.

Open the control panel door. Connect the USB lead to the PC/Tablet and panel (USB-A connector to your PC/Tablet and the USB-B end to the control panel USB-B connector on the back of the MCU board (behind the display).



USB-B Connector Located Behind Door



When the 'NCU' button is selected, a window shows the destination panel (the panel you have connected with your USB lead).

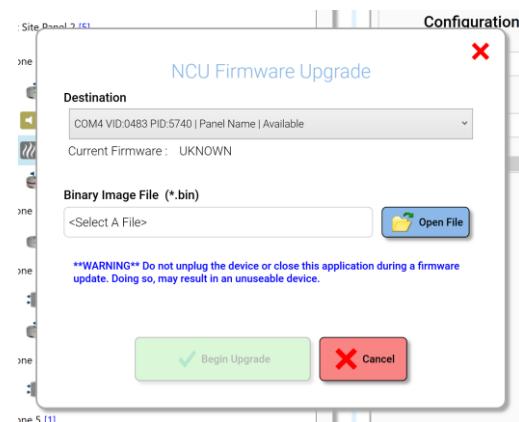
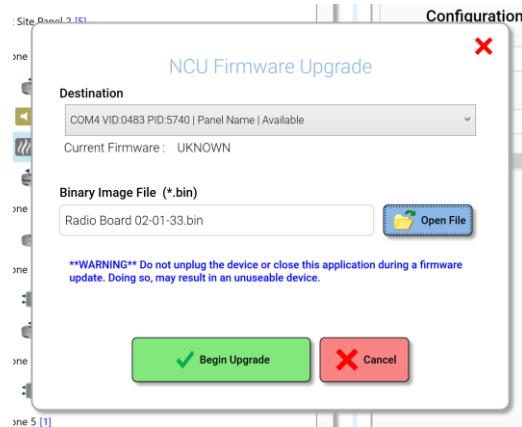


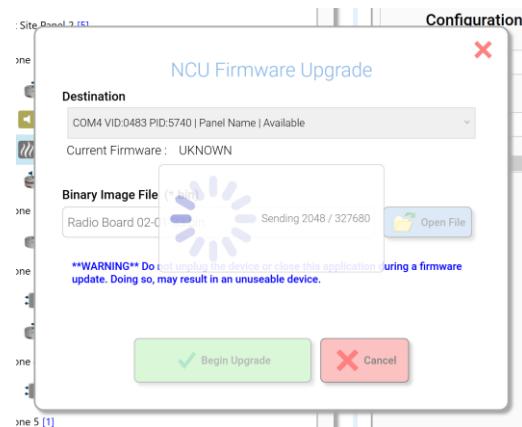
Figure 78: Firmware upgrade mode

Press 'Open File' and select the correct version of .bin file you want to upgrade. This points Cygnus Config to the correct file stored on your PC/Laptop or network location.

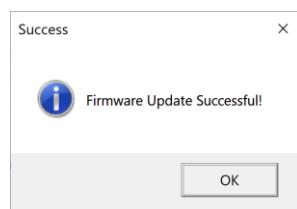


Once selected, the 'Begin Upgrade' button highlights ready to upgrade the firmware on the NCU.

While the firmware upgrades, Cygnus Config will show the progress status as the firmware goes through its upgrade process.



Once upgrade has completed, the control panel NCU will restart automatically and form the network using the new firmware.



11.3 Device Firmware Upgrade

All SmartNet and SiteNet devices are upgraded in the same way, using the same firmware revision.



Note: The firmware on all devices on the same network MUST be the same revision as the control panel NCU. If the firmware revisions are different, then a firmware mismatch fault will be displayed and unknown operation could occur. Devices with different firmware is outside of EN 54.

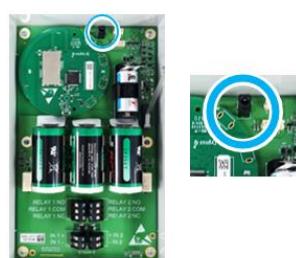
Connect the USB lead to the PC/Tablet and device (USB-A connector to your PC/Tablet and Jack-Plug end to the device).



