RAPIX

ADDRESSING

Version 6.13

SOFTWARE MANUAL

OZUNO™

RAPIX Addressing Manual

Generated: March 2019

The RAPIX Addressing software is distributed in Australia and New Zealand by the Gerard Lighting Group.

Table of Contents

1 Introduction

Welcome to RAPIX Addressing, the best-in-class software application for discovering and commissioning DALI Devices.

RAPIX Addressing will allow you to:

- Connect to a DALI Line and assign short addresses to DALI Devices.
- Find the short addresses of DALI Devices.
- Reprogram the short addresses of DALI Devices.
- Test that DALI Devices are functioning correctly.
- Observe DALI messages for fault diagnosis.
- Commission DALI Devices and DALI Xi Devices.

Getting Started with RAPIX Addressing

The general process for using RAPIX Addressing to commission a site involves:

1. Installing RAPIX Addressing on the designated computer.
   See topic Installing RAPIX Addressing 8 for more information.

2. Running RAPIX Addressing with a Ozuno Holdings Limited DALI USB Interface Device connected.
   See topic Connecting to a DALI Line 43 for more information.

3. Programming the short addresses of DALI Devices.
   See topic Readdressing and Confirming DALI Devices 53 for more information.

4. Configuring the properties of DALI Devices and DALI Xi Devices.
   See topic Editing DALI Device Properties 62 for more information.

Each of the steps above will be explained within this manual.

1.1 Glossary of Terms

This glossary lists many of the terms that are used in this manual.

Address

Each DALI Device or DALI Xi Device has a unique address which is a number 0 - 63 for DALI Devices and 192 - 239 for DALI Xi Devices.

Confirm

The process of confirming a DALI Device such that its short address cannot be changed in RAPIX Addressing. All DALI Devices are unconfirmed by default, and are automatically confirmed when readdressed. Confirming a device tells RAPIX Addressing that the device is at the correct address.

DALI
DALI is an acronym that stands for Digital Addressable Lighting Interface, which is an open standard for network-based systems that can control the lighting in buildings.

DALI Xi
Short for "Extended Interface" is a proprietary extension to the open DALI protocol which allows for greater flexibility and extra features.

DALI Device
A DALI Device as referenced in this document, is a lighting device that is connected to a DALI Line.

DALI Line
A DALI Line consists of a pair of wires that allows the connection of multiple DALI Devices that can communicate to each other.

Database
See **Project**

Extended Address (EA)
An extended address is an address that each DALI Xi Device is assigned, separate from a standard DALI short address.

Fade Time
This is the time taken for a light level to be faded from one level to another.

Go Mobile
This is a feature of RAPIX Addressing that allows a mobile device to connect to it, in order to control and readdress DALI Devices on a DALI Line.

Group
Multiple DALI Devices can be put into a group and controlled together for convenience. Each Group has a number 0 - 15.

Mobile Device
A smart phone or tablet that is capable of running a web browser that can access RAPIX Addressing's mobile web interface.

Off-Line
RAPIX Addressing is not connected to a DALI Line.

Project
A "project", "project file" or "Database" refers to the file that stores details about a particular DALI installation, commissioned using RAPIX Addressing. It contains the configuration of DALI Devices and DALI Xi Devices as well as names for DALI Devices, DALI Xi Devices, DALI Groups and DALI Scenes.

Rapid Find Algorithm
Algorithm in RAPIX Addressing that is used to determine the short address of an observed DALI Device.

Readdress

The process of programming a new short address into a DALI Device.

Scene

Setting a "Scene" involves setting a series of DALI addresses to different levels with a selected fade time. A DALI Device can be part of a DALI Scene (number 0 - 15) or an Xi Scene (which has additional features).

Short Address (SA)

A short address is an address that each DALI Device is assigned, so that it can be identified during communication on DALI.

Template

A user-configurable script that can be programmed into a DALI eHub device which gives functionality to DALI eHub buttons and user inputs.

Unconfirm

The process of unconfirming a DALI Device such that its short address can be changed in RAPIX Addressing. All DALI Devices are unconfirmed by default, and are automatically confirmed when readdressed.

DALI USB Interface Device

A DALI USB Interface Device is a device that permits the communication between DALI Devices and RAPIX Addressing via a USB connection.

Wi-Fi

Wi-Fi is a popular wireless networking technology that provides high speed network connectivity between devices, based on the IEEE 802.11 standards.

DALI Xi Device

An DALI Xi Device as referenced in this document, is a lighting device that supports Xi commands..

2 Software Installation

2.1 System Requirements

The minimum system requirements for running RAPIX Addressing are as follows:

Processor: Intel Core i5 or higher.

Memory: 4 GB.

Hard Disk: 1 GB free.

Ports: 1 x USB 2.0 port.

Operating System: Microsoft Windows 7.

Microsoft .NET Framework: Version 4.0 or above (bundled with RAPIX Addressing).

RAPIX Addressing provides the ability to commission DALI Devices on a DALI Line with a mobile device. To use this feature, you will require:

Mobile Device: A smart phone or tablet with a touch interface, Wi-Fi capability, and HTML5 support.

Mobile Screen Resolution: 320 x 480 minimum.

Wireless Network: A method of establishing a Wi-Fi network that both the PC running RAPIX Addressing and a mobile device can connect to.

2.2 Installing RAPIX Addressing

To install RAPIX Addressing, simply run the installer file.

The installer is a wizard that will guide you through the steps to install RAPIX Addressing including the USB drivers required to use a DALI USB Interface Device.

1. Click **Next** on the first page.

2. Click **Next** on the *Welcome to InstallShield Wizard for RAPIX Addressing* page.

3. Read the End User License Agreement and agree to it by clicking the **I accept** radio button, then click **Next** to start the installation.
   Windows may ask for permission to run the installer, to which you answer **Yes**.

   Note: *See topic End User License Agreement*113 *for more information.*

4. The installer will start the installation process, and then when complete, display a page which provides the option to run RAPIX Addressing immediately.

   Click **Finish** to complete the installation.

2.3 Running RAPIX Addressing

RAPIX Addressing can be started either by launching from the desktop icon, or from the Windows Start menu.

Via the Desktop Icon

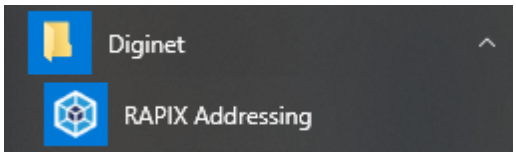
To launch RAPIX Addressing double-click the icon on the desktop.

The RAPIX Addressing desktop shortcut

Via the Start Menu

To launch RAPIX Addressing via the Start menu (e.g. Windows 10):

1. Open the **Start** menu.
2. Open the **Diginet** folder.
3. Click **RAPIX Addressing**.



2.4 Setting Up a Wireless Access Point

To be able to commission DALI Devices by using a mobile device, a wireless access point must be set up.

The wireless access point must be set up to provide a Wi-Fi network that can be connected to, by specifying:

- Network name (SSID).
- Network password (optional).

Note: *These settings can be set up prior to going on-site.*

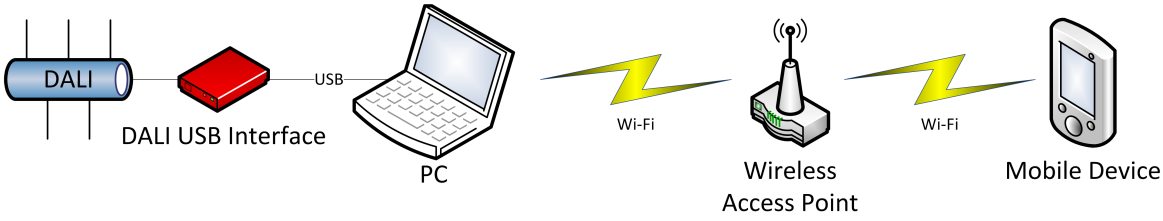
The wireless access point can either be:

- Connected to the PC and mobile device over Wi-Fi (recommended); or
- If Wi-Fi reception is an issue, connected to the PC via an Ethernet cable, and connected to the mobile device over Wi-Fi.

Option 1: Connecting the PC and Access Point via Wi-Fi

This is the recommended practice for setting up a wireless access point for RAPIX Addressing.

Plug in a wireless access point with a Wi-Fi network set up, and then connect the PC and mobile device to it.

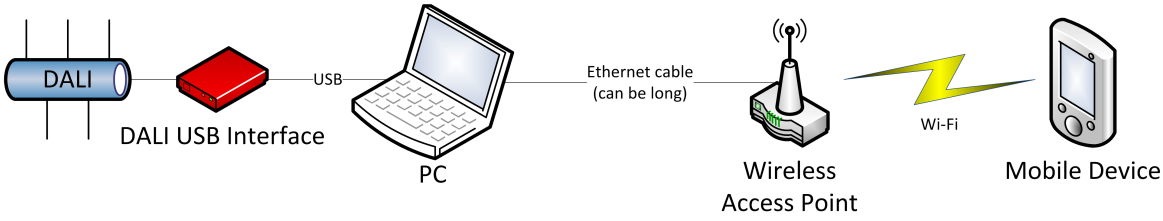


Full setup with Access Point connected via Wi-Fi

Option 2: Connecting the PC and Access Point via Ethernet

If Wi-Fi reception is an issue, you can connect the wireless access point to the PC via an Ethernet cable, and connect the mobile device to the Wi-Fi network.

This allows you to position the wireless access point closer to the mobile device.



Full setup with Access Point connected via Ethernet

Note: *Consult the user manual for your wireless access point for instructions on how to set up a wireless network.*

3 User Interface

This section describes RAPIX Addressing's user interface.

DALI Devices on a DALI Line can be commissioned by using RAPIX Addressing on the PC, but RAPIX Addressing also provides the ability to rapidly search and commission DALI Devices using the Rapid Find Algorithm on a smart phone or tablet device.

Using RAPIX Addressing on a PC, you can:

- Connect to a DALI USB Interface Device and discover DALI Devices on a DALI Line.
  See topic Connecting to a DALI Line 43 for more information.
- Verify that all DALI Devices are correctly functioning by switching them on and off.
  See topic Verifying a DALI Line 48 for more information.
- Readdress DALI Devices and mark them as confirmed (so that they don't get accidentally readdressed).
  See topic Readdressing and Confirming DALI Devices 53 for more information.

Going Mobile

Because using RAPIX Addressing on a PC can make it difficult to quickly identify which DALI Device is which due to DALI Devices not being within line of sight, RAPIX Addressing provides the ability to connect up a mobile device, and:

- Verify that all DALI Devices are correctly functioning by switching them on and off.
  See topic Verifying a DALI Line 48 for more information.
- Readdress DALI Devices and mark them as confirmed (so that they don't get accidentally readdressed).
  See topic Readdressing a DALI Device 39 for more information.
- Quickly find the short address of a DALI Device by using RAPIX Addressing's Rapid Find Algorithm.
  See topic Rapid Find Algorithm 37 for more information.

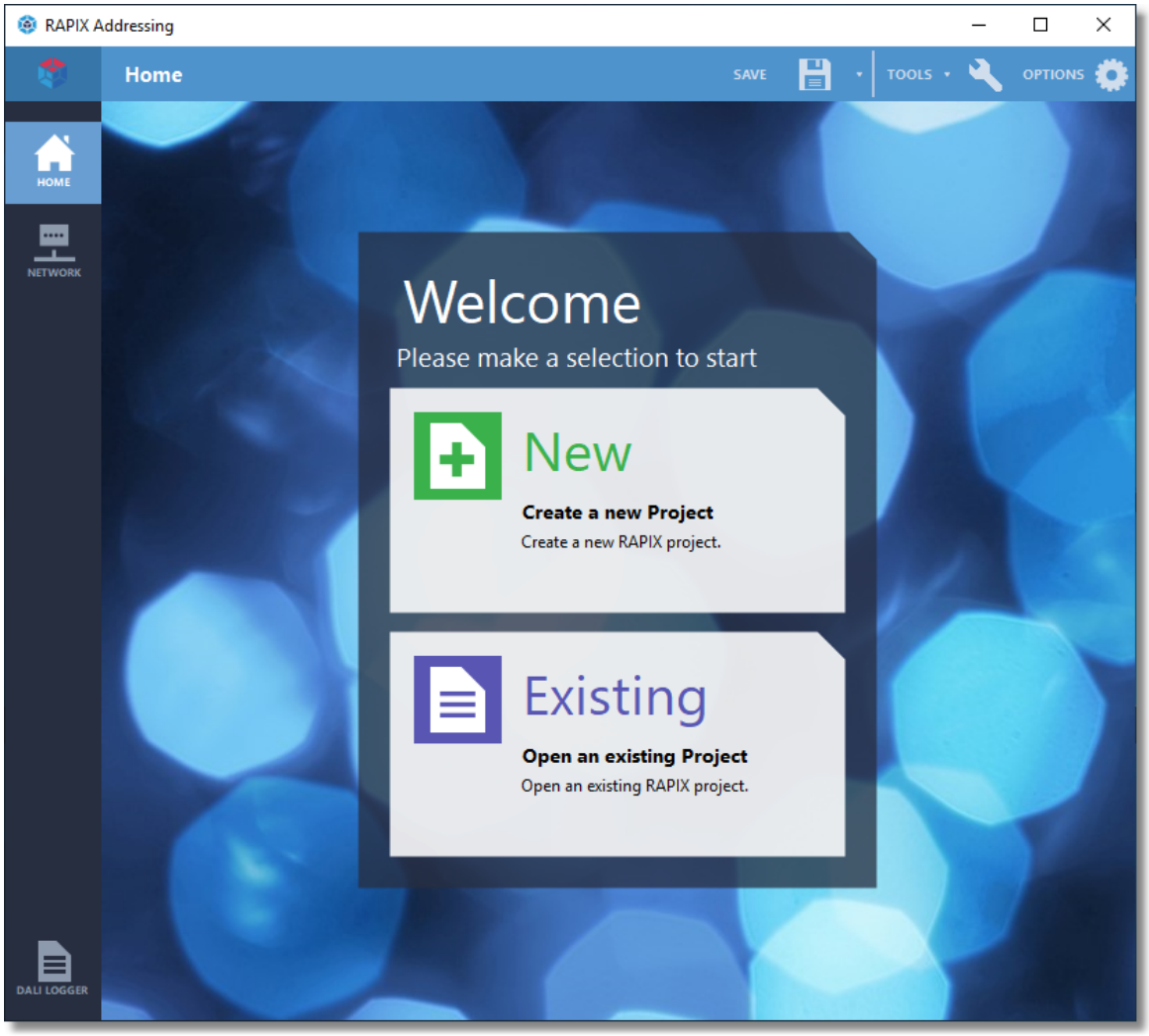
RAPIX Addressing also provides the ability to simulate the use of a mobile device, with a mock smart phone window. See topic Mobile Device Simulator 58 for more information.

3.1 User Interface on the PC

This section describes the user interface of RAPIX Addressing on the PC.

3.1.1 Main Window

When started, RAPIX Addressing displays a welcome screen that allows the user to create a new project or open an existing one.



The main user interface at start-up

Blue Bar

The blue bar at the top of the main window displays to the user which view is currently being displayed. In the screen shot below, the user is currently located on the Home view.

The RAPIX Addressing blue bar

The blue bar also provides access to the **About** box, the **Options** window, and the **RAPIX Addressing help files**.

RAPIX button
Click this to access the About box for RAPIX Addressing.

Save button
Click this button to save the RAPIX Addressing project (database).

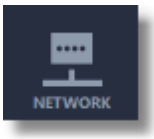
Tools button
Click this button to access the Tools for RAPIX Addressing.
See the Tools 103 topic for more information.

Options button
Click this button to access the Options window for RAPIX Addressing.
See the Options 30 topic for more information.

Grey Side Bar

Each icon in the side bar is a button that provides access to a specific function. Some of these buttons are only visible once a project has been opened.

"Home" button
Click this button to go to the Home view.
This is the view that is displayed when RAPIX Addressing starts up before a connection to DALI takes place, and allows you to start a new project or open an existing one.

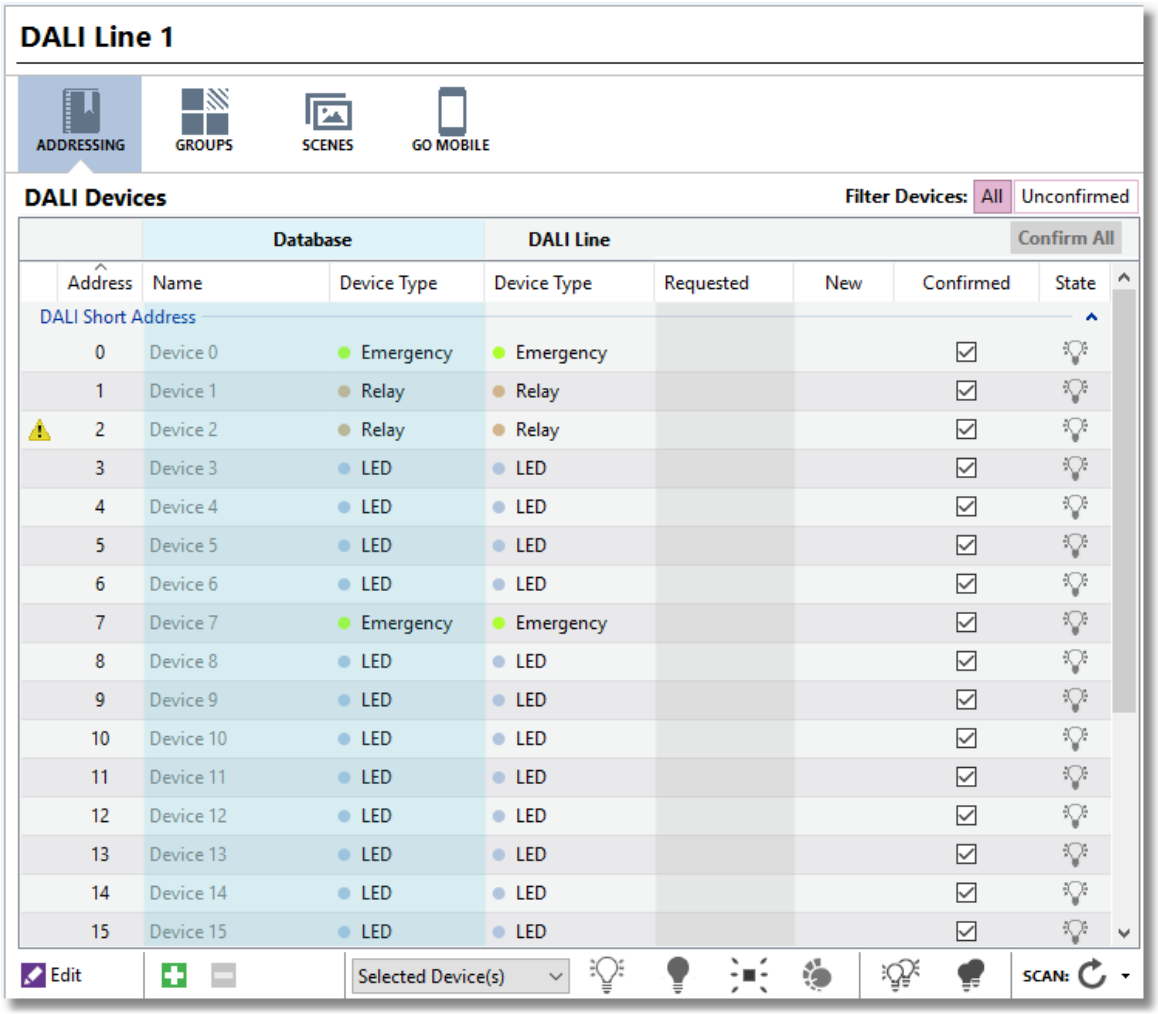


"Network" button
Click this button to go to the Addressing view.
This is the view where DALI Devices and DALI Xi Devices can be scanned and readdressed.
See topic Addressing View 14 for more information.

"DALI Logger" button
Click this button to open the DALI Logger form.
See DALI Log 60 for more information.

3.1.2 Addressing View

The **Addressing** view enables a user to scan the DALI Line and readdress DALI Devices and DALI Xi Devices to their intended addresses.



The DALI Addressing view

The **Addressing** view comprises a list of all DALI Devices and DALI Xi Devices on the DALI Line, as well as corresponding grids that display a visual representation of the DALI Line.

Standard DALI Devices have a short address in the range 0 and 63, and DALI Xi Devices have an extended address in the range 192 to 239.

Database and Live Data

A database is able to be used for a project to:
- Save names for DALI Devices and DALI Xi Devices, DALI Groups and DALI Scenes.
- Allow for off-line configuration.

A database is created by clicking on the **Save** button at the top of the screen and entering a file name.

When a device is confirmed, the properties from the live device are copied into the database.

Normally the database contains the same information as the live DALI Devices and DALI Xi Devices. However there are circumstances where they may become un-synchronised:
- The database is edited while off-line (i.e. RAPIX Addressing is not connected to the DALI Line)
- The live configuration is edited while off-line (i.e. RAPIX Addressing is not connected to the DALI

Line)
- A new DALI Device or DALI Xi Device is added to or removed from the DALI Line

In this case, it is desirable to synchronise the database and live data.
See topic Network Interfaces 20 for more information.

DALI Devices List

The DALI Devices list shows all DALI Devices and DALI Xi Devices on the DALI Line,

Each row represents a single DALI Device or DALI Xi Device, and displays the following attributes for each one:

- **Sync Status**
  A yellow warning triangle shows that there is a difference between the database and live data for the DALI Device or DALI Xi Device.

- **Current Address**
  The current short address of a DALI Device or current extended address of a DALI Xi Device.

- **Database Data**

  - **Name**
    The name of the DALI Device or DALI Xi Device.

  - **Device Type**
    The type of DALI Device in the database (i.e. whether it is a fluorescent, LED, emergency, DALI Xi Device, interface, or other type of fitting).

- **Live Data**

  - **Device Type**
    The actual type of DALI Device.

  - **Requested Address**
    The short address or extended address of a DALI Device or DALI Xi Device respectively, that the user has requested to move it to.

  - **New Address**
    The proposed new short address or extended address of a DALI Device or DALI Xi Device respectively. This is normally the same as the requested address, except in cases where the DALI Device or DALI Xi Device must be moved to make room for another.

  - **Confirmed**
    Whether or not the DALI Device or DALI Xi Device has been confirmed.

  - **State**
    Whether or not the DALI Device is on or off, or is currently in identify mode (for emergency DALI Devices only).

Connected DALI USB Interface Device

The DALI USB Interface Device that RAPIX Addressing is connected to DALI through is listed in the DALI Devices list and denoted by a yellow star. Note that the extended address of this device is not

permitted to change, so the DALI USB Interface Device is permanently marked as confirmed.

Button Bar

Below the DALI Devices list is the button bar, which allows for editing devices and the identification and the switching on and off of DALI Devices.

"Edit" button
Click this button to edit the configuration of the selected DALI Device or DALI Xi Device in the list.
See topic Editing DALI Device Properties[62] for more information on editing the properties of certain DALI Devices.

"Add" button
Click this button to add new devices to the database

"Delete" button
Click this button to delete the selected device(s) from the database. Only unconfirmed devices can be deleted.

"Identification Select" list
This drop-down list allows the selection of a particular entity to identify. The options are:

- Selected Device: the device selected in the list above will be identified
- Group: the selected DALI Group will be identified
- Scene: the selected DALI Scene will be identified
- Broadcast: all devices on the DALI Line will be identified

"Turn Selected DALI Device On" button
Click this button to switch the selected entity (DALI Device, DALI Group, DALI Scene or DALI Line) in the list on.

"Turn Selected DALI Device Off" button
Click this button to switch the selected entity (DALI Device, DALI Group or DALI Line) in the list off.

"Identify Selected Entity" button
Click this button to toggle the selected entity (DALI Device, DALI Group or DALI Line) in the list on and off periodically. If it is an emergency DALI Device it will commence an emergency identify.
See topic Identifying a DALI Device[49] for more information.

"Dim Selected DALI Device" button
Click this button to dim the selected entity (DALI Device, DALI Group or DALI Line).

"Turn DALI Line On" button
Click this button to turn on all DALI Devices on the DALI Line.
See topic Verifying a DALI Line[48] for more information.

"Turn DALI Line Off" button
Click this button to turn off all DALI Devices on the DALI Line.
See topic Verifying a DALI Line[48] for more information.

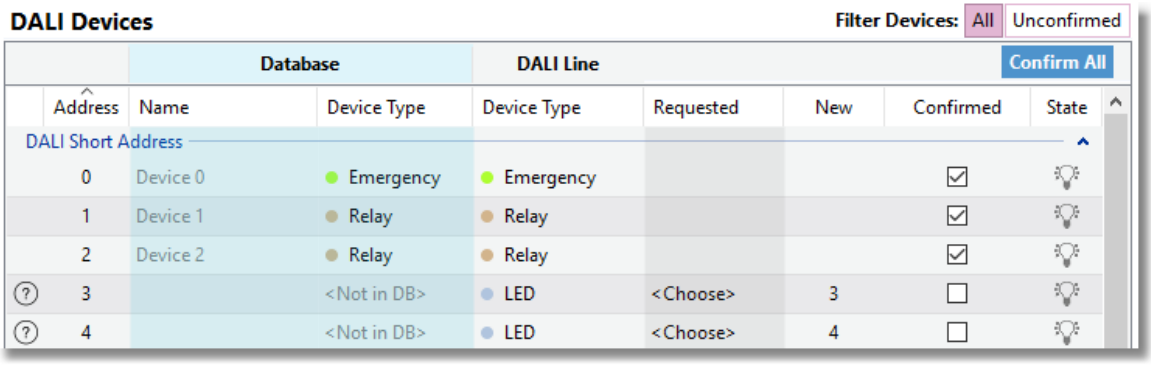
"Scan" button
Click this button to re-scan the DALI Line. If the drop-down (triangle) button is clicked, there are additional options for a "deep scan" or a "fast scan".

DALI Devices Filter

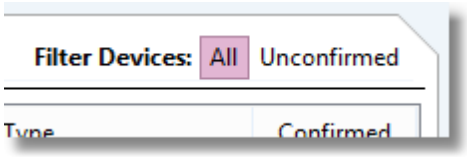
RAPIX Addressing allows the user to filter out (hide) DALI Devices and DALI Xi Devices that have been marked as confirmed.

Confirmed DALI Devices or DALI Xi Devices are those that have been marked by the user to indicate that they occupy the intended short address or extended address respectively.

See topic Readdressing and Confirming DALI Devices 53 for more information on confirming DALI Devices.



The DALI Device list with confirmed and unconfirmed DALI Devices



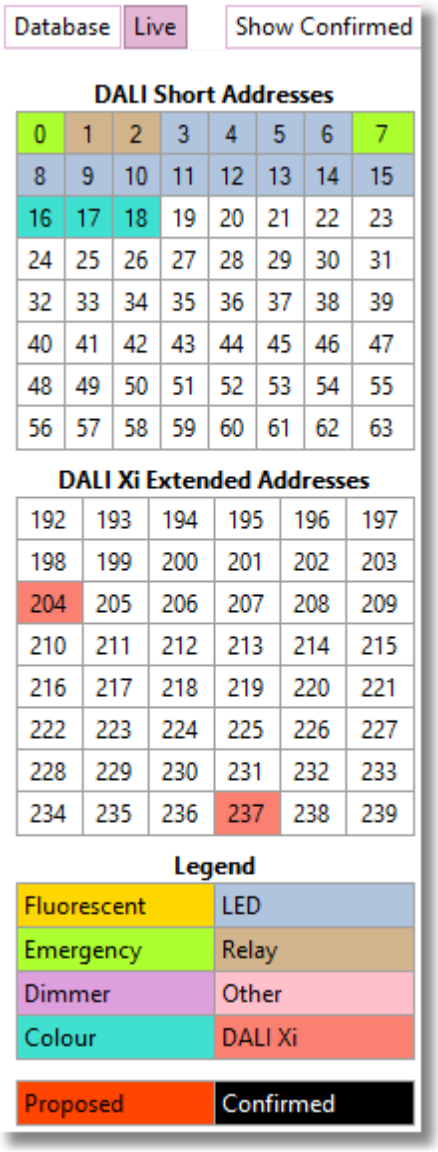
All and Unconfirmed filter buttons

"All" button
Click this button to display all DALI Devices and DALI Xi Devices on the DALI Line, including those that have been confirmed.

"Unconfirmed" button
Click this button to display only unconfirmed DALI Devices and DALI Xi Devices on the DALI Line. When a DALI Device or DALI Xi Device is confirmed in this mode, it immediately disappears from view.

Address Grids

The address grids display a graphical representation of the DALI Line for both DALI short addresses and DALI Xi extended addresses.



DALI Short Addresses Grid

The DALI Short Addresses grid displays a graphical representation of all standard DALI Devices on the DALI Line, where each of the 64 DALI short addresses is represented by a cell, and the type of the DALI Device occupying each short address is represented by a different colour. Cells without any colour are short addresses that are currently unoccupied.

This grid also shows proposed short address changes by displaying the DALI Device in red, and confirmed DALI Devices in black.

If a device exists in the database but not on the DALI Line or vice versa, then there will be a red border around the cell.

DALI Xi Extended Addresses Grid

The DALI Xi Extended Addresses grid displays a graphical representation of DALI Xi Devices on the DALI Line, where each of the 48 DALI Xi extended addresses is represented by a cell, and DALI Xi Devices occupying each extended address is represented by a colour denoting a DALI Xi Device.

Cells without any colour are extended addresses that are currently unoccupied.

The grid also shows proposed extended address changed by displaying the DALI Xi Device in red, and confirmed DALI Xi Devices in black.

If a device exists in the database but not on the DALI Line or vice versa, then there will be a red border around the cell.

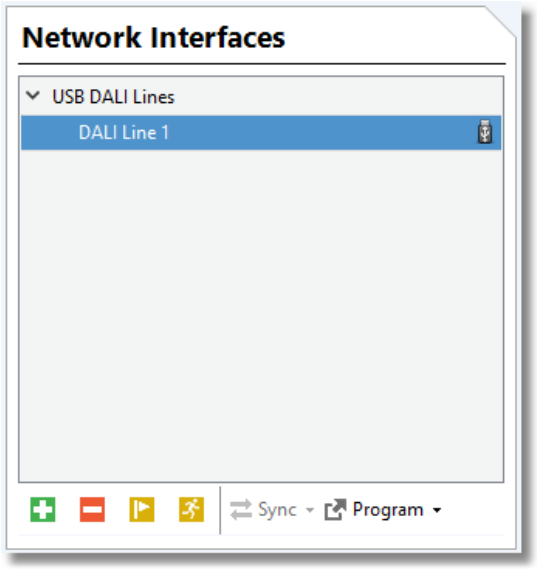
Note: *All DALI USB Interface Devices that are detected on the DALI Line are marked as read-only, so their extended addresses may not be changed. DALI USB Interface Devices cannot be confirmed as they are not allowed to be added to the project database.*

Legend

The legend displays the DALI Device types and their corresponding colours used in the grids.

3.1.3 Network Interfaces View

The Network Interfaces view allows the user to edit DALI Lines and perform global programming. It shows a list of all DALI Lines in the project and allows the user to select a DALI Line to work on.



Button Bar

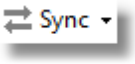
Below the Network Interfaces list is the button bar, which allows for editing and identification as listed below:

"Add" button
Click this button to add new DALI Lines to the database

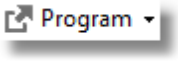
"Delete" button
Click this button to delete the selected DALI Line(s) from the database.

"Identify" button
Click this button to identify all devices on the DALI Line.
See topic Verifying a DALI Line[48] for more information.

"Walk Test" button
Click this button to put all sensors on the DALI Line into "walk-test" mode. This makes the sensors time-out very quickly for testing purposes.

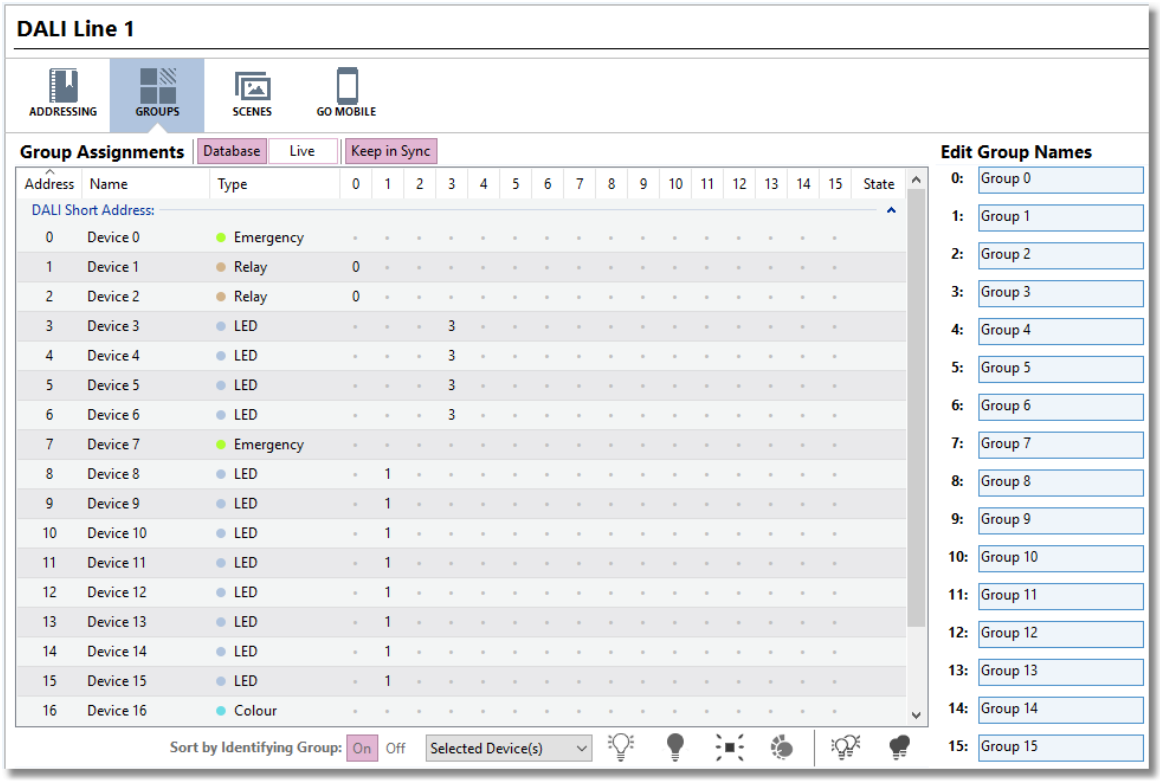


"Sync" button
Click this button to synchronise the configuration data between the database and the live devices.
See topic Synchronising DALI Device Properties[101] for more information.



"Program" button
Click this button to open the Global Programming window, which will allow the programming of DALI Levels and fade options across all DALI Devices on the DALI Line.
See topic Editing Multiple DALI Devices[68] for more information.

3.1.4 Groups View

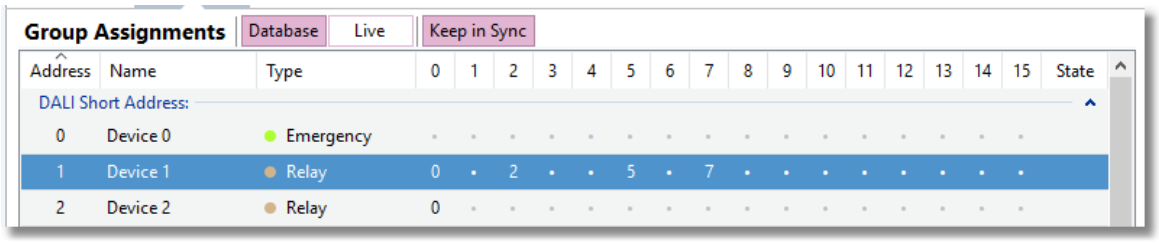


The Groups view

The **Groups** view comprises a list of all DALI Devices on the DALI Line with 16 columns representing the DALI Groups that the DALI Devices can be members of, as well as 16 edit boxes on the right which allow for naming of the DALI Groups.

Edit Group Assignments List

The list displays all of the DALI Devices on the DALI Line including their DALI Group membership.



For the shown setup, the DALI Device at Short Address 1 is a member of DALI Groups 0, 2, 5 and 7.

Add DALI Device to Group

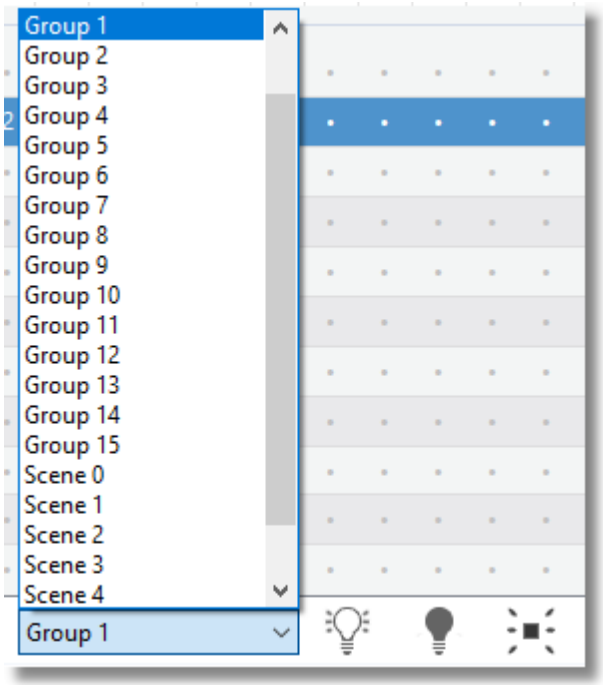
To add a DALI Device to a Group, click the bullet in the column of the group. The bullet will change to the number of the group.

Remove DALI Device from Group

To remove a DALI Device from a Group, click the number in the column of the group. The number will change to a bullet when it is no longer in the group.

Identify DALI Devices in a Group

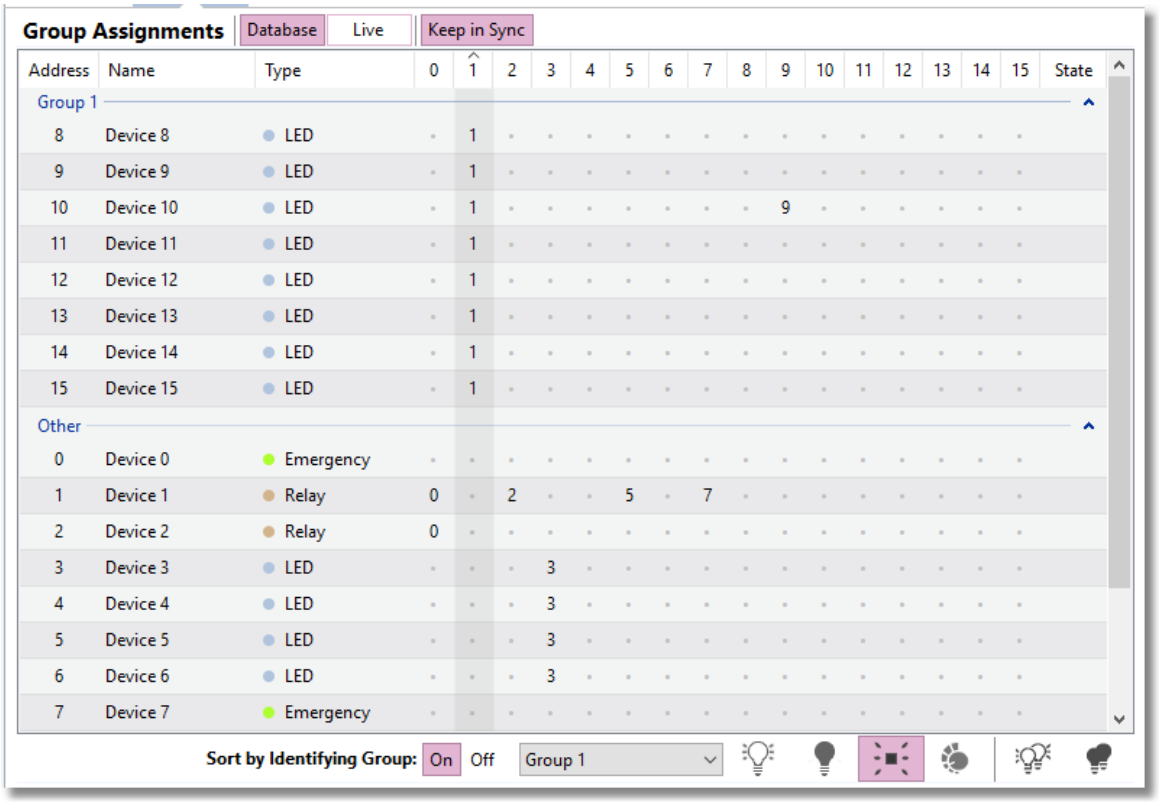
To locate all DALI Devices in a DALI group:
1. select the group number to be identified from the list.



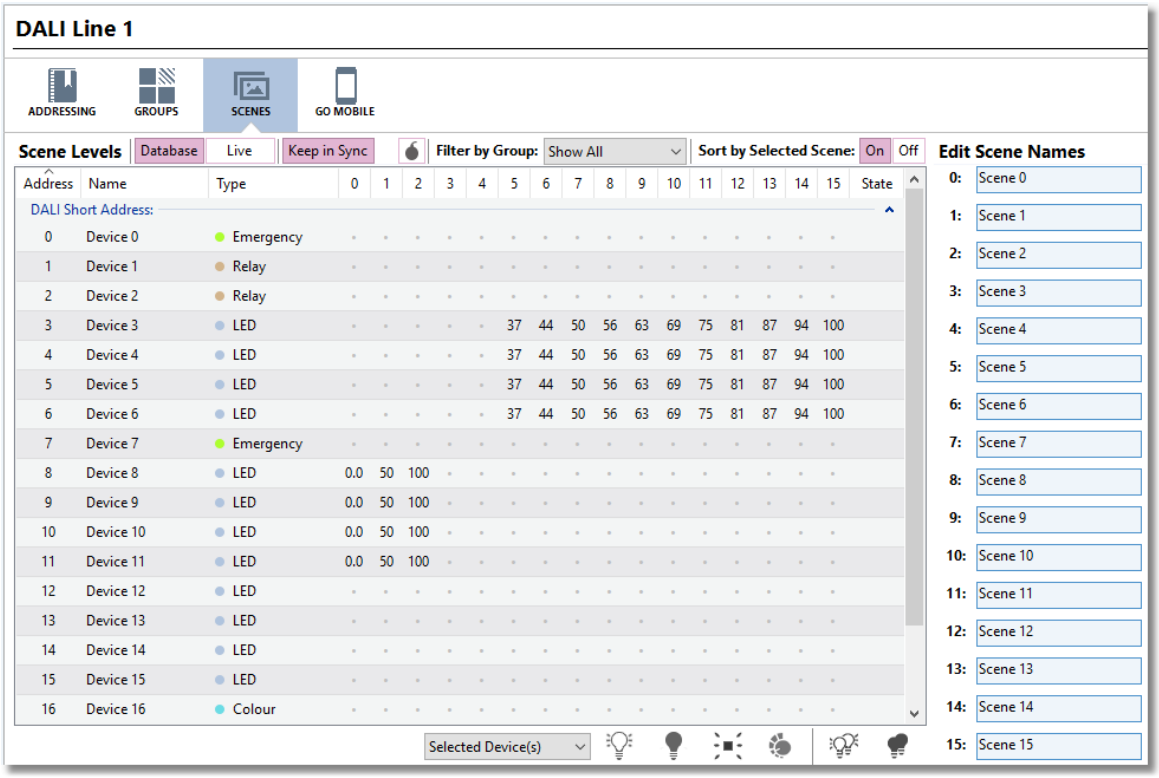
2 Click on the **Identify** button:

Sort by Identifying Group

Selecting the **Sort by Identifying Group** option will automatically sort the list of DALI Devices by the DALI Group that is currently being identified:



3.1.5 Scenes View

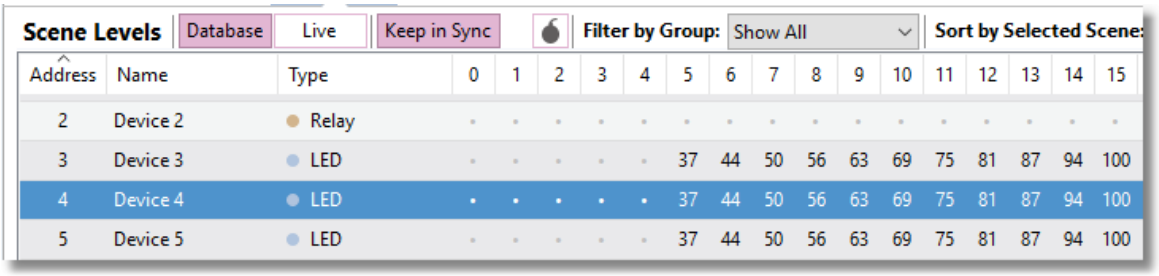


The Scenes view

The **Scenes** view comprises a list of all DALI Devices on the DALI Line with 16 columns representing the 16 DALI Scenes that the DALI Devices can be members of, as well as 16 edit boxes on the right which allow for the naming of DALI Scenes.