USB to Jack-Plug Cable



Circular Radio Base



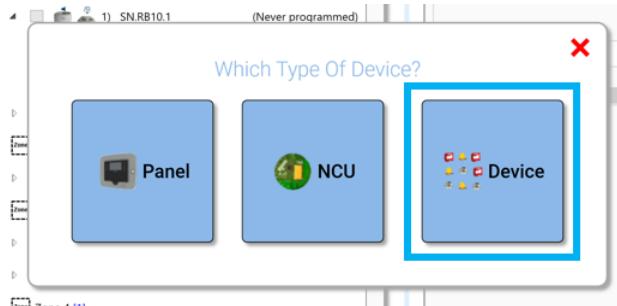
Fire Alarm Interface



Manual Call Point

All SiteNet Devices

Device Port Locations



When the 'Device' button is selected, a window shows the destination COM port connected to your PC/Tablet, of your USB lead.

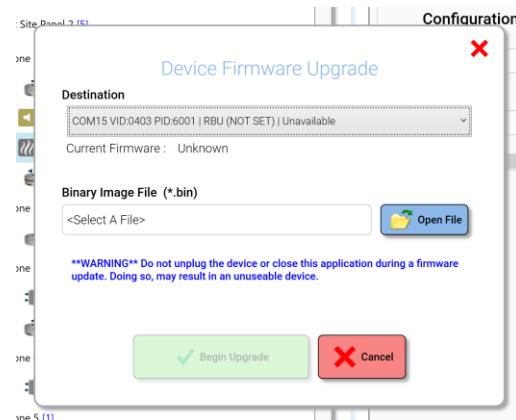
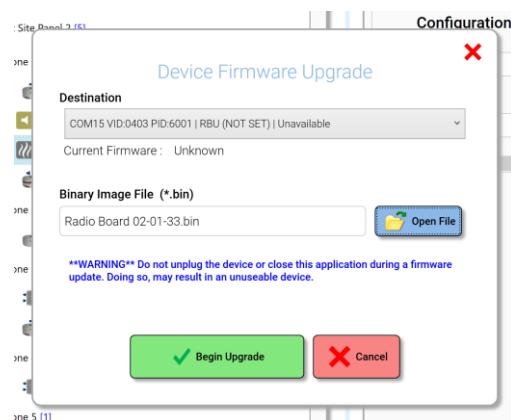


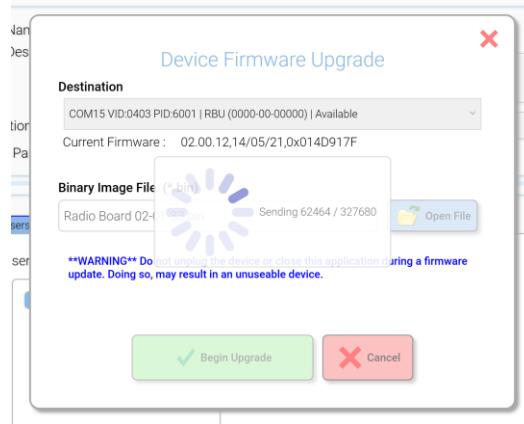
Figure 79: Firmware upgrade mode

Press 'Open File' and select the correct version of .bin file you want to upgrade. This points Cygnus Config to the correct file stored on your PC/Laptop or network location. Make sure this is the same revision as the firmware in the NCU.



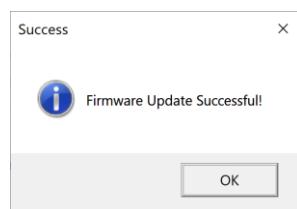
Once selected, the 'Begin Upgrade' button highlights ready to upgrade the firmware on the Device.

While the firmware upgrades, Cygnus Config will show the current status as the firmware goes through its upgrade process.



The LED will flash RED on the device as the firmware is being loaded.

Once upgrade has completed, the Device will restart automatically.



Unplug the Jack-Plug lead and re-fit the device. The device will automatically form onto the network again using the new firmware.

12 Interrogate Device Button

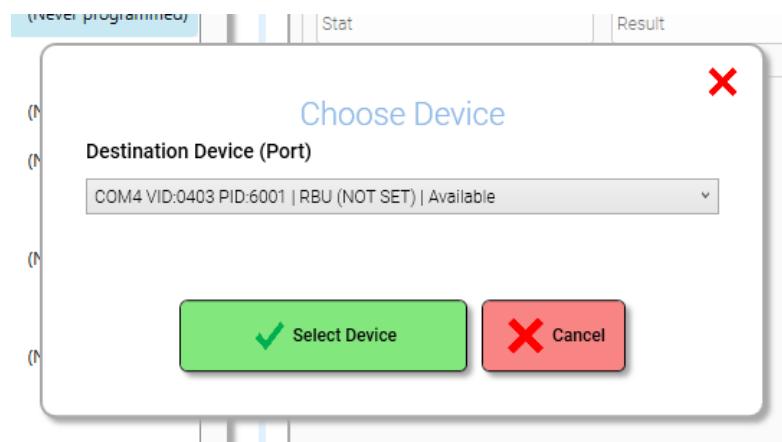
The Interrogate Device function allows the user to request all of the device settings. This comes back as an HTML 'print-out' of all settings in your internet browser. This can be saved or printed from there.

Press the Interrogate Device button.

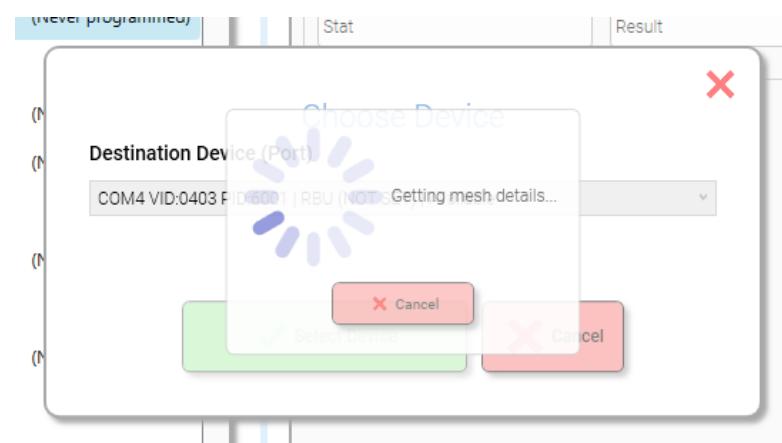


A window will ask for the device you want to connect to.

Connect the USB lead to the PC/Tablet and device (USB-A connector to your PC/Tablet and Jack-Plug end to the device and select the correct USB port.



Press 'Select Device' and Cygnus Config will download all of the configuration data from the device (this takes a few seconds).



The device report comes back as a table in an HTML 'print-out' format of all device settings, in your internet browser. This can be saved or printed from your browser in the normal way. Here is an example report:

Device Report

Standard Settings

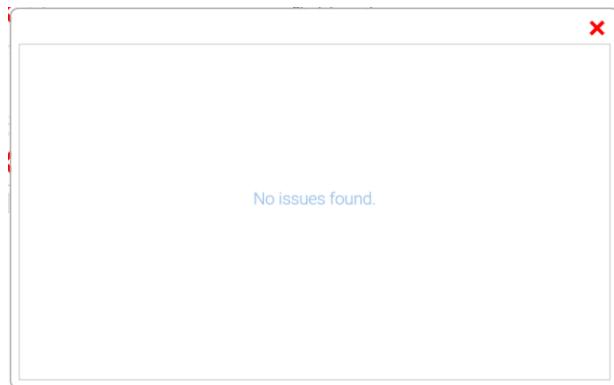
Zone	1
Unit Number	32
Serial Number	0000-00-00000
State	Idle
Type	Fire Alarm Point, Sounder & VI
Frequency	0
System ID	1
Transmit power (low)	7
Transmit power (high)	10
Pre-formed mesh status	OFF
Frame Length	128
Wrap Length	1024
Max devices	511
Zones 1 - 48 enabled	YY
Zones 49 - 96 enabled	YY
Battery test period	30
Battery Status	Prim=8836mV Bkp=5452mV
Battery Checks	Enabled
Fault Reports	Enabled
Automatic Input Polling	Enabled
Frequency Band	865MHz
Firmware Information	02.00.11,13/05/21,0xFFFFFFF
Bootloader Port	Debug
Branding ID	1
Global Delays	0,0
Global Delay Override	Off
Listening Period	72
RSSI Joining Threshold	-107dBm/-112dBm (two parents)
Sleep duration (phase 2)	3
Sleep duration (phase 3)	6
Phase 2 Listening Period (hours)	14
SNR Joining threshold	5
Maximum Children	ERROR,01
Maximum Downlink Message Repeats	ERROR,01
Maximum Message Hops	63
Mesh State	Idle
Maximum Rank	20
PPU Mode	Off
Time frame	Day
SNR Averaging Strategy	Normal

13 EN 54 Check Button

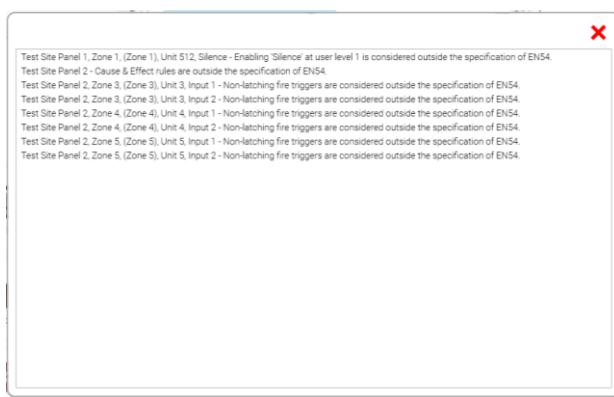
The EN 54 Check button will confirm if all configuration settings conform to the EN 54 standard. There are certain features in the configuration settings that do not comply with EN 54, therefore it is important that great care is taken to ensure compliance with legislation.



Press the EN54 Check button to run the check on the current site configuration you have open. If your site is compliant with EN 54 (no issues found), you will get the following window.



If the panel configuration settings are not compliant with EN 54, a window will open with a list of each non-compliance. It is recommended to go back into the Cygnus Config and make changes to remove these non-compliances, then re-run the EN 54 Check button again.



In some cases, the designer may need a function which is outside of EN 54 compliance. In this case, it must be made clear to the commissioning engineer before proceeding, as making changes later can be time consuming.

14 User Admin Button

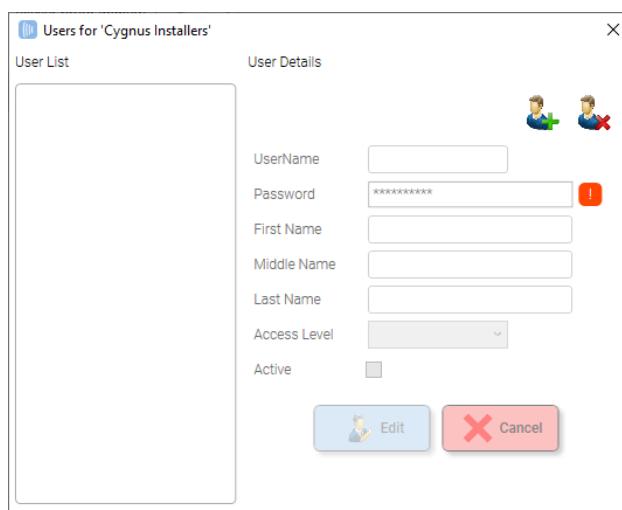
The User Admin button allows the addition and deletion of users who need to use Cygnus Config. This is not the users of the control panel (see section 6.4.2 for Control Panel user setup).