Edit Scene Levels List

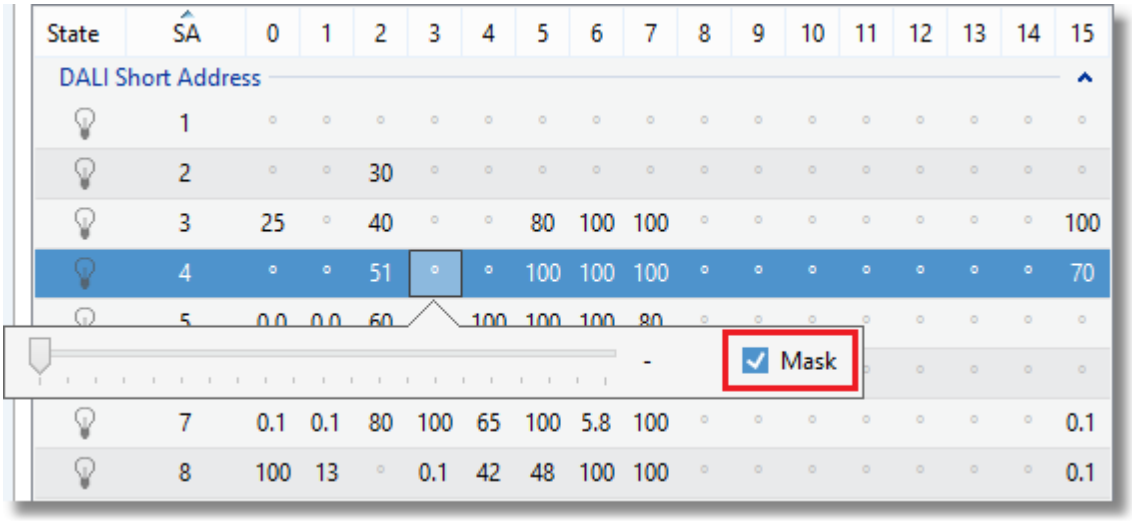
The list displays all of the DALI Devices on the DALI Line including their DALI Scene membership and levels (0 - 100%).



For the shown setup, the DALI Device at Short Address 4 is a member of DALI Scenes 5 to 15.

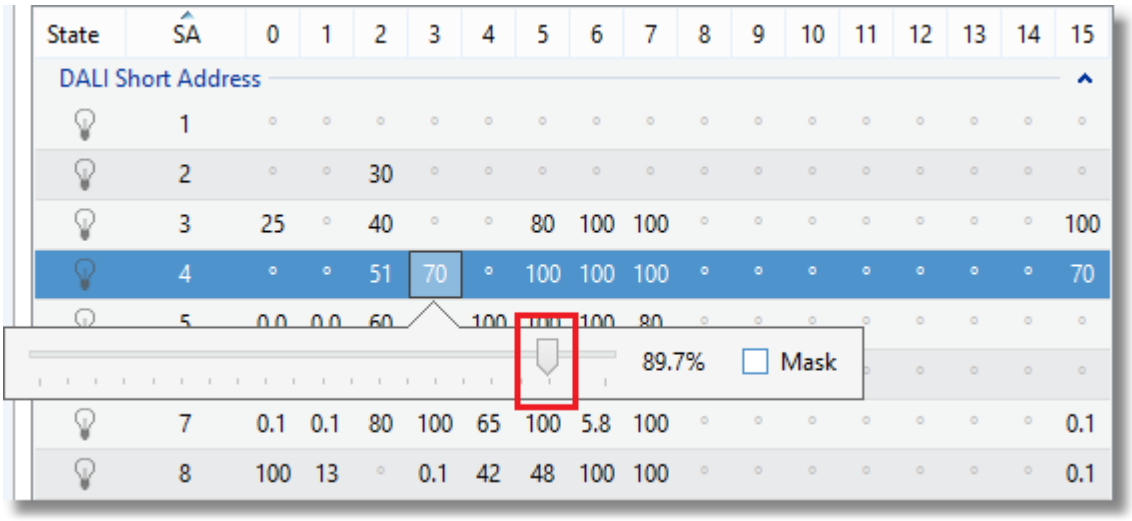
Add DALI Device to Scene

To add a DALI Device to a Scene, click the bullet in the column of the scene to display a pop-up dialog. Either un-check the Mask check box or move the slider to the desired scene level value. Click elsewhere on the window to commit the change. This will add this DALI Device to the Scene.



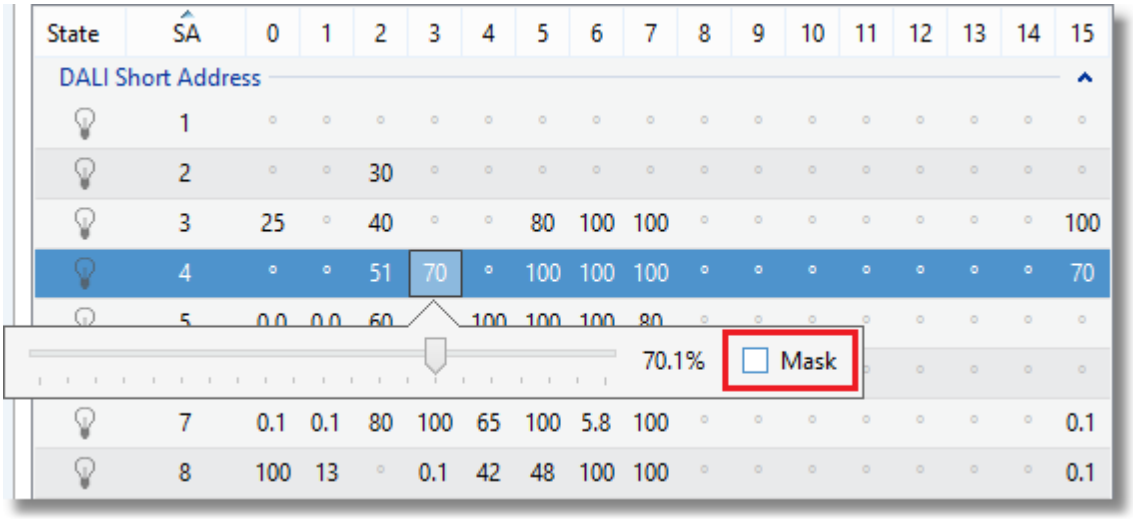
Change Scene level for DALI Device

To change a level of a Scene, click the number or bullet in the column of the scene to display a pop-up dialog. Move the slider to the desired scene level value. Click elsewhere on the window to commit the change.



Remove DALI Device from Scene

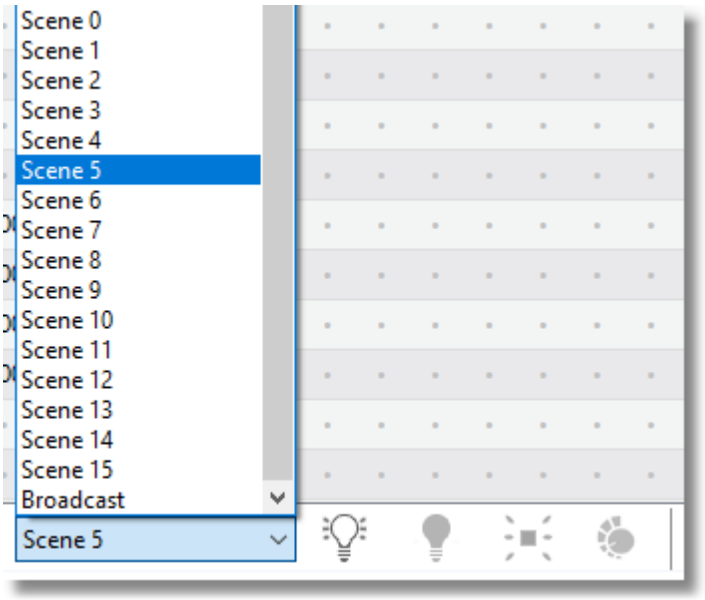
To remove a DALI Device from a Scene, click the number in the column of the scene to display a pop-up dialog. Check the Mask check box. Click elsewhere on the window to commit the change.



Set a Scene

To test a DALI scene:

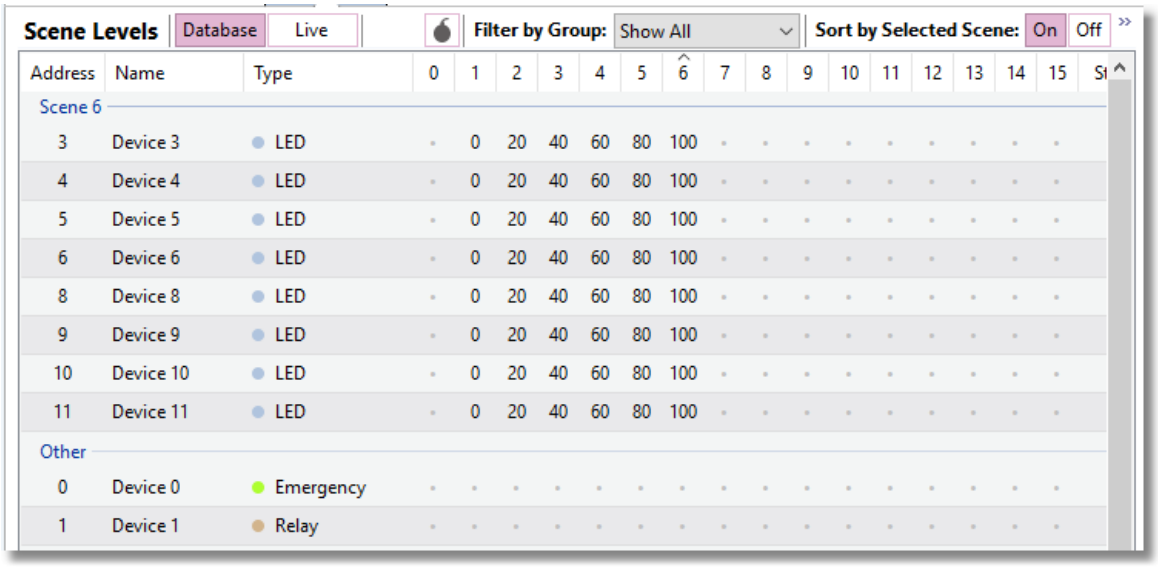
1. select the scene number to be set from the list:



2. Click on the **On** button:

Sort by Selected Scene

Selecting the **Sort by Selected Scene** option will automatically sort the list of DALI Devices by the Scene that is currently set.

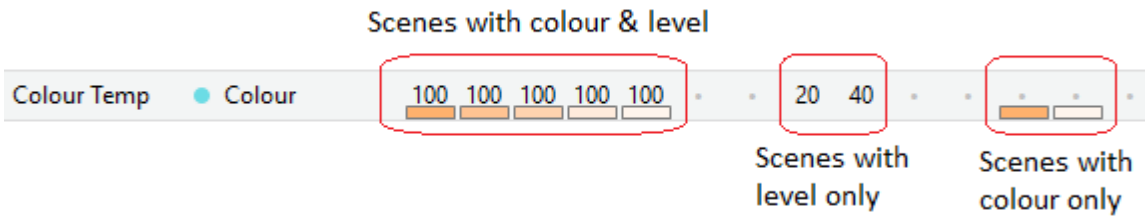


Colour Scenes

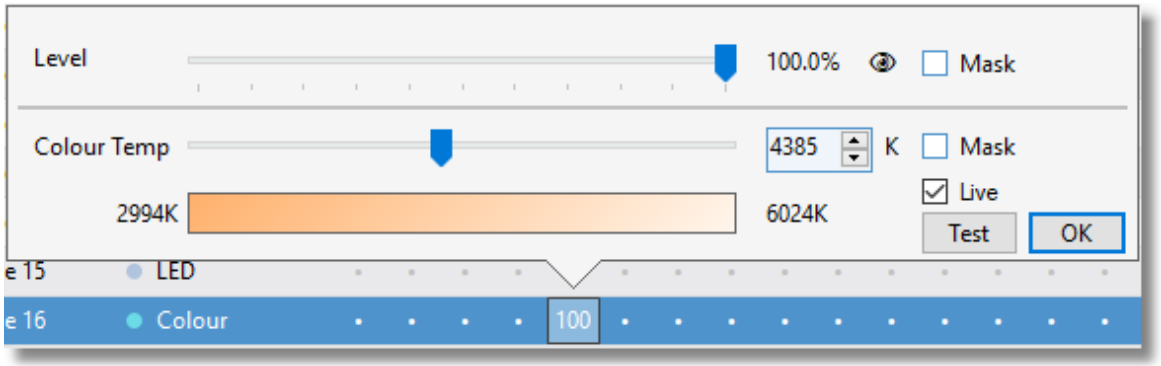
DALI Devices that are "DALI Type 8" implement colour control in one or more ways:

- Colour Temperature
- RGB/RGBWAF
- XY
- Primary N

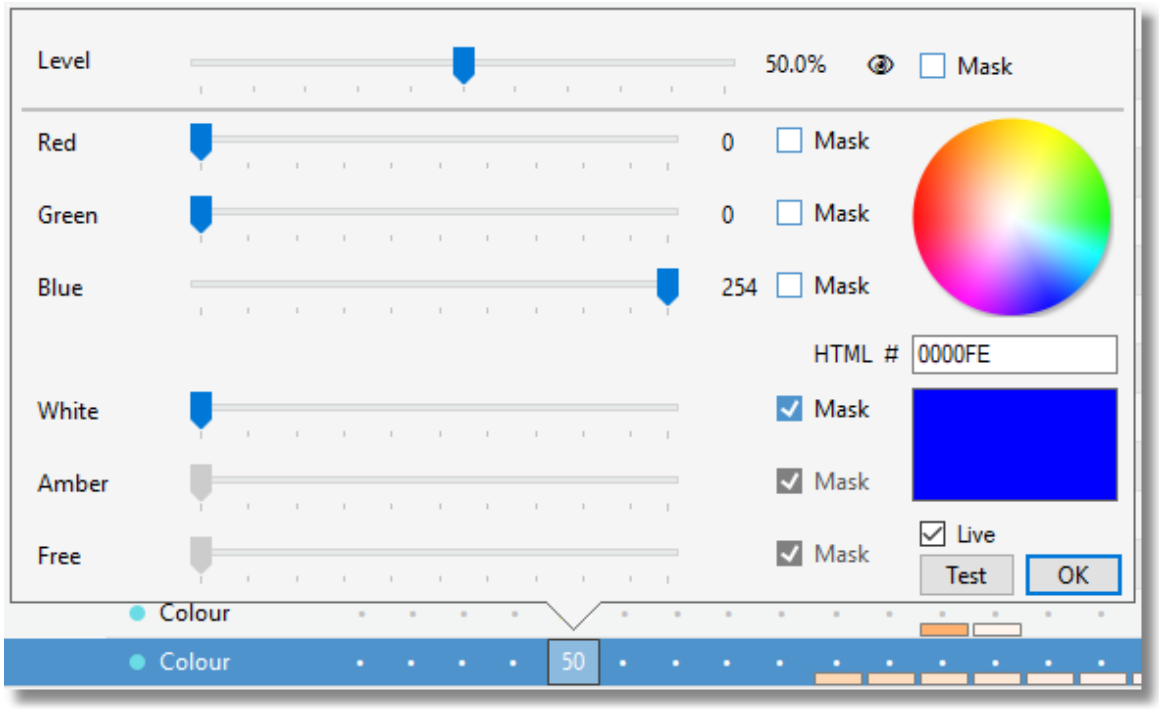
A Colour Scene can been observed in the scene grid by the presence of a rectangle showing the scene colour:



When editing the colour of a Scene, the pop-up editor allows selection of Level and/or colour:



Selecting Scene Colour Temperature



Selecting Scene Colour for RGBW

The level is selected as described above.

A Colour Temperature can be selected:
- using the slider; or
- using the numeric entry box

An RGB, RGBW, RGBWAF colour can be selected:
- using the sliders; or
- by clicking on the colour selector; or
- by entering an HTML colour in the edit box

If RAPIX Addressing is connected to a DALI Line and the "**Live**" option is selected, the live colour will change as the colour is edited. Alternatively, the "**Test**" button can be clicked to set the live colour.

If the colour components are set to "MASK", then the colour will not change when the DALI Scene is set.

3.1.6 Go Mobile View

This view allows the user to connect a mobile device to RAPIX Addressing in order to commission the DALI Line.

The Go Mobile view

A mobile device can be connected to RAPIX Addressing by either:

- Typing in the URL in blue into the mobile device's web browser.
- Scanning the QR code with a camera on the mobile device.

See topic Connecting a Mobile Device to Go Mobile 45 for more information.

Network Interface

The network interface options allows the user to choose which network interface of the PC to connect a mobile device to RAPIX Addressing.

Typically, the network interface to choose is the wireless network interface or local area connection.

When selecting a network interface, the web URL and QR code will update to use the IP address of that network interface.

Note: *RAPIX Addressing will remember the last network interface chosen when it is reopened.*

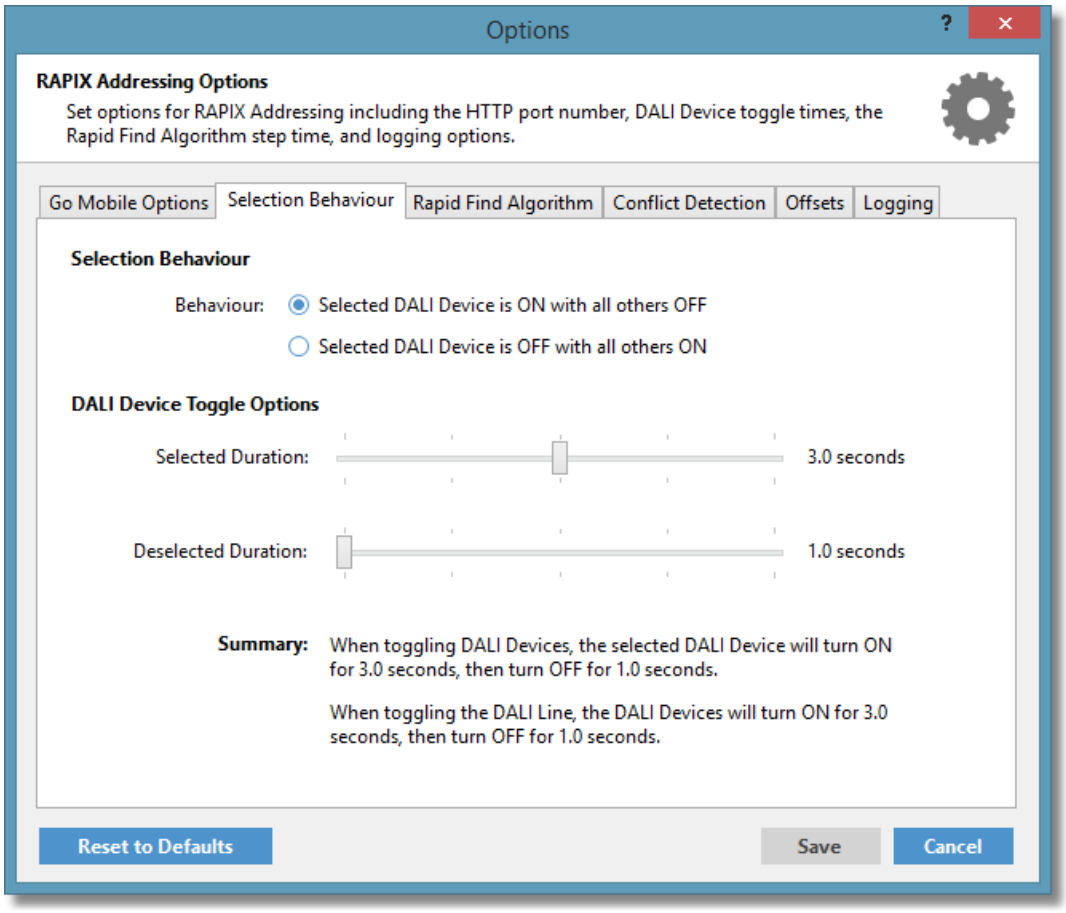
Mobile Device Simulator

If the blue URL is clicked, the RAPIX Addressing mobile device simulator will be opened, which simulates the experience on a mobile device.

See topic Mobile Device Simulator 58 for more information.

3.1.7 Options

The Options window is used to view and configure various settings in RAPIX Addressing.

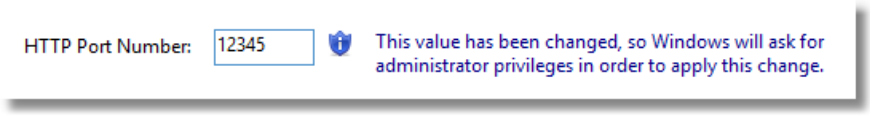


The Options window

Go Mobile Options Tab

HTTP Port Number
The HTTP port number is used when connecting a mobile device to RAPIX Addressing to commission a DALI Line. The default HTTP port number value is set to 7669, and can be changed if this port conflicts with any third-party software.
The minimum value is 1024, and the maximum is 65535.

Note: *Changing this option requires administrator privileges, so when clicking* ***Save****, Windows will prompt for administrator privileges to update the settings.*



Warning shown when HTTP port number is changed

Auto Lock
The auto-lock option will lock the PC as soon as a connection is made between a mobile device and RAPIX Addressing. Enable this option to stop unauthorised users from using the PC when you are not using the PC directly.

Note: *To unlock the PC in order to continue using it, press* ***Ctrl+Alt+Del*** *and enter your PC user*

account password.

Mobile Sounds
The mobile sounds option enables or disables the use of sounds on the mobile interface when using the Rapid Find Algorithm or decoding the Tridonic red/green LED identification sequence on emergency DALI Devices.
See topics Rapid Find Algorithm[37] and Identifying an Emergency DALI Device[51] for more information on how the sounds are used on the mobile interface.

Selection Behaviour Tab

Selection Behaviour Section

This option flips the selection behaviour such that either the selected DALI Device is switched on with all others on the DALI Line switched off, or vice versa.

***Note:** There is summary text in the **DALI Device Toggle Options** section below which describe the behaviour of DALI Device and DALI Line toggling, to ensure that the desired behaviour can be determined before saving the options.*

DALI Device Toggle Options

The DALI Device toggle options change the behaviour when RAPIX Addressing is automatically toggling DALI Devices on and off.

Selected Duration
The selected duration is the time, in seconds, that a DALI Device remains in the selected (on) state when being toggled.
The default value is 3.0 seconds. The minimum value is 1.0 seconds, and the maximum is 5.0 seconds.

Deselected Duration
The deselected duration is the time, in seconds, that a DALI Device remains in the deselected (off) state when being toggled.
The default value is 1.0 seconds. The minimum value is 1.0 seconds, and the maximum is 5.0 seconds.

Rapid Find Algorithm Tab

Step Time
The step time is the interval between consecutive steps in the Rapid Find Algorithm for finding the short address of a DALI Device.
The default value is 3.0 seconds. The minimum value is 2.0 seconds, and the maximum is 10.0 seconds.
See topic Rapid Find Algorithm[37] for more information on this feature.

Voice Control Tab

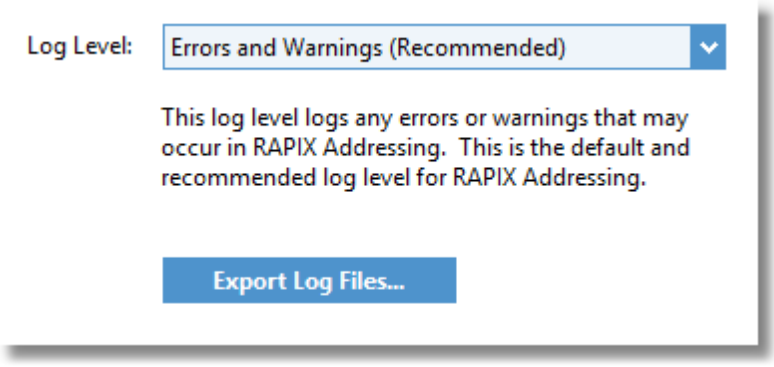
Enabling the Voice Control option allows the user to perform various actions using spoken commands.

To use voice control, it is recommended that the computer be trained first. To do this, click the "**Train your computer to better understand you**" button and follow the prompts.

To use voice control, click CTRL + Space on the Addressing view and then speak in to the microphone. RAPIX Addressing will understand commands such as "short address five on", "all off", "lights on", "device fifteen on", "group one off", "set scene six" and so on. Some variants of English spoken commands may also be accepted. For example "turn on short address twenty five" is expected to work the same as "short address twenty five on" or "device twenty five on".

Logging Tab

The logging options on the Logging tab allow the user to send detailed logs to Ozuno Holdings Limited technical support in case of troubleshooting.



Logging options on the Options window

Log Level
The log level defines the amount of detail that RAPIX Addressing logs to disk. The options available are:

- Errors only;
- Errors and Warnings;
- Errors, Warnings and Information.

The default value is **Errors and Warnings**.

Note: *It is not recommended keeping the log level set to "Errors, Warnings and Information" for extended periods of time as it impacts software performance.*

"Export Log Files" button
The Export Log Files button exports all of the logs associated with RAPIX Addressing and saves them to disk. There, they can be attached and emailed to Ozuno Holdings Limited technical support if required.

Export Tab

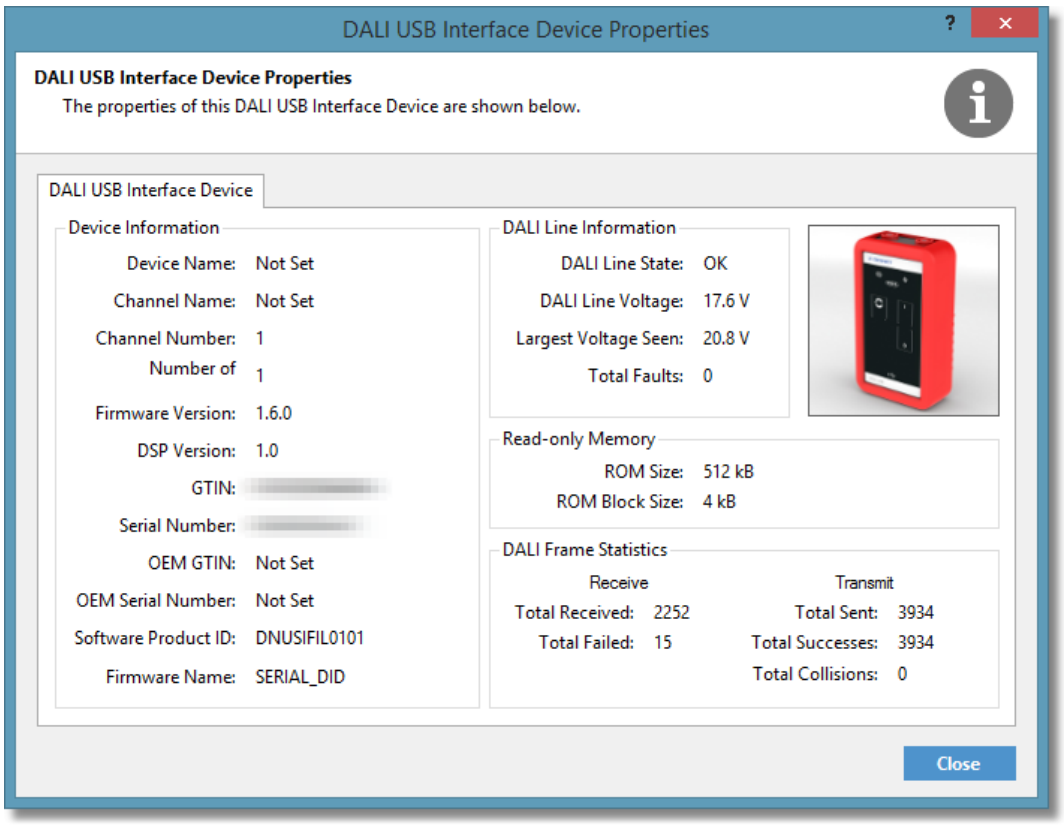
Click on the **Export Project Data** button to export the basic project data as a text file for use with third-party software.

Display Options Tab

The **Display Options** tab allows for the selection of how DALI Levels are to be displayed. It is recommended that the **Perceived Brightness Level** option is used. The two options are explained on the tab.

3.1.8 DALI USB Interface Device Properties

The **DALI USB Interface Device Properties** window displays device information, DALI Line information, and historical DALI frame statistics. To view this information, double-click on the **DALI USB Interface Device** in the device list.



The DALI USB Interface Device Properties window

This information can be used for documentation or troubleshooting if there are issues on the DALI Line.

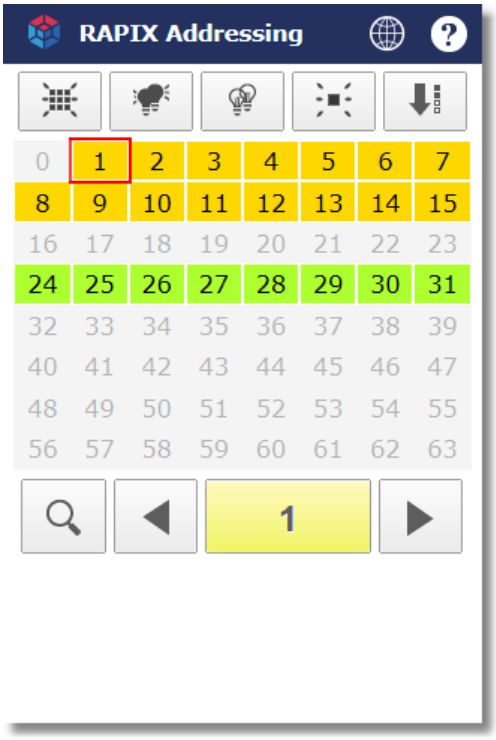
3.2 User Interface on a Mobile Device (Go Mobile)

This section describes the user interface on a mobile device, allowing you to Go Mobile.

3.2.1 Short Address Grid Page

The user interface for the mobile web page consists of a DALI short address grid that displays DALI Devices in the same way as on the RAPIX Addressing main window.

There are 64 cells each representing a DALI short address, each colour-coded to represent a DALI Device that may be occupying each short address. The colours used are identical to the DALI Device type colours used in the PC user interface.



The main mobile web landing page

Blue Menu Bar

The blue bar at the top of the page is much the same as in the RAPIX Addressing PC user interface.

The mobile web page's blue menu bar

"Mode" button
Press this button to change the mode that the mobile web page is operating in. This takes the user to an **Select DALI Device Type Mode** page, which allows the user to select what type of DALI Devices to work on.
See topic Device Type Modes 36 for more information on mobile web page operating modes

"Help" button
Press this button to view a quick help page, designed to answer most questions relating to the mobile interface. The help page contains a colour legend for the DALI Device short address grid, as well as a description of all of the buttons on the web page. The help page also briefly describes how to use the mobile web pages to locate and identify DALI Devices in the quickest way possible

Top Button Bar

The button bar above the short address grid provides access to toggling the DALI Line and DALI Devices, as well as readdressing DALI Devices.

The top button bar

"Identify the DALI Line" button
Press this button to toggle the DALI Devices on the DALI Line on and off automatically. This function is useful to determine whether all DALI Devices on the Line are wired and functioning correctly. Emergency DALI Devices will also commence an emergency identify. Press again to stop automatically toggling the DALI Line.

Note: *This button will be highlighted in blue while toggle mode is active.*

"Turn DALI Line On" button
Press this button to switch all DALI Devices on the DALI Line on.
See topic Verifying a DALI Line 48 for more information.

"Turn DALI Line Off" button
Press this button to switch all DALI Devices on the DALI Line off.
See topic Verifying a DALI Line 48 for more information.

"Auto-toggle Selected DALI Device" button
Press this button to automatically toggle the selected DALI Device in the grid on and off periodically. Press again to stop toggling the DALI Device. See topic Identifying a DALI Device 49 for more information.
Note: *This button will be highlighted in blue while toggle mode is active.*

"Readdress and Confirm" button
Press this button to apply any proposed short address changes to the DALI Devices on the DALI Line.
See topic Readdressing and Confirming DALI Devices 53 for more information on readdressing DALI Devices.

If the mobile web page is in emergency mode, then the top button bar will have two different icons, detailed below.

"Identify Emergency DALI Devices" button
Press this button to identify all emergency DALI Devices on the DALI Line. Press again to stop identifying the DALI Devices. See topic Identifying a DALI Device 49 for more information.

"Decode Tridonic Red/Green Sequence" button
Press this button to decode a red/green sequence that is emitted by Tridonic emergency DALI Devices when being identified, which represents a DALI short address. See topic Identifying an Emergency DALI Device 51 for more information on decoding Tridonic red/green identification sequences.

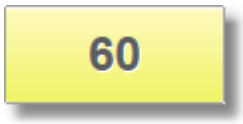
Bottom Button Bar

The button bar below the short address grid allows for cycling through DALI Devices manually, as well as starting the Rapid Find Algorithm.

The bottom button bar

"Rapid Find Algorithm" button
Press this button to run the Rapid Find Algorithm to find the short address of a DALI Device.
See topic Rapid Find Algorithm 37 for more information.

"Select previous DALI Device" button
Press this button to select a DALI Device at the previous occupied short address.



"Toggle DALI Device" button
This button displays the currently-selected DALI short address. Press this button to manually toggle on and off the currently selected DALI Device.
Note: *This button will be highlighted in yellow when the DALI Device is switched on.*

"Select next DALI Device" button
Press this button to select a DALI Device at the next occupied short address.

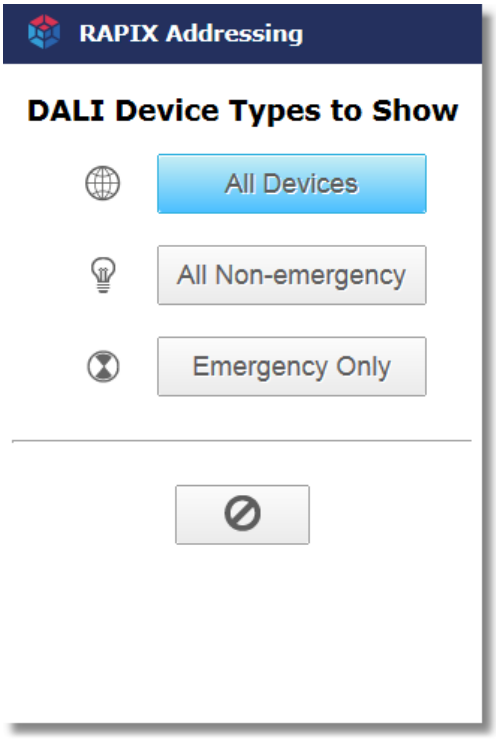
3.2.2 Device Type Modes

The mobile web page can be used in multiple modes, depending on the type of DALI Device that is currently being commissioned.

There are options to search, readdress, and confirm:

- DALI Devices of any type.
- All non-emergency DALI Devices.
- Only emergency DALI Devices.

The **Select DALI Device Type Mode** page can be accessed by pressing the **Mode** icon in the blue bar.



DALI Device type selection page

The currently active mode will be highlighted in blue. Pressing on any of the buttons will select that mode and return the user to the short address grid page. The icon for the new mode will now be shown in the blue bar.

The options available are:

All DALI Devices
This option allows the user to search, readdress, and confirm DALI Devices of any type.
Note: *This is the default mode.*

All non-emergency DALI Devices
This option allows the user to search, readdress, and confirm DALI Devices of any type *except* for emergency.

Emergency DALI Devices only
This option allows the user to search, identify, readdress, and confirm only emergency DALI Devices.

3.2.3 Rapid Find Algorithm

The Rapid Find Algorithm is an automatic tool that can find the short address of a specific DALI Device in a matter of seconds.

Note: *This feature is only available when using a mobile device connected to RAPIX Addressing, as it requires the user to be in direct line-of-sight with the DALI Device being searched for.*

The Rapid Find Algorithm user interface in action

Benefits

The benefit of using the Rapid Find Algorithm is that it dramatically cuts down the time it takes to determine the short address of observed DALI Devices on the DALI Line. With this method, it takes only seconds to find the short address of a DALI Device.

How it Works

The Rapid Find Algorithm, when in action, turns on and off DALI Devices in stages and asks you to press the **Press when load is on** or **Press when load is off** buttons when the DALI Device you are interested in is switched on or off. This allows RAPIX Addressing to eliminate DALI Devices not being observed until only one is left.

Audio Feedback

On mobile devices that support playing sounds in the web browser, audio feedback of the Rapid Find Algorithm can be used to allow the user to observer the DALI Device directly and listen for feedback from the Rapid Find Algorithm, rather than look at the mobile device.

An ascending sound is played when the **Press when load goes on** button is pressed, and a descending sound is played when the **Press when load goes off** button is pressed. A "bing bong" sound is played when the Rapid Find Algorithm completes.

Sounds can be enabled or disabled by pressing the speaker button in the bottom right. This option can also be set on the **Options** dialogue. See topic Options 30 for more information.

Cancelling the Rapid Find Algorithm

You may want to cancel the Rapid Find Algorithm for any reason, or if a mistake was made, e.g.:

- Pressing the **Press when load is on/off** button when not meant to; or
- Not pressing the **Press when load is on/off** when meant to; or
- You need a coffee break.

The Rapid Find Algorithm process can be cancelled at any stage by clicking the **Cancel** button, which will return you to the short address grid page. The Rapid Find Algorithm can be started again at any time.

Changing the Delay Between Each Step

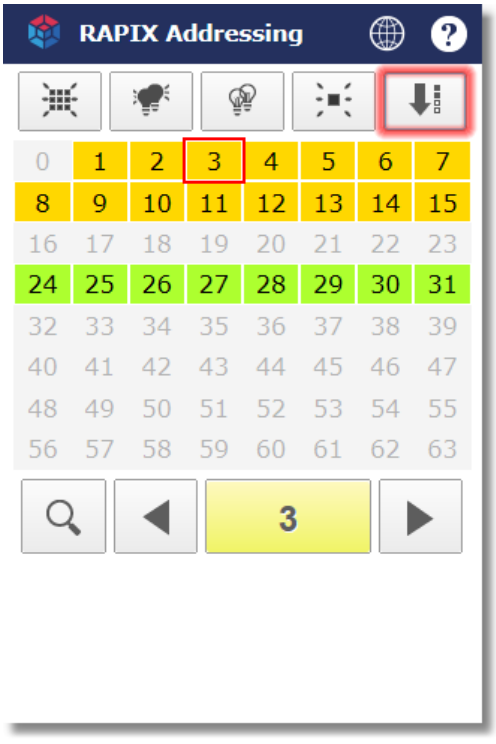
The time delay between each step of the Rapid Find Algorithm, between switching DALI Devices on and off can be configured. This allows for cases where DALI Devices may take time to switch on or off, such as fluorescent devices.

The minimum value for the time delay is 2.0 seconds, and the maximum value is 10.0 seconds. See topic Options 30 for more information.

3.2.4 Readdressing a DALI Device

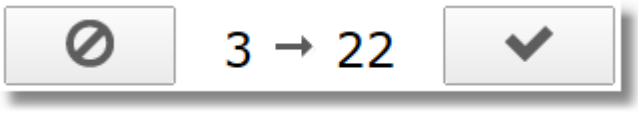
DALI Devices can be readdressed using the mobile interface.

To readdress a DALI Device, select the DALI Device to be readdressed, and then press the **Readdress** button (highlighted in red below).



DALI Device selected to be readdressed and the Readdress button highlighted in red

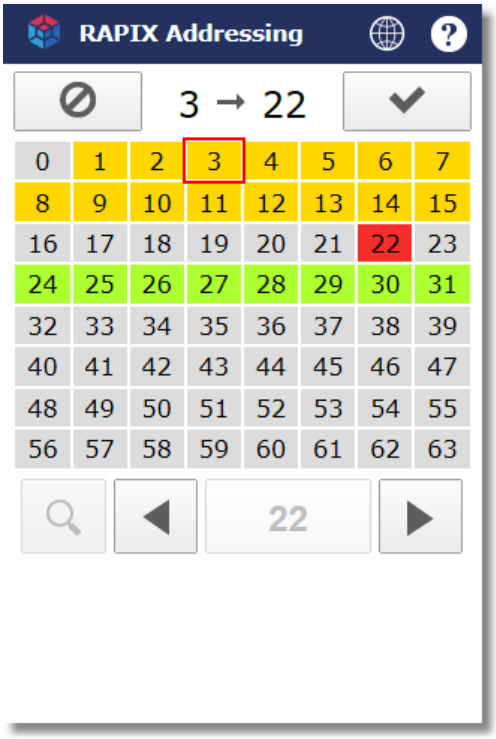
Upon pressing the **Readdress** button, the top button bar displays a **Cancel** and **Apply** button.



The Cancel button on the left and the Apply button on the right

With the **Cancel** and **Apply** button showing, select a DALI short address in the grid to readdress the DALI Device to.

Note: *The current short address of the DALI Device is displayed with a red border, and the DALI short address to readdress the DALI Device to will be highlighted and flashing red.*



Choosing 22 as a DALI Device's new short address

In addition to pressing a cell to readdress a DALI Device to, the **Previous** and **Next** buttons can be used to cycle back and forward through potential short addresses.

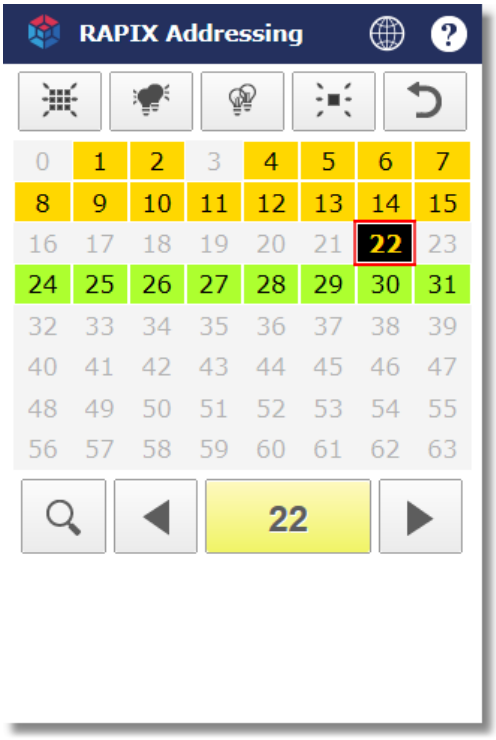
The Previous button on the left and the Next button on the right

To readdress the DALI Device, press the **Apply** button. To cancel readdressing the DALI Device, press the **Cancel** button.

Confirmed DALI Devices

If a DALI Device has been confirmed, then it cannot be readdressed. If a confirmed DALI Device is selected, then the **Readdress** button at the top right of the page changes into an **Unconfirm** button.