14.1 To Add a User

Press the User Admin button



A window will appear showing a list of current Users on the left-hand side (in this example there are no Users present).



Press the Add User button



and the User Details section fields go active so

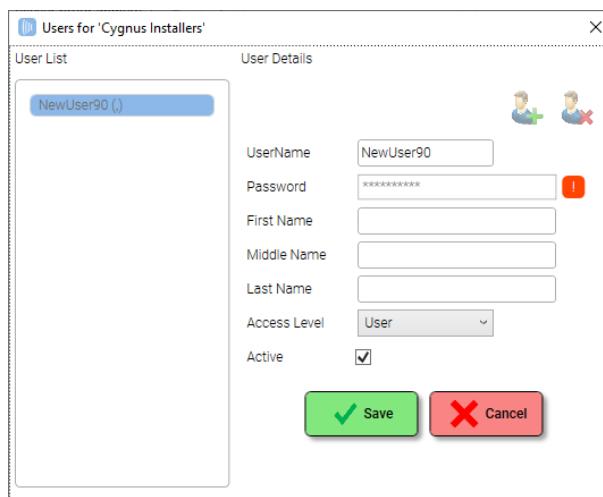


Table 25 User Fields

ID	Field name	Information required	
	Username	Type in a unique Username for the user. This will be shown in the User Details list. It cannot be the same Username as an existing User.	
	Password	Enter the password for the user. This must be between 3 and 50 characters long and memorable for the User.	
	First Name	The user's given first name.	
	Middle Name	The user's middle name (if applicable).	
	Last Name	The user's family name.	
	Access Level	Select the required access level for the user from the dropdown list:	
	User	Standard user.	
	Admin	Admin level. Can access all information	
	Active	Select this checkbox (<input type="checkbox"/>) to make the user active (<input checked="" type="checkbox"/>).	

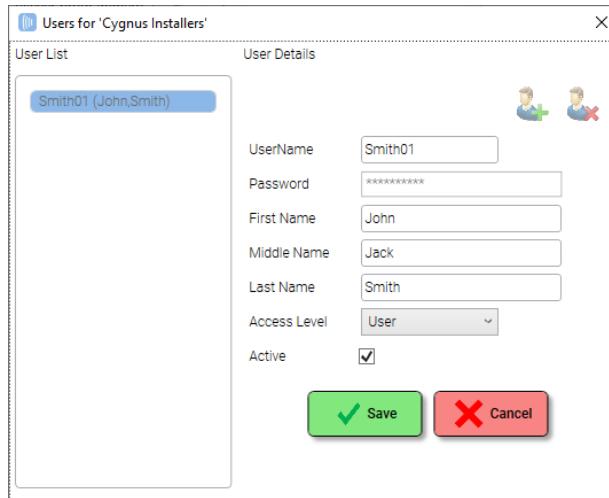
Think of a UserName for the new User and enter it (must be between 3 and 50 characters).

Think of a Password for the new User and enter it.

Enter the Users personal names in the First Name, Middle Name and Last Name fields.

Set the Access Level as User or Admin (only give Admin access if necessary).

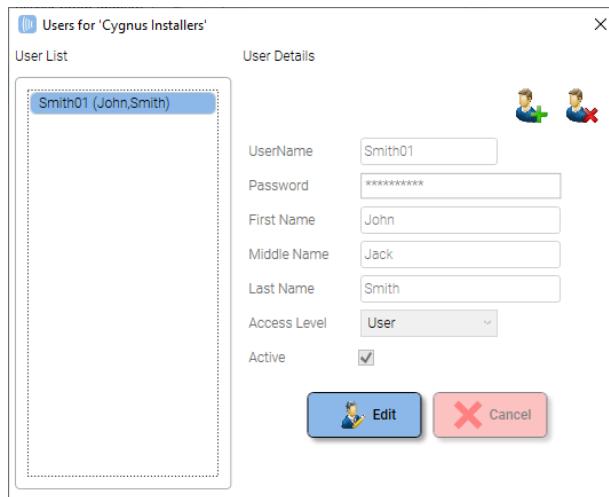
Finally, tick the Active box if this User is going to be using the system right away. If not, de-select the Active button for use later.



Press the Save button.

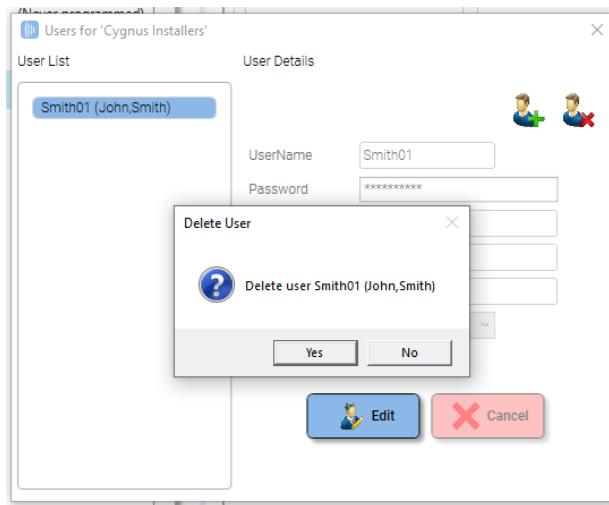
14.2 To Edit a User

Press the Edit button and the fields will become editable again. Once you have made changes, press Save.



14.3 To Delete a User

Press the  button and confirmation message will check that you want to delete the User. Press Yes to confirm.



The User will now be deleted from the list.

15 Logout Button

Pressing the Logout button will log the user out of the application and return to the Login screen where the same user or another user can log in.



16 Configure Panels and Devices

16.1 Configure Control Panel

16.1.1 EN 54 Compliance Check

Select EN54 Check for your site. This check will confirm if all configuration settings conform to the EN54 standard. There are certain features in the configuration settings that do not comply with EN54, therefore it is important that great care is taken to ensure compliance with legislation.



If the configuration is reported as not EN 54 compliant, make changes to correct the issue then run the EN 54 Check again.

In some cases, it is acceptable to have a configuration which is not EN 54 compliant, but this must be communicated with the Commissioning Engineer and clearly stated on the commissioning paperwork.

16.1.2 Control Panel Connections

Icon	Warning
 A yellow triangular warning icon with a black border. Inside the triangle is a black silhouette of a person's head and shoulders, with a lightning bolt striking it from above.	Make sure that you are wearing the correct approved anti-static protection before touching any electronic components.

Open the control panel door.

Use a USB/B cable (Figure 80) to connect the computer (USB connector) to CN2 (USB/B connector) on the control panel processor board (Figure 80)



Figure 80: USB connector

16.1.3 Transfer to Panel

 *Important:* This option is only available when the computer is connected to a panel in the site.

 Note: check EN 54 compliance before transferring file.
See section 16.1.1 for details.

This dialog deals with the data connection and transfer between the panel and a computer.

Connect the panel to a compatible computer using a USB type B cable.

 Note: If the computer is connected to the panel after going to this screen, but is not listed in the Connect to list, press the Refresh touch button to scan for all serial devices connected to the computer.

From the Summary screen select Change Panel Connection touch button (section 6.5.4).

Change Panel Connection

Select relevant Comms port and select the green Change Panel touch button (*Figure 81*). If you want to work disconnected from the network (for example if you don't have an internet connection), then tick the 'Work Disconnected' tick box. Note that if this box is ticked, your site will need to be synchronised later to update the cloud server.



Figure 81 Change panel connection

Select Transfer to Panel touch button.

Transfer To Panel

The Download to Panel dialog will display.