The Unconfirm button



Confirmed DALI Device selected and Unconfirm button

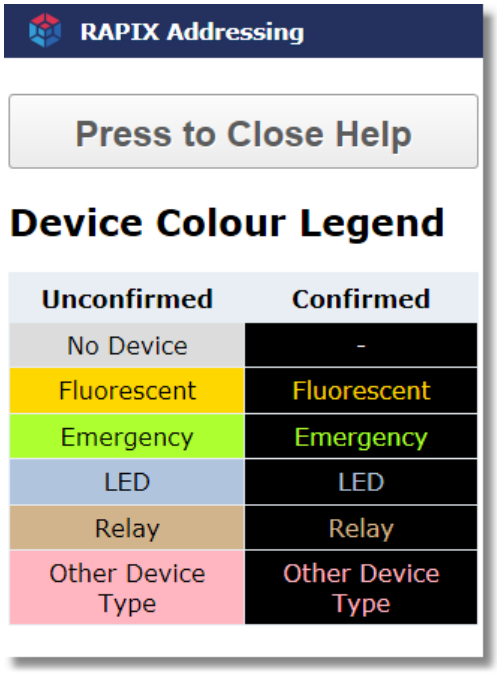
Pressing the **Unconfirm** button will unconfirm the selected DALI Device, thereby allowing that DALI Device to be readdressed.

See topic Readdressing and Confirming DALI Devices 53 for more information on readdressing and confirming DALI Devices.

3.2.5 Mobile Device Help Page

The mobile interface provides a quick help guide which provides access to:

- A legend that describes the different colours for DALI Devices of different types.
- A description of the DALI Device type modes that the mobile interface can operate in.
- A guide to all of the buttons available in the mobile interface.
- Quick guides on how to use the mobile interface.



Top of the mobile interface help page

The quick help page can be closed at any time by pressing the **Press to Close Help** button at the top of the page. This will return the mobile interface back to the DALI short address grid page.

4 Basic Working Procedures

This section describes the most common and important basic tasks that will be used when commissioning a DALI Line.

It is designed as a "How To" guide and reference manual.

4.1 Connecting to a DALI Line

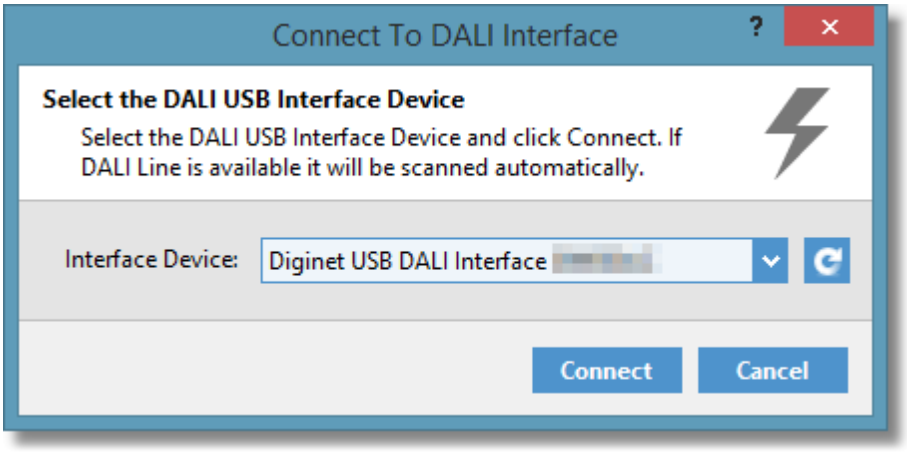
To connect RAPIX Addressing to a DALI Line, a DALI USB Interface Device is required.

Run RAPIX Addressing and connect the DALI USB Interface Device to the PC.

New Project

When the "**New**" button is clicked on the Home page, the **Connect to DALI Interface** form is shown.

The New project button



The Connect to DALI USB Interface Device window

This allows you to choose a DALI USB Interface Device from a list of those currently connected to the PC.

When selecting a DALI USB Interface Device from the combo box, RAPIX Addressing will

automatically try and verify the connection. This ensures that there is a powered DALI Line connected to the DALI USB Interface Device.

The refresh button can be used to refresh the list of DALI USB Interface Devices that are connected.

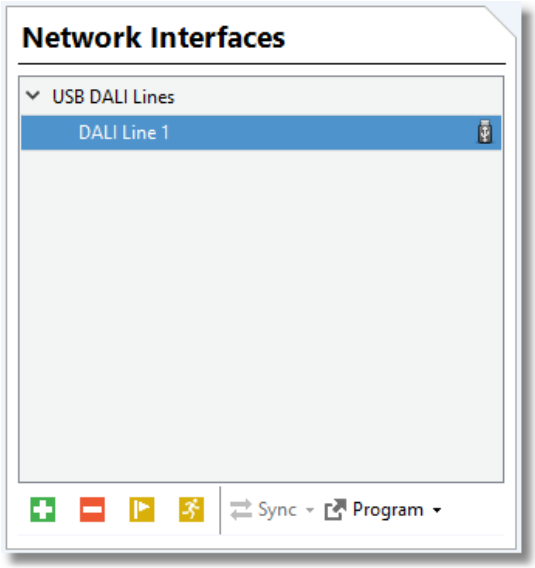
When the DALI USB Interface Device has been selected, click the **Connect** button. This will start scanning the DALI Line for any DALI Devices.

Note: *This window will remember the last DALI USB Interface Device that was chosen next time it is displayed.*

See topic Scanning a DALI Line 44 for more information on scanning for DALI Devices.

Existing Project

If you open an existing RAPIX Addressing project, the DALI Lines will be shown in the Network Interfaces list.



The Network Interfaces

To connect to a particular DALI Line, select the DALI Line in the Network Interfaces list, then click the Scan button on the bottom-right corner of the form:

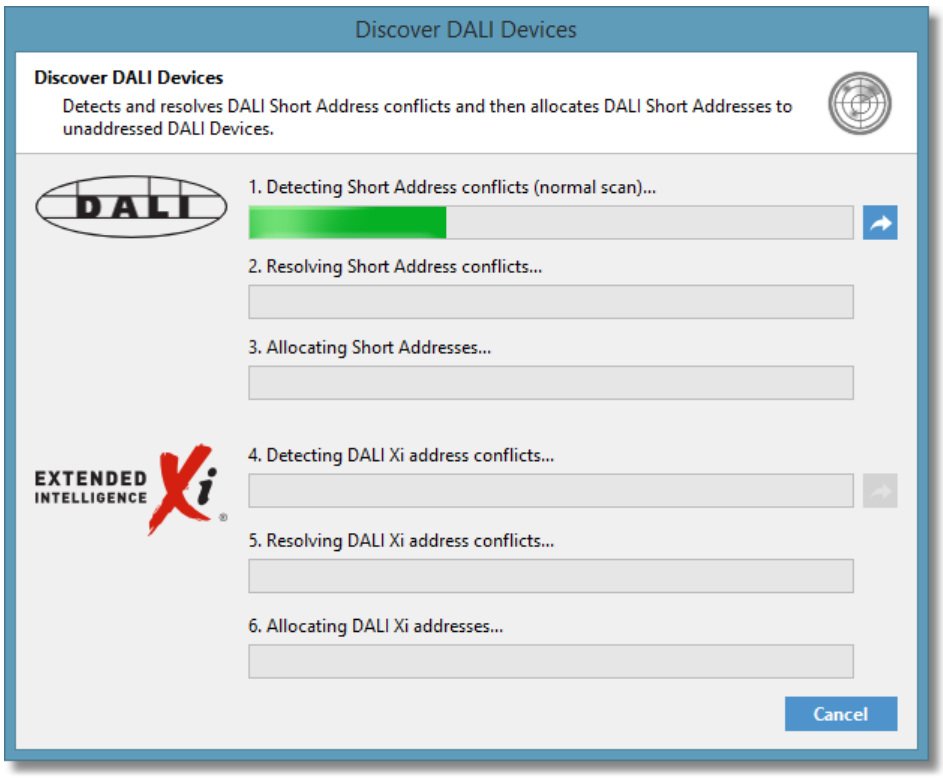
The **Connect to DALI Interface** form will be shown as described above.

4.2 Scanning a DALI Line

Scanning or rescanning a DALI Line performs the following tasks when discovering DALI Devices and DALI Xi Devices:

1. Short address conflicts are detected and resolved, such that no two DALI Devices have the same short address.

2. DALI Devices without short addresses are assigned unoccupied short addresses.
3. The DALI Device types of all discovered DALI Devices are retrieved.
4. DALI Xi extended address conflicts are detected and resolved, such that no two DALI Xi Devices have the same extended address.
5. DALI Xi Devices without extended addresses are assigned unoccupied extended addresses.
6. The DALI Xi device types of all discovered DALI Xi Devices are retrieved.



The Discover DALI Devices window

Note: *Rescanning a DALI Line that has confirmed DALI Devices or DALI Xi Devices on it will mark all of the DALI Devices and DALI Xi Devices as unconfirmed.*

4.3 Connecting a Mobile Device to Go Mobile

To use a mobile device with RAPIX Addressing, both the PC running RAPIX Addressing and the mobile device, must be connected to the same Wi-Fi network.

With RAPIX Addressing running and connected to a DALI Line, click the Go Mobile button in the sidebar to go to the Go Mobile view:

The Go Mobile sidebar button

The **Connect a Mobile Device** prompt will be displayed:

The Connect a Mobile Device prompt

This view provides two ways that the mobile device can be connected.

1. The URL to access RAPIX Addressing on the mobile device can be typed into the device's web browser.
2. If the mobile device is equipped with a camera and QR code scanning functionality, the QR code can be scanned and then the URL opened in a web browser.

The Connect a Mobile Device Window

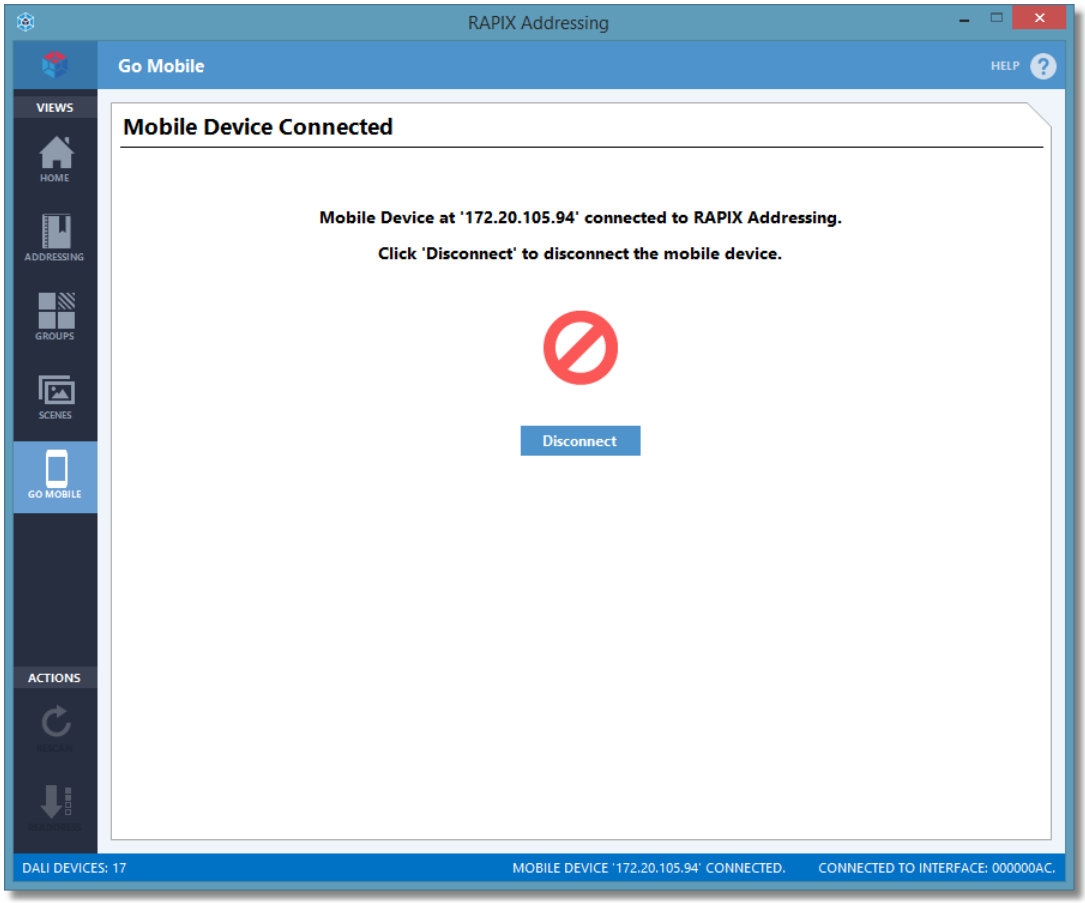
The **Connect a Mobile Device** window allows the user to select which network interface to allow a mobile device to connect to. Typically, the network interface to choose is the wireless network interface or local area connection.

Note: *The view will remember the last network interface chosen when it is reopened.*

When selecting a network interface, the web URL and QR code will update to use the IP address of that network interface.

The QR code is a graphical representation of the URL in blue, which can be scanned by a mobile device's camera, so that the URL doesn't have to be typed in.

When the mobile interface is loaded in the mobile device's web browser, the **Connect to Mobile Device** view will change to display that a mobile device is connected:



Mobile Device Connected prompt

To disconnect the mobile device, simply click the **Disconnect** button.

PC Power Saving Options and Security

RAPIX Addressing provides two features related to power saving options and security when a mobile device is connected.

Power Saving Options

When a mobile device is connected to RAPIX Addressing, in order to maintain the connection the PC is prevented from going to sleep. The PC's display will turn off after a period of time if this option has been set in Windows in order to conserve power.

Security

When using a mobile device connected to RAPIX Addressing, the PC may be out of sight. In order to help keep the PC secure, RAPIX Addressing provides an option in the **Options** window to lock the PC when a mobile device is connected. This will prevent unauthorised users from accessing the PC while you are not in front of it.

Note: *To unlock the PC in order to continue using it, press* ***Ctrl+Alt+Del*** *and enter your PC user account password.*

Note: *See topic Options*[30] *for more information on setting this option.*

4.4 Verifying a DALI Line

Verifying a DALI Line involves ensuring that all of the DALI Devices on the DALI Line are functioning correctly.

This can be done in several ways, each accessible by a button in the RAPIX Addressing bottom tool bar. They are:

1. Turning all DALI Devices on a DALI Line on.
2. Turning all DALI Devices on a DALI Line off.
3. Identifying all DALI Devices on a DALI Line (toggling the state periodically).

The buttons on the bottom tool bar

Switching the DALI Line On

The first method involves switching all DALI Devices on the DALI Line on. This sends out a broadcast DALI command telling all DALI Devices to switch themselves on. Any DALI Devices that do not respond to this broadcast command, as indicated by their luminaire not being switched on, can be considered to either be faulty and require maintenance, or not connected to DALI after the DALI Line was scanned.

The DALI Line can be switched on by clicking the **Turn DALI Line On** button.

See topic Addressing View 14 for more information on the verification buttons.

Switching the DALI Line Off

This method involves switching all DALI Devices on the DALI Line off. This sends out a broadcast DALI command telling all DALI Devices to switch themselves off. Any DALI Devices that do not respond to this broadcast command, and are not control devices or maintained emergency devices, as indicated by their luminaire not being switched off, can be considered to be faulty and require maintenance.

The DALI Line can be switched off by clicking the **Turn DALI Line Off** button.

Note: *This method may not work for maintained emergency DALI Devices as they do not respond to on and off commands.*

See topic Addressing View 14 for more information on the verification buttons.

Toggling the DALI Line

This method involves periodically switching all DALI Devices on the DALI Line on and off. This sends out a broadcast DALI command telling all DALI Devices to switch themselves on, followed by a broadcast DALI command telling all DALI Devices to switch themselves off after a delay. This process then repeats itself after another delay.

Toggling the DALI Line also sends out additional broadcast commands to identify emergency DALI Devices as well as some other control devices.

The DALI Line identification can be started and stopped by selecting "**Broadcast**" then clicking the "**Identify Device**" button.

Alternatively, click the "**Identify**" button on the Network Interfaces section (bottom left):

The delays between switching the DALI Devices on and off can be configured in the Options window. See topic Options[30] for more information.

See topic Addressing View[14] for more information on the verification buttons.

Verifying DALI Devices Using the Mobile Interface

DALI Devices can also be verified using much the same procedure on the mobile interface's short address grid page.

DALI Device verification buttons on the mobile interface

The buttons shown above can be used to verify and identify DALI Devices on the DALI Line. See topic Short Address Grid Page[33] for more information on each button.

4.5 Identifying a DALI Device

Identifying a DALI Device can mean two things:

1. Finding a DALI Device with a specific DALI short address.
2. Finding the DALI short address of an observed DALI Device.

RAPIX Addressing supports methods of achieving both goals.

Finding a DALI Device With a Specific Short Address

To locate a DALI Device with a specific DALI short address, select the DALI Device in the list, and

click one of the following options in the side bar:

1. **Turn Selected DALI Device On.**
   This will turn the selected DALI Device on, keeping all other DALI Devices on the DALI Line off.

   Note: *If the invert option has been set, the selected DALI Device will be turned off, with all other DALI Devices on the DALI Line on. See topic Options[30] for more information on the invert option.*

2. **Toggle Selected DALI Device.**
   This will toggle the selected DALI Device on and off, with a delay between.

   Note: *If the invert option has been set, the on and off delay intervals will be reversed for the selected DALI Device, and all other DALI Devices will remain on. See topic Options[30] for more information on the delay intervals and invert options.*

Using one of these options will help in physically locating the DALI Device with the specified short address.

Finding the Short Address of an Observed DALI Device

To find the short address of a DALI Device whose physical location is known and can be seen, there are two options.

1. Manually toggle DALI Devices one by one until the observed DALI Device is toggled.
2. If using a mobile device, use the Rapid Find Algorithm which will toggle multiple DALI Devices in stages until the observed DALI Device is found.

Manually Finding a DALI Device's Short Address

Finding the short address of a DALI Device manually can be done by toggling the selected DALI Device or keeping the selected DALI Device on.

To do this on the PC user interface is cumbersome, but can be done by clicking the **Turn Selected DALI Device On** or **Toggle Selected DALI Device** button, and cycling through all DALI Devices in the list one by one, until the observed DALI Device is switched on.

Note: *If the invert option is set, all DALI Devices on the DALI Line will be switched on, with the selected DALI Device switched off. This option may be useful in darker conditions.*

On a mobile device this method is easier, and can be done by simply selecting a DALI short address in the grid, or cycling through DALI short addresses by pressing the **Previous** and **Next** buttons.

The button bar with Previous and Next buttons

The large button with the selected short address's value displayed in it, can be pressed to toggle that short address on or off. The **Toggle Selected DALI Device** button can also be selected to automatically toggle the selected short address on and off.

Note: *This method may not work for maintained emergency DALI Devices as they do not respond to on and off commands.*

Finding a DALI Device 's Short Address Automatically (Mobile Only)

Finding the short address of a DALI Device automatically involves using the Rapid Find Algorithm.

The Rapid Find Algorithm is an automatic DALI Device identification tool that allows the user to determine the DALI short address of a specific DALI Device in a matter of seconds. This feature is only available when using a mobile device connected to RAPIX Addressing, as it requires the user to be in direct line of sight with the DALI Device being searched for.

To use this feature, on the mobile interface, press the **Rapid Find Algorithm** button.

The run Rapid Find Algorithm button

While looking at the DALI Device whose short address is being searched for, press the **Press when load is on** and **Press when load is off** buttons when the DALI Device is switched on or off.
The **Press when load is on** and **Press when load is off** buttons have been designed to be large such they can be pressed while you are looking at the DALI Device and not at the mobile device.

After doing this a few times, the Rapid Find Algorithm will finish, with the DALI Device whose short address has been found, selected in the short address grid. If your mobile device supports audio, a sound will be played indicating that the process is complete.

See topic Rapid Find Algorithm 37 for more information on how the Rapid Find Algorithm works.

Note: *This method may not work for maintained emergency DALI Devices as they do not respond to on and off commands.*

4.6 Identifying an Emergency DALI Device

Finding the short address of an emergency DALI Device can be done by putting the DALI Device in identification mode.

This method can be used, much like toggling individual DALI Devices on and off, to locate an emergency DALI Device with a specific short address.

All emergency DALI Devices on the DALI Line can also be put into identification mode as well, which may be useful if the identification mode for the DALI Devices emits any identifiable sequence.

Note: *To indicate that DALI Devices that are currently in emergency identification mode, they will flash between green and white on the mobile interface.*

See topic Short Address Grid Page 33 for more information on the functions available on the mobile interface.

Decoding the Tridonic Red/Green Sequence

Tridonic emergency DALI Devices, when in identification mode, emit their short addresses in the form of a binary sequence depicted by flashing the red and green indicator LEDs.

RAPIX Addressing's mobile interface provides a method of decoding this red/green sequence by allowing the user to enter in red and green values seen.

To do this:

1. Put the mobile interface into emergency mode. This will put all emergency DALI Devices in identification mode. See topic Device Type Modes 36 for more information mobile interface modes.

The Mode button when in emergency mode

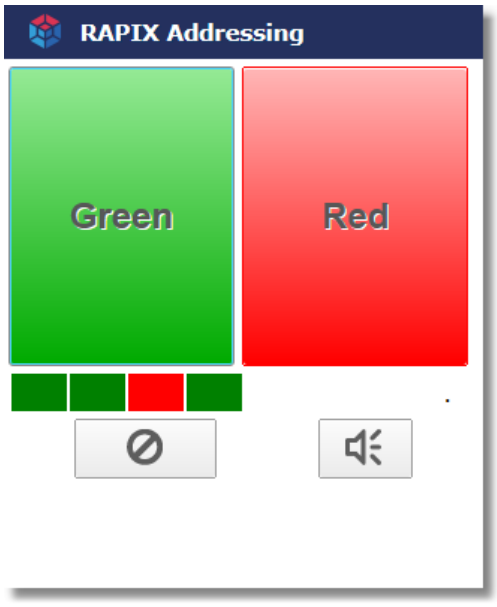
2. Press the **Decode Tridonic Red/Green Sequence** button.