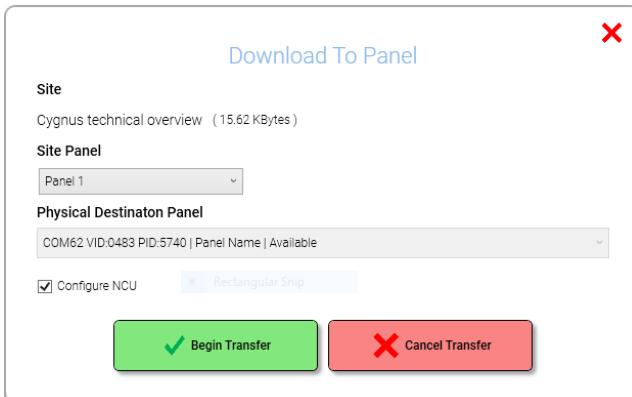


Figure 82 Download to Panel dialog

The dialog shows the following information:

Field	Description
Site Name	This is the name of the site that will be downloaded to the panel. It is read only. If the incorrect site has been selected, Select Cancel Transfer, then select the correct site from the Site Setups list.

Field	Description
Site Panel	Select the panel to which the site will be downloaded from the dropdown list.
Physical Destination Panel	Select this field to display a dropdown list of all panels that are physically connected to the computer. Select a panel name to select it. The selected panel will display in the box, along with the comms status: Available: Comms between computer and panel are OK Unavailable: Connection OK but not responding
Configure NCU	The Configure NCU tick box allows the NCU to be configured at the same time as downloading the panel configuration. This box is used when you make changes to network, frequency, channel hopping sequence, etc. It is recommended that this button remains ticked, so any NCU configuration updates are not forgotten about.

Select Begin Transfer to transfer the site data or Cancel Transfer to cancel the transfer and close the Download to Panel dialog.

When a panel has been configured, it is displayed in the Design panel with a green tick.

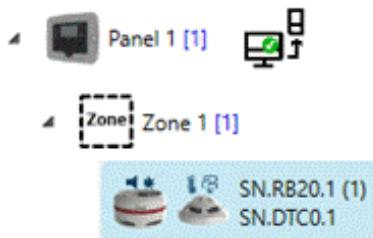


Figure 83 Green tick on a configured panel

16.1.4 Retrieve from Panel



Note: This option is only available when the computer is connected to a panel in the site.

This feature uploads the site information from a panel. This is useful to align site information if the site design has been altered on the panel instead of with the Cygnus Configuration tool.

Connect the panel to a compatible computer using a USB type B cable.



Note: If the computer is connected to the panel after going to this screen, but is not listed in the Connect to list, press the Refresh touch button to scan for all serial devices connected to the computer. From the Summary screen (section 6), Select the Retrieve From Panel touch button.

Retrieve From Panel

The site information is uploaded from the panel:

If the site does not exist on the Site Setups list, it is added from the panel.

If the site already exists on the Site Setups list, but it is the same version as the panel site, a dialog will state that an import is not required.

If the site on the Site Setups list is a different version to the panel site, a dialog will ask for confirmation that it should be updated to the panel version.

16.1.5 Change Panel Connection

The panel connection can be changed from the connection first made when the Cygnus Configuration tool was first started.

From the Summary screen (section 6), select the Change Panel Connection touch button (section 6.5.4).

Change Panel Connection

The Change Panel Connection dialog will display.

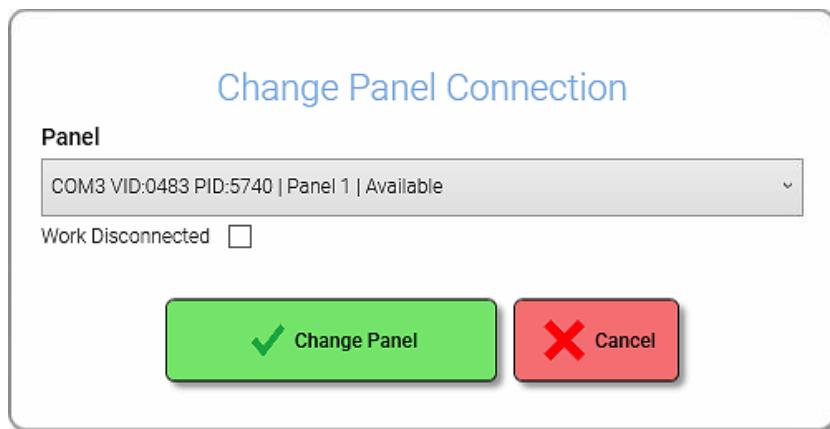


Figure 84: Change Panel Connection dialog

The dialog shows the following information:

Panel	Select this field to display a dropdown list of all available panels. Select a panel name to select it. The selected panel will display in the box, along with the comms status: Available: Comms between computer and panel are OK Unavailable: Connection OK but not responding
Work Disconnected	Select this checkbox if you want to work on the mesh design away from the system. You can upload the mesh later.

Select Change Panel to change the connection or Cancel to close the dialog without making changes.

16.2 Configure Devices

To configure devices, remove the battery tab from the back up battery (CR123) which awakens the device to allow programming.

Using the USB to 3.5mm jack plug lead and connector, make the connection between the laptop and device and use the SmartNet config tool to program the attributes required.



Note: The device and zone numbers automatically allocated can be overridden if you want to assign specific values.

As each device is added, it is good practice to note the device and zone numbers and write them on the device as it is programmed using a label printer (Dymo etc).

If the devices are not being installed immediately, to conserve battery life re-install the battery tab until such time as the installation takes place.

16.2.1 Using an Input as Reset

Resetting the control panel is only allowed by EN 54 while in user Level 2 or above. Inputs configured to reset when the input state changes will be at Level 1 in normal operation which are outside of EN 54 and therefore not compliant. If an input is configured to be used to reset the control panel (as shown in the image below), then a message will appear in red text on the configuration window, stating:

NOTE: Allowing Reset at Level 1 is considered outside EN54

Configuring an input as a Reset function should only be carried out if absolutely necessary and only by trained installation engineers.

17 Appendices

17.1 Glossary of Terms, Abbreviations and Acronyms

This is a list of specific system terms, abbreviations used throughout this document

Term	Definition
CE	Conformité Européenne. Certification mark that the product complies with all the appropriate European Directives
CPR	Construction Products Regulation
FAI	Fire Alarm Interface (same as IOU)
GSM	Global System for Mobile communications
GUI	Graphical User Interface
IOU	Input/Output Unit (same as FAI)
LED	Light Emitting Diode
MCP	Manual Call Point
PIR	Passive InfraRed
PPE	Personal Protective Equipment
RBU	Radio Base Unit
RF	Radio Frequency
VID	Visual Indicating Device
SVI	Sounder Visual Indicator (one of the radio bases)
EN 54	International standard applicable to Fire Detection and Fire Alarm Systems
Cygnus Setup.msi	Windows Installer Package file
computer	laptop, desktop, or Windows tablet
WEEE	The Waste Electric and Electronic Equipment (WEEE) Regulations

17.2 Glossary of Icons and Symbols:

This is a list of specific icons and symbols used throughout this document.

Icon	Explanation
	This symbol warns the user of a potential hazard to the user or equipment.
	This symbol warns the user of a potential electrostatic hazard to the equipment.
	This symbol warns the user of when special care is necessary to ensure the SmartNet system operates efficiently.
	Cygnus Config desktop icon
	Select this symbol to expand or collapse any associated features.
	Select this icon (Bin) to delete selected information.
	Summary touch button opens the Summary screen
	Devices touch button opens the Devices screen.
	Cause & Effect touch button opens the Cause & Effect screen.
	Networking touch button opens the Networking screen.
	Firmware touch button opens the Firmware screen.
	Logout touch button to log out of the CygnusConfig tool.
	Add touch button opens a selection to add a new item to a list.
	Delete touch button removes the selected item in a list.
	Expand list
	Collapse list
	Add User

Icon	Explanation
 A small icon of a person figure with a red 'X' over it, indicating deletion.	Delete User

(||| *Cygnus* |||)

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