The Decode Tridonic Red/Green button

3. The Tridonic emergency DALI Devices will continuously emit their short address, with a short delay between.

4. Once the delay has passed, press the **Red** and **Green** buttons according to the colour emitted by the identification LEDs.

5. Once six colours have been entered, the short address will be displayed and the emergency DALI Device with that short address will be selected in the short address grid.



The Decode Tridonic Red/Green Sequence page

Tip: *Because the red and green LED sequence occurs rather quickly, you can hold the mobile device with both hands, and use your thumbs to press the* ***Green*** *and* ***Red*** *buttons.*

Note: *If you accidentally press the wrong button you can press the* ***Cancel*** *button and start over.*

See topic Short Address Grid Page 33 for more information on the emergency functions available on

the mobile interface.

Audio Feedback

On mobile devices that support playing sounds in the web browser, audio feedback can be used to allow the user to observe the red/green sequence directly and listen for feedback of the buttons pressed, without needing to look at the mobile device.

An ascending sound is played when the **Green** button is pressed, and a descending sound is pressed when the **Red** button is pressed. A "bing bong" sound is played when all 6 bits have been entered, to form a DALI short address.

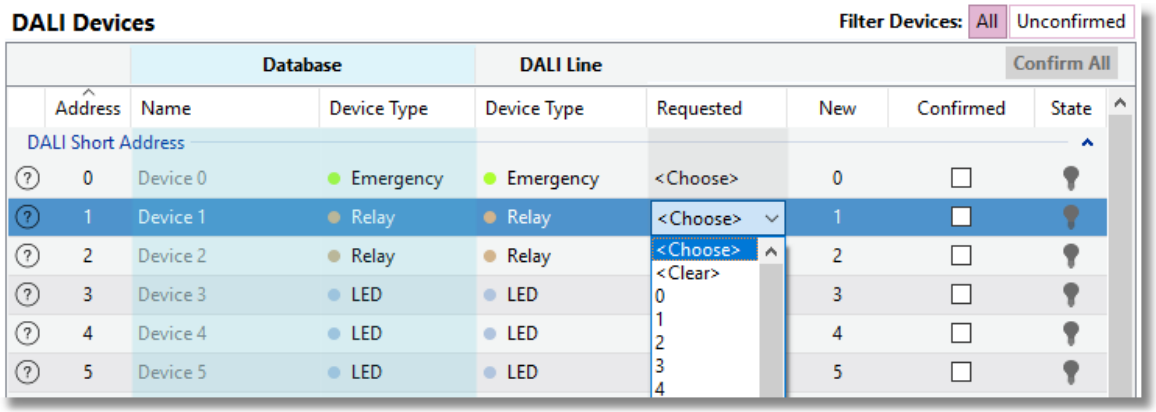
Sounds can be enabled or disabled by pressing the speaker button in the bottom right. This option can also be set on the **Options** dialogue. See topic Options 30 for more information.

4.7 Readdressing and Confirming DALI Devices

Readdressing DALI Devices can be done on both the PC user interface and the mobile interface, and readdressing DALI Xi Devices can be done on the PC user interface only.

Readdressing DALI Devices on the PC

To readdress a DALI Device or DALI Xi Devices using the PC user interface, choose a new address from the combo box in the **Requested** column for the selected DALI Device.



The Requested SA column combo box

The addresses that can be chosen are any addresses that are not occupied by confirmed DALI Devices or DALI Xi Devices, or any addresses that do not have proposed DALI Devices or DALI Xi Devices.

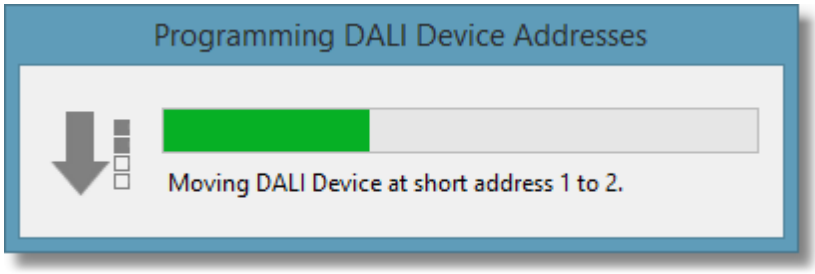
DALI Devices and DALI Xi Devices can be swapped, by selecting an address that is occupied by another DALI Device or DALI Xi Device. The other DALI Device or DALI Xi Device will be moved to occupy the original DALI Device's position.

DALI Device and DALI Xi Device addresses can also be cleared, by choosing the **<Clear>** option from the **Requested** combo box. When a DALI Device's or DALI Xi Device's address has been cleared and programmed, it will immediately be removed from the list.

Note: *DALI Devices and DALI Xi Devices with cleared addresses will be reassigned an address*

when a rescan is performed on the DALI Line.

To commit any proposed address changes, click the **Readdress** button. A progress window will be shown when address changes are being saved to the DALI Devices and DALI Xi Devices.



The Programming DALI Device Short Addresses window

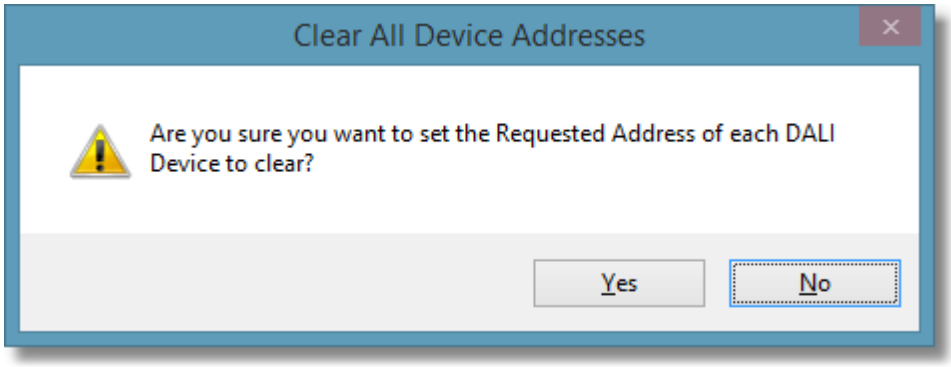
See topic Main Window[12] for more information on readdressing options.

Clearing the Address of All DALI Devices and DALI Xi Devices on a DALI Line

RAPIX Addressing provides the ability to clear the address of all DALI Devices and DALI Xi Devices on a DALI Line in a single step.

This feature can be used in cases where you want to readdress a DALI Line from scratch.

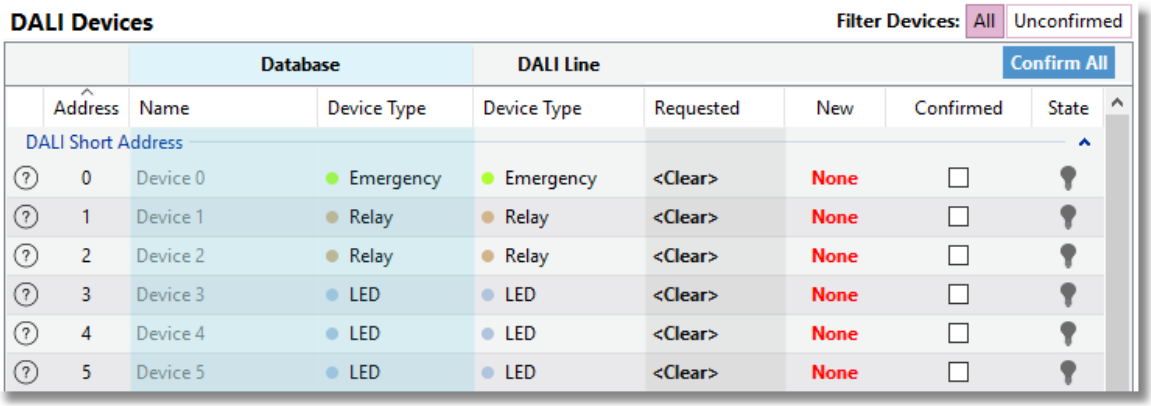
To clear the address of all DALI Devices and DALI Xi Devices on a DALI Line, press **Shift+Ctrl+C**. This will display a prompt asking whether you are sure that you want to clear all addresses:



The Clear All Addresses confirmation window

Next, click **Yes** to set the requested short address of all DALI Devices to **<Clear>**.

The list of DALI Devices will now look something like this:



List of DALI Devices on the DALI Line with requested short addresses set to be cleared

The DALI Device short addresses are now ready to be cleared. Click the **Confirm** check boxes to apply the changes or click on the **Confirm All** button.

Note: *This action is not undoable.*

Note: *The next time that the DALI Line is rescanned, the DALI Devices with cleared short addresses will be randomly readdressed to unoccupied short addresses starting from address 0. See topic* *Scanning a DALI Line* 44 *for more information on what happens during a DALI Line scan.*

Readdressing DALI Devices on a Mobile Device

See topic Readdressing a DALI Device 39 for more information on readdressing DALI Devices using a mobile device.

Confirming and Unconfirming DALI Devices

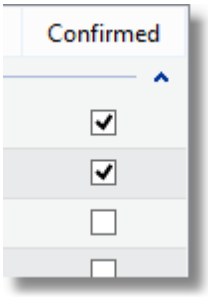
DALI Devices that are considered by the user to have the correct short address, can be marked as confirmed.

A confirmed DALI Device can no longer be readdressed to prevent accidental changes from occurring.

Confirmed DALI Devices are also excluded from the Rapid Find Algorithm, thereby decreasing the amount of time it takes to determine the short address of non-confirmed DALI Devices.

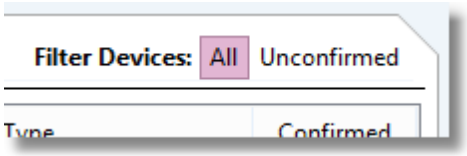
Using the PC

To confirm a DALI Device, click the check box in the **Confirmed** column for the DALI Device.



The Confirmed column in the DALI Device list

If a DALI Device has a proposed short address change, and the **Confirmed** check box is checked, then the DALI Device will be readdressed immediately.



The DALI Device filter options with the Unconfirmed option selected

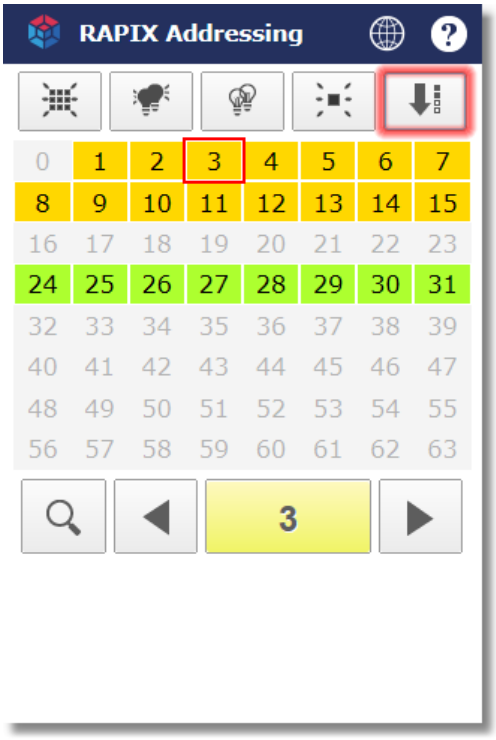
RAPIX Addressing allows you to hide any confirmed DALI Devices so that you can concentrate on only unconfirmed DALI Devices, by clicking the Unconfirmed filter option above the DALI Device list.

Note: *Any DALI Devices that need to be moved out of the way in order for the original DALI Device to be moved will be moved first. These DALI Devices cannot be confirmed.*

To unconfirm a DALI Device, uncheck the check box in the DALI Device's **Confirmed** column. This will enable that DALI Device to be readdressed again, and be a part of the Rapid Find Algorithm.

Using a Mobile Device

To confirm a DALI Device using the mobile interface:

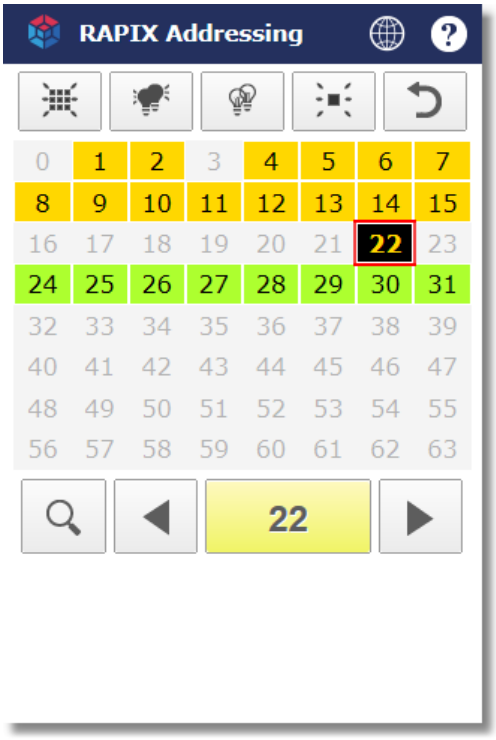


Selected DALI Device and the Readdress button highlighted in red

1. Select the DALI Device short address to be confirmed, and press the **Readdress** button. The page will now update to allow the user to select any short address to readdress the DALI Device to.

2. Without choosing a new short address to readdress the DALI Device to, press the **Apply** button. This will confirm the DALI Device without readdressing it.

To unconfirm a DALI Device, select the DALI Device to be unconfirmed, and the **Readdress** button will change to an unconfirm button.



Selected confirmed DALI Device and Unconfirm button

1. Press the **Unconfirm** button.
   The top button bar will now update to show a **Cancel**, **Unconfirm All**, and **Unconfirm** buttons.

Unconfirm buttons (Cancel, Unconfirm All, and Unconfirm Selected)

2. To unconfirm the DALI Device press the **Unconfirm** button on the right.

Note: *The* ***Unconfirm All*** *button allows the user to quickly unconfirm all DALI Devices on the DALI Line.*

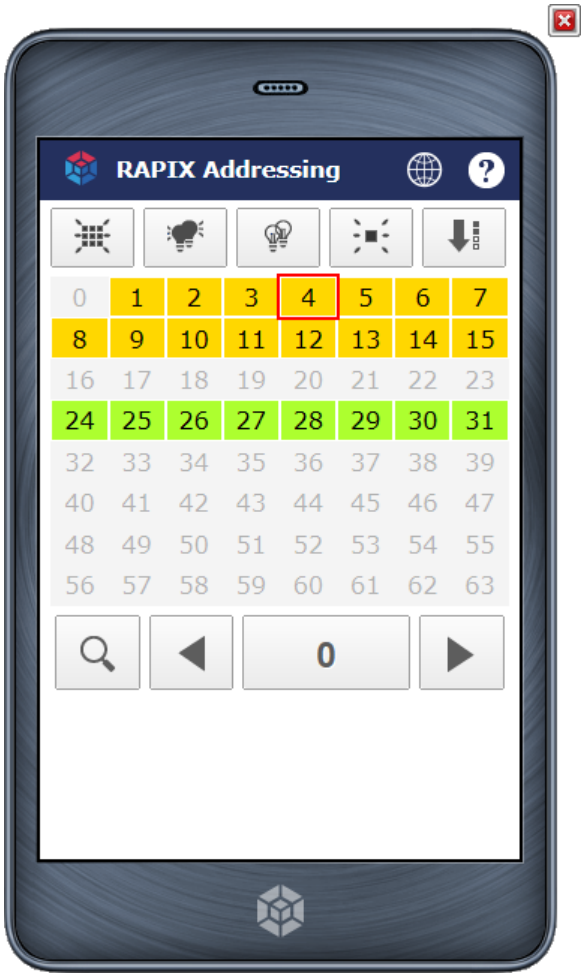
4.8 Mobile Device Simulator

RAPIX Addressing allows you to simulate having a mobile device connected for testing purposes.

This simulator can be accessed by clicking the URL hyperlink in the **Connect to Mobile Device** area on the **Go Mobile** view.

Clickable hyperlink on the Go Mobile view

This can be closed at any time by clicking the close button in the top-right corner of the window.



The mobile phone simulator

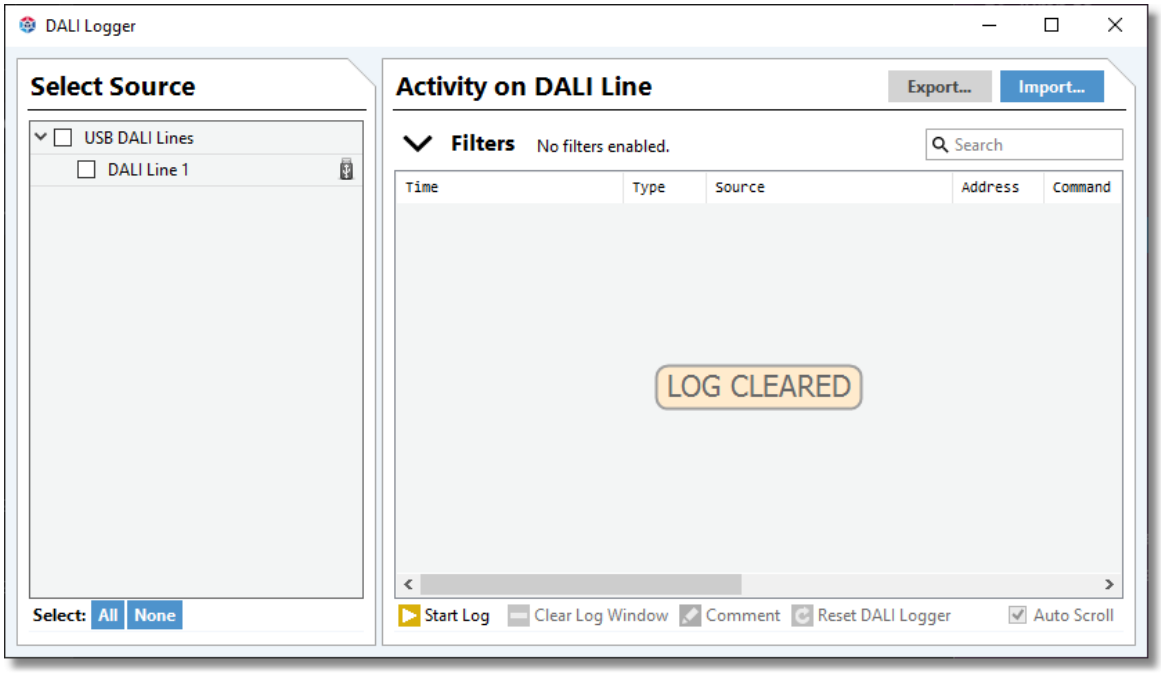
The mobile device simulator is functionally equivalent to the interface that can be used on a physical mobile device.

See topic Short Address Grid Page[33] for more information on the mobile interface.

4.9 DALI Log

To view the DALI Log, click on the DALI Logger button on the left panel:

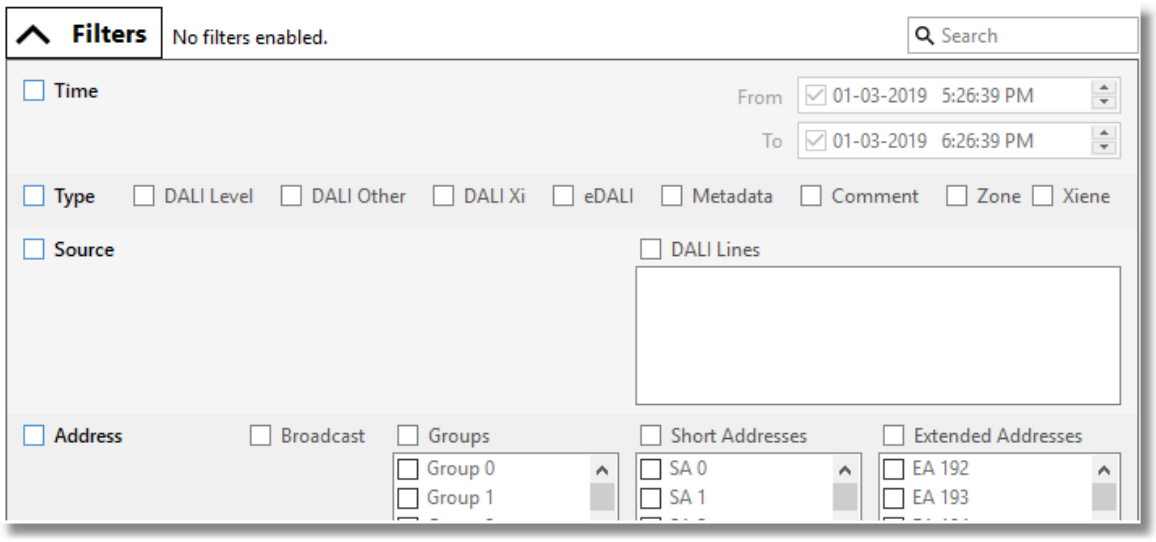
The DALI Logger Form will be displayed:



To log the messages from a DALI Line:
1. Select the check box for the DALI Line in the **Source** list.
2. Click the **Start Log** button

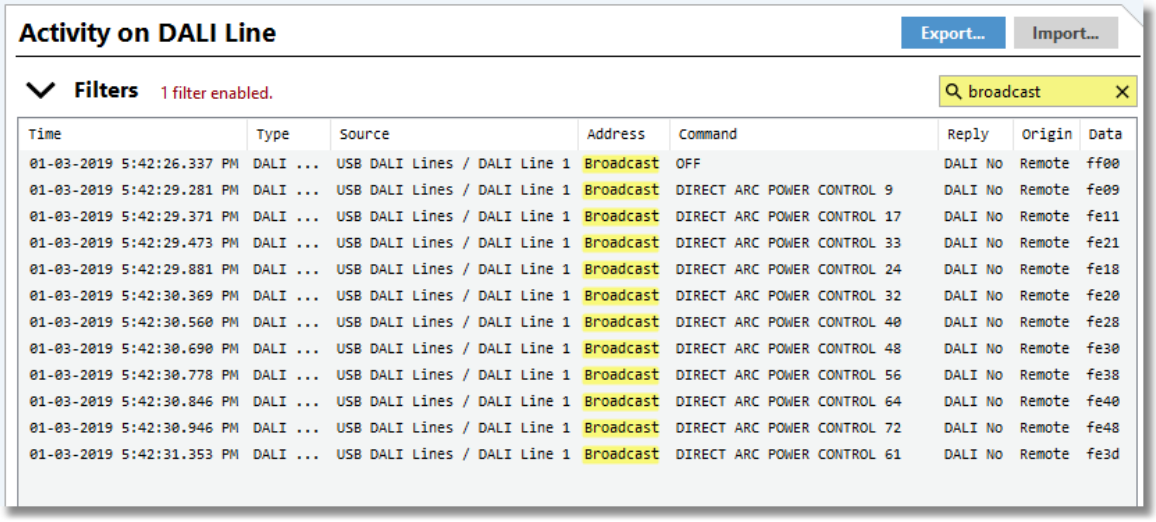
Filter

To filter the logged messages:
1. Click on the **Filters** button
2. The filters options will be displayed



3. Select the options required
4. Click the **Filters** button again to hide the filters

To view just the messages that contain a particular keyword, enter the text in to the Search box at the top of the DALI Logger form. Only messages with that text will be displayed:



Clear

To clear the log, click on the **Clear Log Window** button.

Pause

To pause the log, click on the **Pause** button. To re-start, click the button again.

To stop the log from scrolling, de-select the **Auto Scroll** check box.

Import/Export

The text from the log can be exported to a file by clicking on the **Export** button at the top of the form,

then enter a file name.

If a log file has been previously exported, it can be re-imported by clicking the **Import** button, then selecting the log file name.

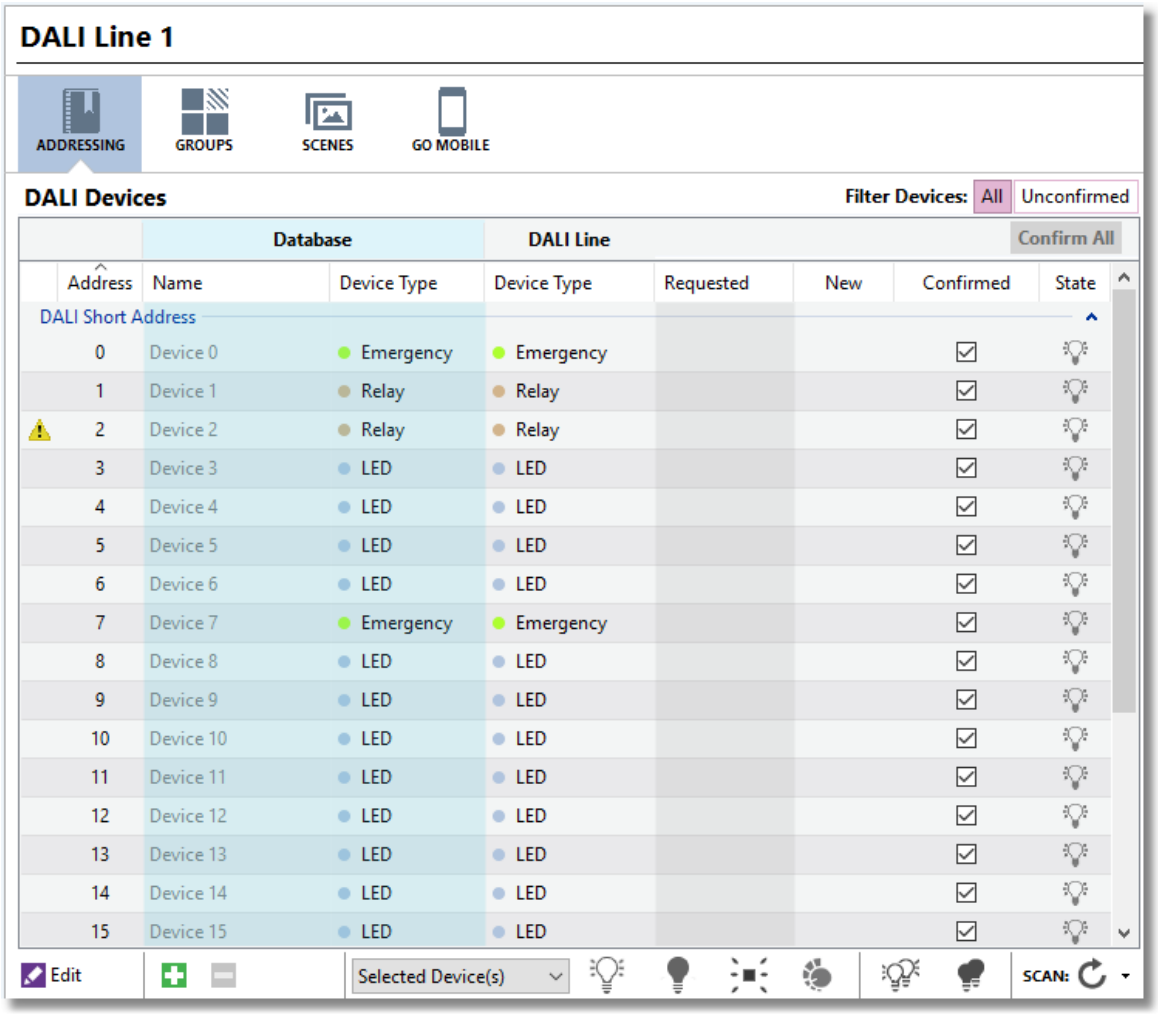
4.10 Editing DALI Device Properties

RAPIX Addressing allows the user to edit the properties of certain DALI Devices on the DALI Line.

4.10.1 Editing a DALI Device

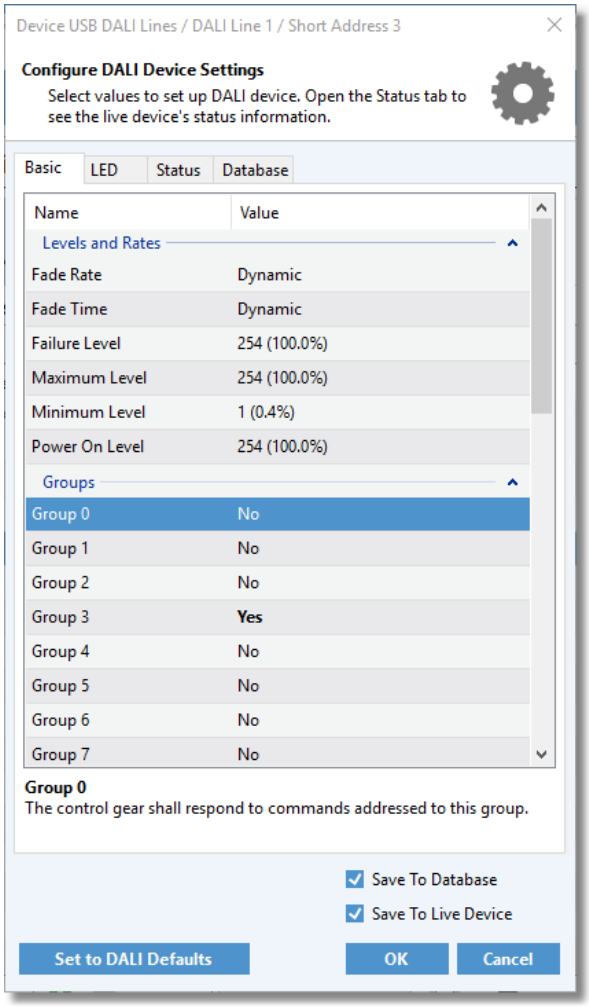
To edit a DALI Device, either

- Select the device in the device list, then click the **Edit** button; or
- Double click on the device in the device list



The Device List and Edit Button (bottom-left)

The **Device Settings** form will be displayed:



DALI Device Settings Form

The DALI Device properties are shown in a table. The settings can be changed by clicking on the value column.

When a property is selected, a summary of the selected property is shown in the panel below the table (the "Group 0" property is shown in the image above).

Advanced Properties

Additional properties are available for some DALI Device types. These have an additional tab available:

- **LED**
- **Relay**
- **Emergency**
- **Colour**

Setting Default Values

To set all properties to their default values, click the "**Set to DALI Defaults**" button.

Saving Changes

When editing is complete, click on the **OK** button to save the changes:
- If the "**Save to Database**" check box is selected, then changes will be saved to the database.
- If the "**Save to Live Device**" check box is selected, then changes will be saved to the live device (only available when RAPIX Addressing is connected to the DALI Line).

Status

The **Status** tab shows various properties from the live device (only available when RAPIX Addressing is connected to the DALI Line).

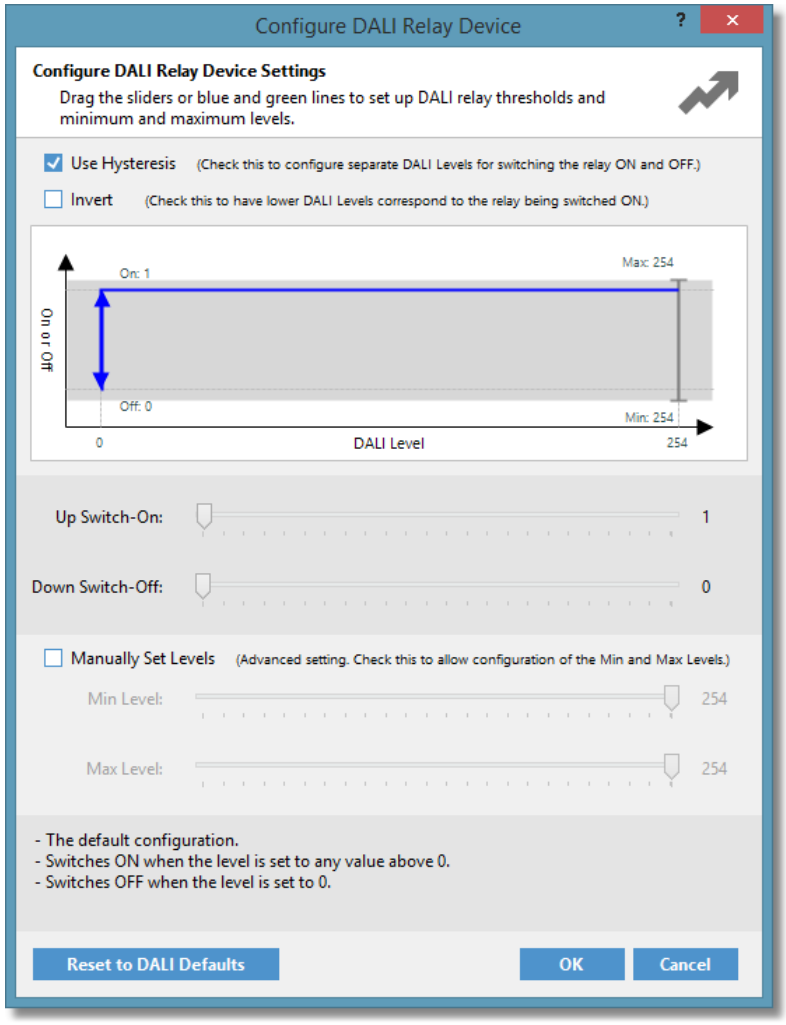
Database

The **Database** tab allows editing the name of a device, or adding notes about the device.

4.10.2 Editing a DALI Relay Device

When editing a Relay DALI Device (as described in Editing a DALI Device) 62, there will be an additional button on bottom of the form;

Click the "**Configure Relay Thresholds**" button to open the **Configure DALI Relay Device** window.



The Configure DALI Relay Device window

Threshold Options

Use Hysteresis
Enable this option to allow two independent DALI level thresholds to be set. The difference between these two threshold levels is called the hysteresis. This option is useful when small changes in the DALI level should not affect the on or off state of the DALI relay device.
This option is enabled by default.

Invert
This option specifies whether lower DALI levels correspond to the DALI relay's load being switched on, and higher DALI levels correspond to the DALI relay's load being switched off.
This option is disabled by default.

Threshold Graph
The threshold graph displays a visual representation of the threshold and Min and Max level options that are currently configured for the DALI relay device. The vertical lines can be dragged left and right to change the threshold and Min and Max level values.

Threshold Slider(s)
There may be one or two threshold sliders visible. These sliders can be moved to change the value of the DALI relay device's threshold(s). The name and behaviour of the thresholds depend on whether the **Use Hysteresis** and **Invert** options are set.

Min and Max Level Slider(s)
There are two sliders for the Min and Max levels that can be moved when the **Manually Set Levels** option is set.

Buttons

Reset to DALI Defaults
Click this button to reset the threshold and Min/Max level configuration back to the defaults specified by the DALI standard.

OK
Click this button to program the threshold and Min/Max level data into the DALI relay device.

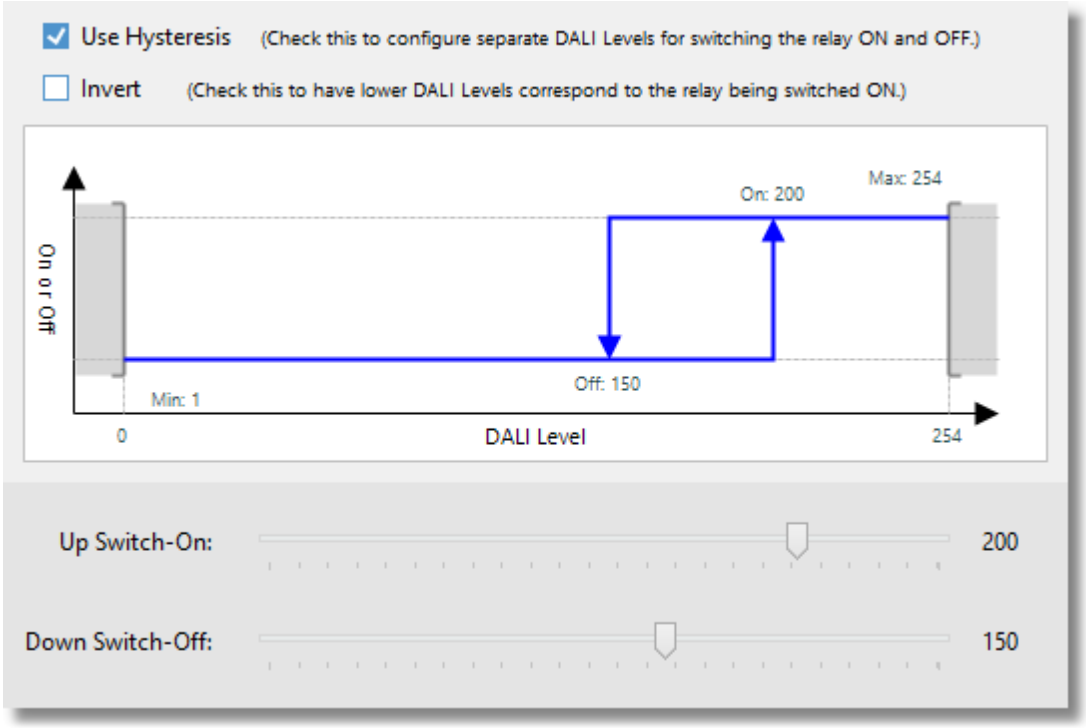
Cancel
Click this button to exit the **Configure DALI Relay Device** window and discard any changes.

Examples of Threshold Configurations

Below are some examples demonstrating a few common threshold level setups.

Example 1: Switch on at Level 200 and off at Level 150

To have the DALI relay switch on when the DALI level goes above 200, and switch off when the DALI level drops below 150, the **Use Hysteresis** option must be enabled. The setup will look like this:

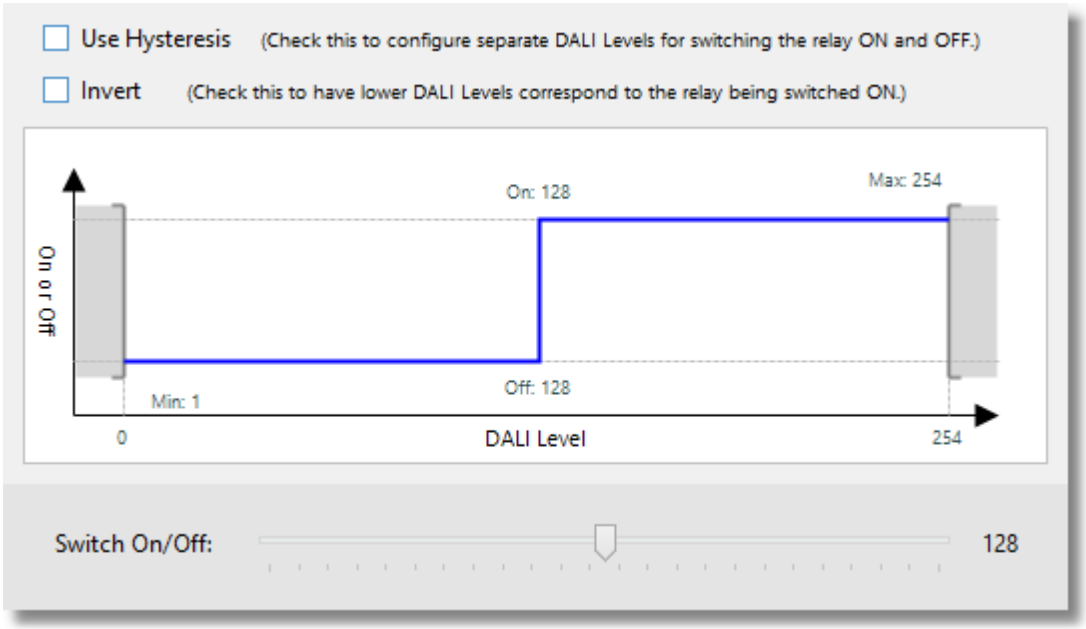


Switch on at 200 and switch off at 150

Example 2: Switch on and off at Level 128

To have the DALI relay switch on and off at the same DALI level 128, the **Use Hysteresis** option

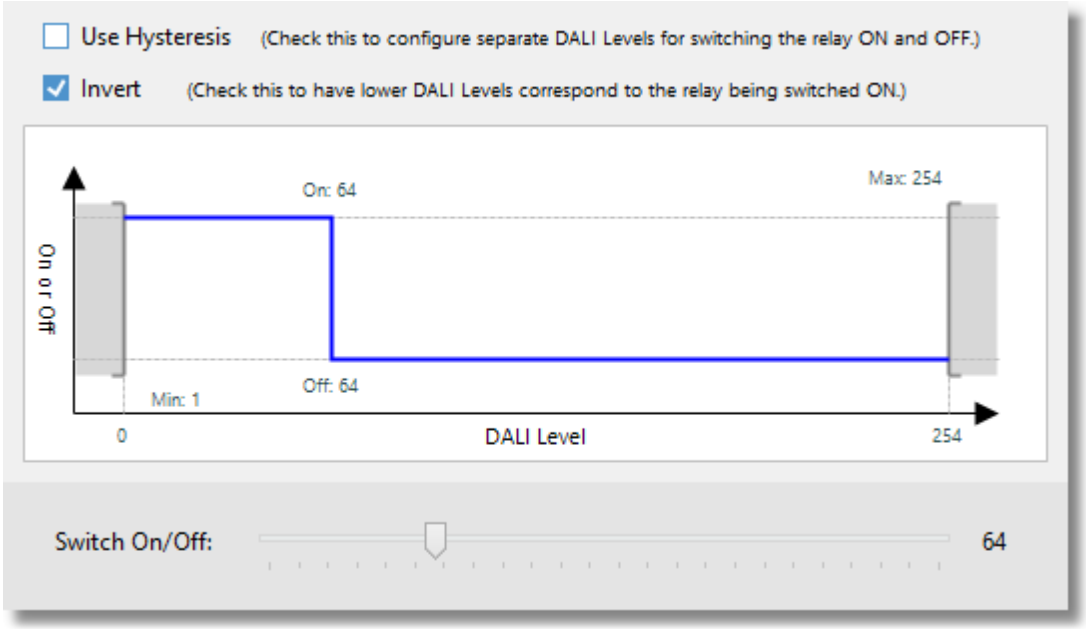
must be disabled. This will allow the on and off thresholds to be identical. The threshold slider or blue line can then be dragged to the correct value. The setup will look like this:



Switch on and off at 128

Example 3: Switch on at Levels less than 64

To have the DALI relay switch off when the DALI level reaches or goes above 64, and switch on when the DALI level reaches or falls below 64, the **Invert** option must be enabled. This will flip the graph upside-down indicating that lower DALI levels correspond to the DALI relay being switched on. The threshold slider or blue line can then be dragged to the correct value. The setup will look like this:

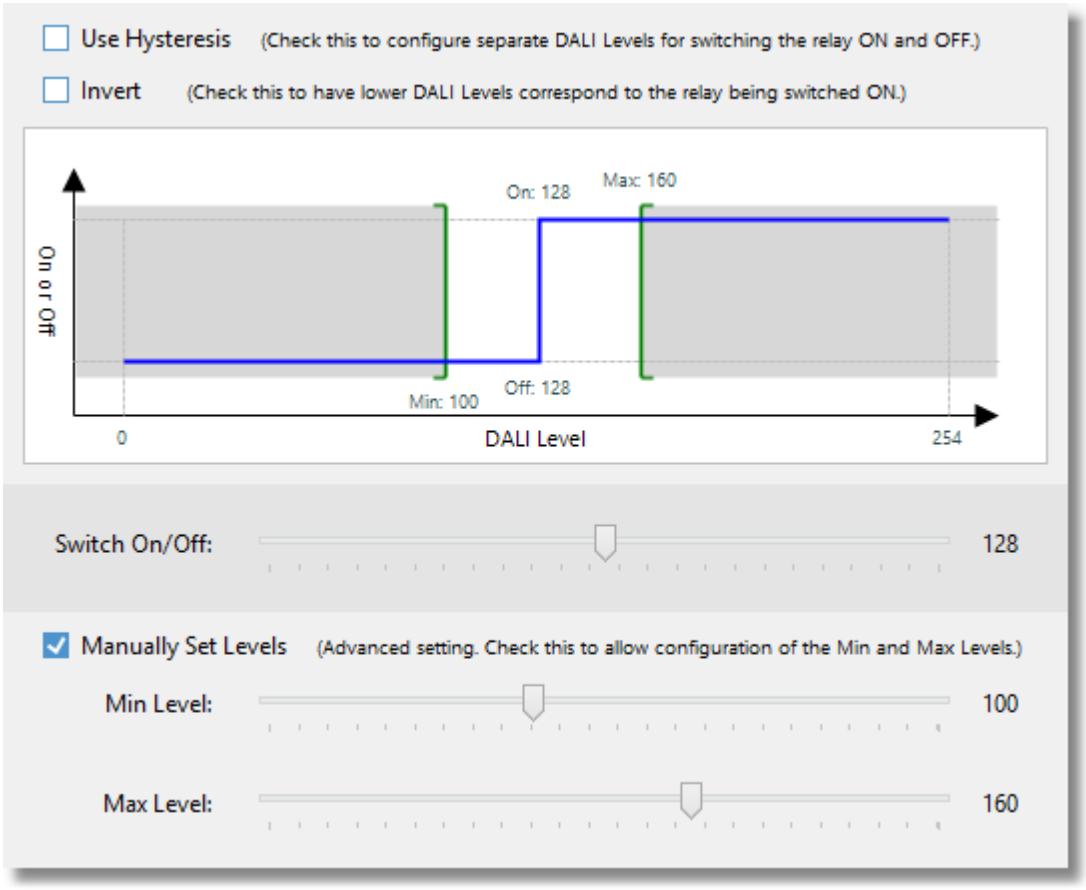


Switch off at Level 64 or greater

Example 4: Switch on and off at Level 128 with Min Level at 100 and Max Level at 160

To have the DALI relay use different from default Min and Max levels, the **Manually Set Levels**

option must be enabled. The green Min and Max level bars can then be dragged to the desired level values. The setup will look like this:



Set Min and Max levels

Note: *An invalid Relay configuration is possible when manually setting the Min and Max levels. It is not recommended setting threshold levels outside the Min and Max level boundaries.*

4.10.3 Editing Multiple DALI Devices

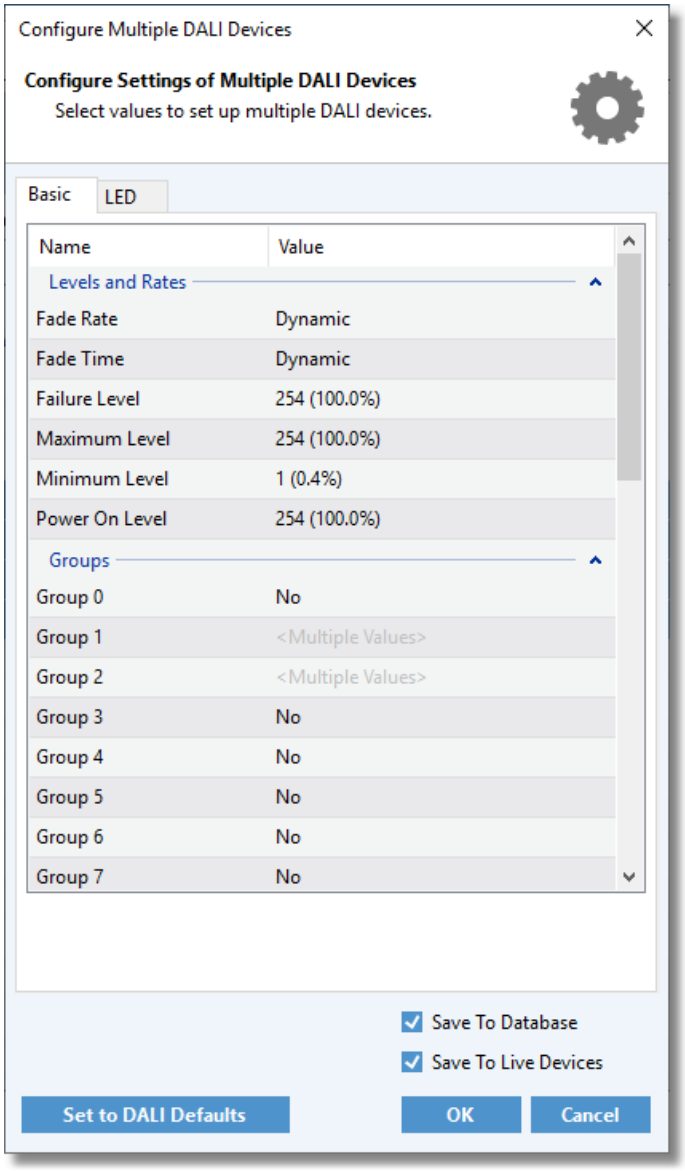
There are two ways of editing multiple devices; multi-select and Global Programming.

Multi-Select

More than one device can be selected at a time in the DALI Devices list:

- Hold the CTRL button while clicking on devices; or
- Select a DALI Device then hold the SHIFT button and click another DALI Device to select the range of DALI Devices

When the **Edit** button is clicked, the properties that are common for all selected DALI Devices will be shown. Where properties are different between the DALI Devices, the text "Multiple Values" will be shown. For example, in the picture below, it can be seen that the selected DALI Devices have most properties the same, but the membership of Group 1 and 2 is different:

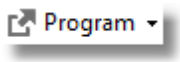


Multiple devices are edited in the same way as for a single DALI Device. Only values that are changed will be saved to the DALI Devices.

Global Programming

Settings for all DALI Devices on a DALI Line or in the whole site can be changed using Global Programming.

To do this:
1. Click on the **Program** button in the Network Interfaces view:

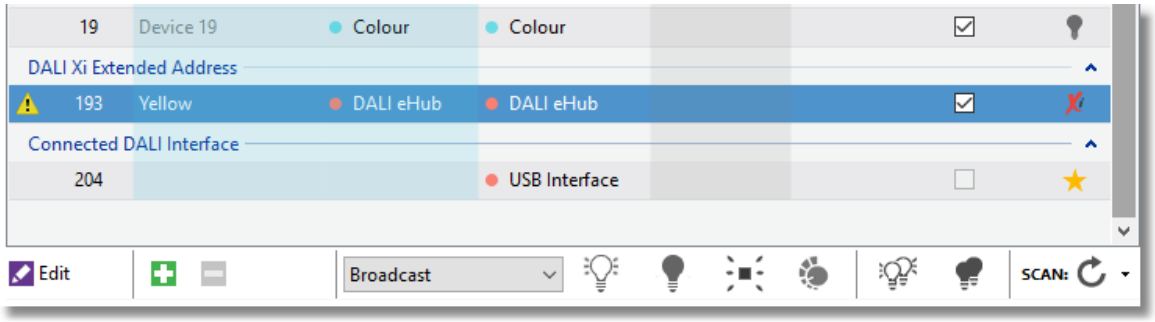


2. Select whether to edit the whole site or just the current DALI Line.

3. Edit the DALI Devices as described above.

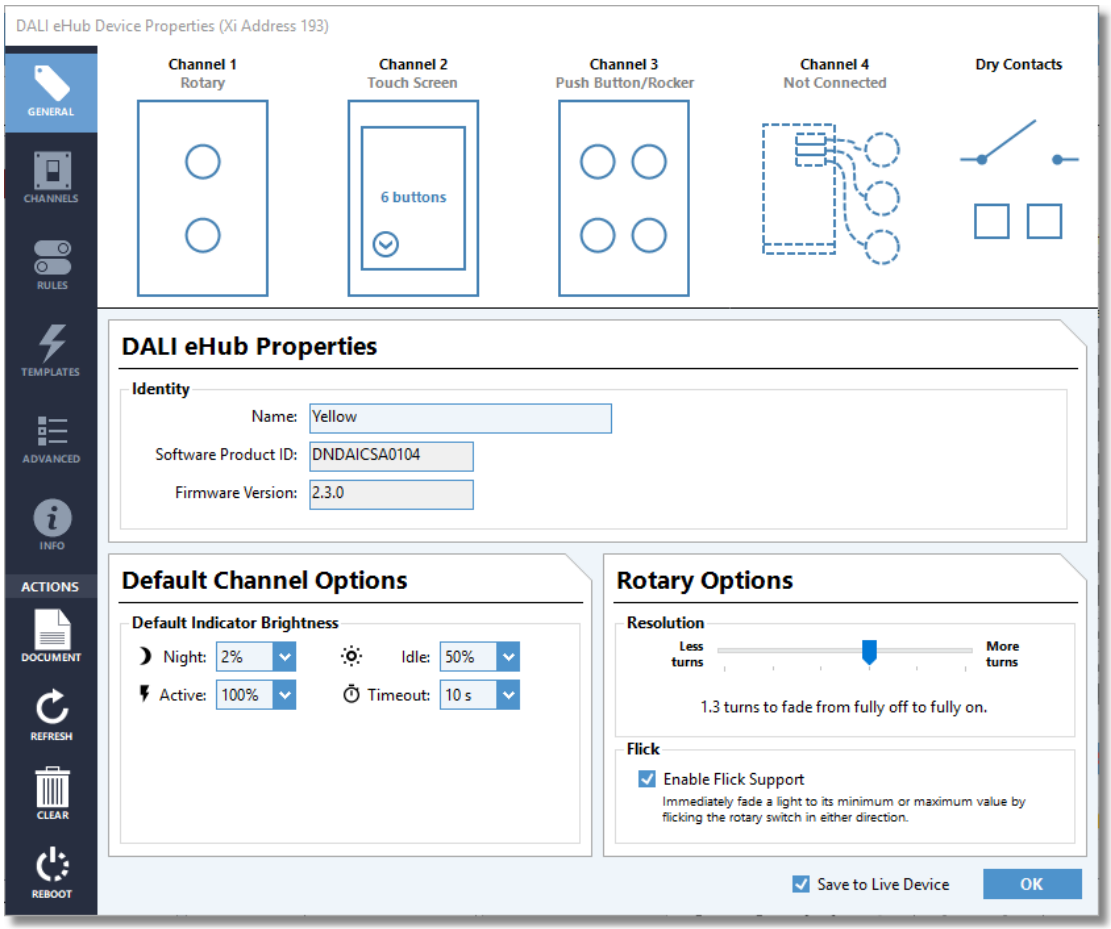
4.10.4 Editing a DALI eHub

To edit the properties of a DALI eHub, select the device in the DALI Devices list, and either click the **Edit Device** button or double-click the DALI eHub in the list.



A DALI eHub selected

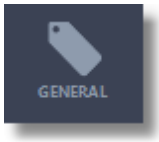
This will open the **DALI eHub Properties** window, where the configuration of the DALI eHub can be set up.



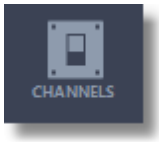
The DALI eHub Properties window

Side Bar

The side bar provides access to the four main views of the **DALI eHub Properties** window, plus the ability to refresh DALI eHub information and clear configuration data.

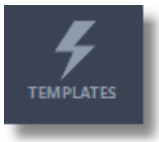


"General" button
Click this button to go to the General view.
This is the view that is displayed when the DALI eHub window is opened, and allows the user to view the properties of the DALI eHub as well as configure selected options like the name of the DALI eHub and some default settings for the channels.
See topic General View 74 for more information.

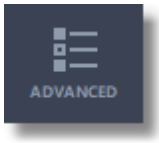


"Channels" button
Click this button to go to the Channels view.
This is the view where the configuration of DALI eHub channels (and their buttons) and dry contact inputs can be set up, including indicator colours and brightness, and button behaviour.
See topic Channels View 76 for more information.

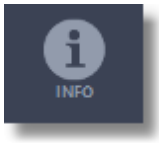
"Rules" button
Click this button to edit DALI eHub enable/disable rules.



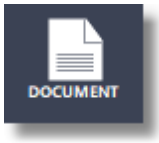
"Templates" button
Click this button to go to the Templates view.
This is the view where the templates that define the behaviour of buttons when pressed, and dry contacts when activated, are listed.
See topic Templates View 97 for more information.



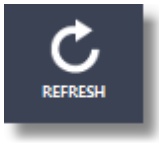
Advanced button
Click this button to set advanced properties including Network settings, remote control and time synchronisation.



"Info" button
Click this button to go to the Info view.
This is the view where basic diagnostic information for the DALI eHub can be viewed.
See topic Info View 99 for more information.

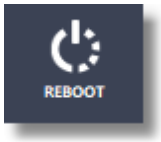


"Document" Button
Click this button to generate a document with details of the DALI eHub configuration.



"Refresh" button
Click this button to get the most up to date information about what is plugged into each of the DALI eHub channels.

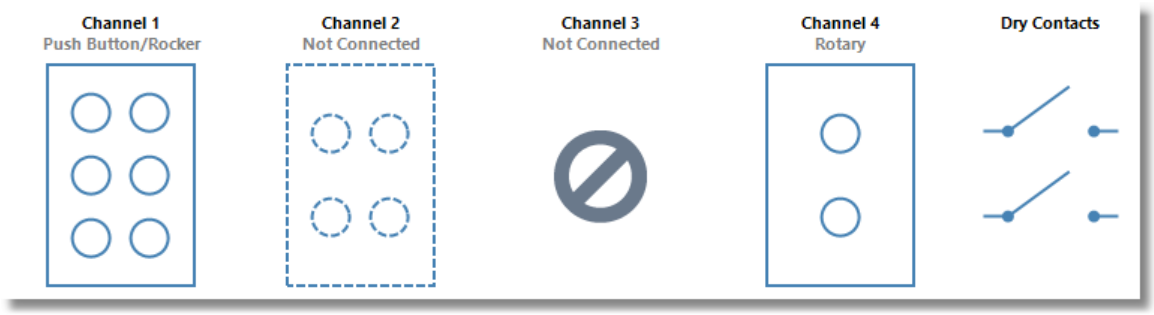
"Clear" button
Click this button to reset the configuration of this DALI eHub back to factory default values.



Reboot button
Click this button to re-boot the eHub.

Graphical Channel View

The graphical channel view located at the top of the **DALI eHub Properties** window gives a visual representation of what each channel is configured as, as well as what is plugged into each channel.



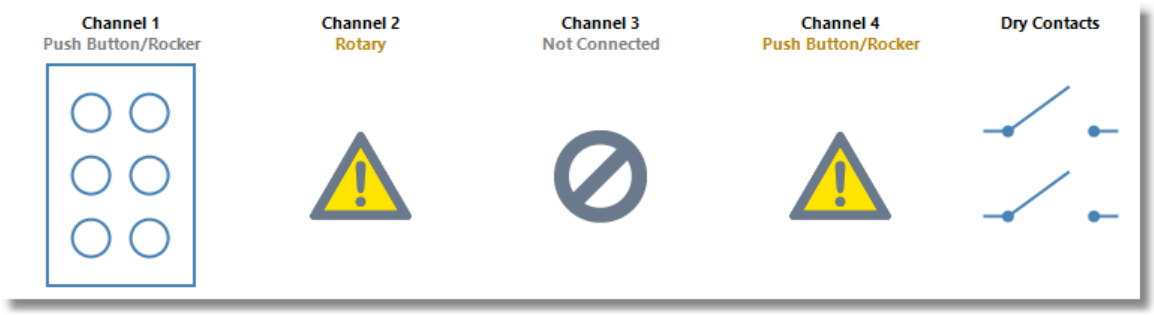
The graphical channel view for a DALI eHub

In the example above, the graphical channel view indicates that:

- Channel 1 is configured as a 6-button switch, and that is also what is plugged into that channel.
- Channel 2 is configured as a 4-button switch, but nothing is plugged into that channel.
- Channel 3 has not been configured, and nothing is plugged into that channel.
- Channel 4 is configured as a 2-button rotary switch, and that is what is plugged into that channel.

Mismatched Channels

The graphical channel view will show if there are channels where the configuration does not match what is plugged in.



The graphical channel view indicating conflicts on channels 2 and 4

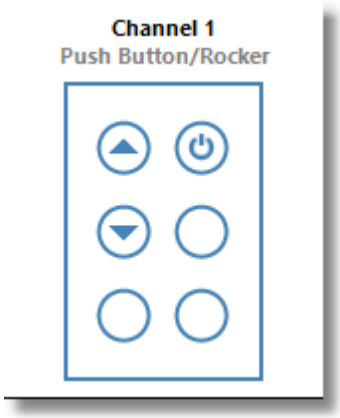
In the example above, the graphical channel view indicates that:

- Channel 1 is OK, in that its configuration matches the peripheral plugged into that channel.
- Channel 2 has a rotary switch plugged in, which does not match its configuration.
- Channel 3 is OK.
- Channel 4 has a push/rocker switch plugged in, which does not match its configuration.

See topic Resolve Channel Conflicts 89 for more information on resolving the mismatches between the configuration that is set up for a channel and what is currently plugged into that channel.

Button Behaviour

The behaviour that is configured for buttons in the DALI eHub can be viewed at a glance.



Channel 1 with three buttons programmed

In the example above, the graphical channel view indicates that:

- Button 1 (top-left) is programmed to dim something up.
- Button 2 (top-right) is programmed to switch something on or off.
- Button 3 (middle-left) is programmed to dim something down.

More information about the behaviour of each button can be viewed by hovering the mouse cursor over each button, where a tool-tip will be displayed describing the configured behaviour.

Selecting Channels

If the Channels view is active, clicking on each channel will allow the user to view and edit the configuration for that channel and its buttons. Likewise, clicking on the dry contacts will allow the user to view and edit the configuration for the dry contact inputs of the DALI eHub.

See topic Channels View 76 for more information on the Channels view.

Double-clicking Buttons

The buttons for a channel can be double-clicked, which allows for the setting up of behaviour when the physical button is pressed.

See topic Configure Button Behaviour 82 for more information on setting up button and dry contact events.

Drag and Drop

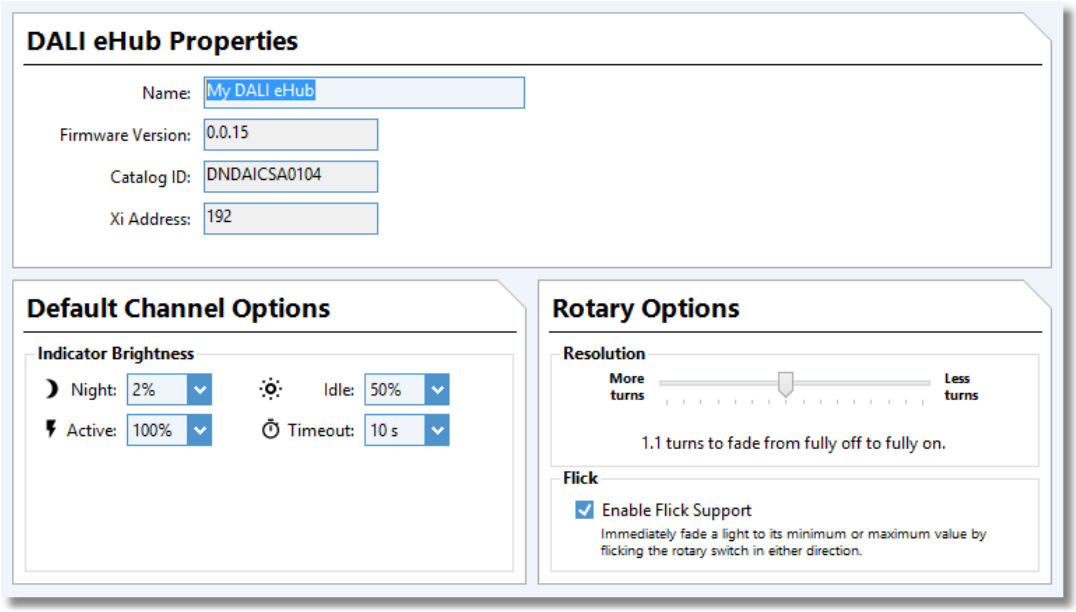
Buttons that have behaviour configured can be dragged and dropped to either move or copy their behaviour to other buttons.

By default, dragging a configured button will move the behaviour configuration to the button that it is dropped on. To copy the button behaviour, hold down the **Ctrl** key.

See topic Configure Button Behaviour 82 for more information on moving and copying button behaviour.

4.10.4.1 General View

The General view allows the user to set the name of the DALI eHub as well as view read-only properties, and configure device-wide defaults for the channels.



The General view

DALI eHub Properties

The **DALI eHub Properties** section displays the following attributes for the DALI eHub:

- **Name**
  The name of the DALI eHub which can be up to 32 characters in length.

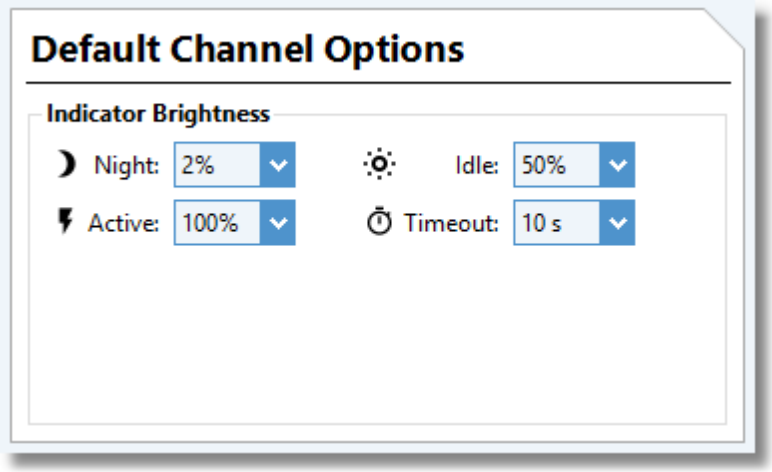
- **Firmware Version**
  The current firmware version of the DALI eHub. This is read-only.

- **Catalog ID**
  The unique catalog ID that defines a DALI eHub.

- **Xi Address**
  The DALI Xi extended address of the DALI eHub. This is read-only.
  This value can be changed on the RAPIX Addressing main window.
  See topic Addressing View 14 for more information.

Default Channel Options

The **Default Channel Options** section contains options that will apply to all of the channels of the DALI eHub unless the channels are set up otherwise.



The Default Channel Options section

The options available relate to the brightness of indicators on the channels.

- **Night Brightness**
  This is the level (set up as a percentage) of indicators when all of the indicators on a channel are switched off, such that they are dimly lit so the wall switch can be seen during the night.

- **Idle Brightness**
  This is the level (set up as a percentage) of an indicator when the load it represents is switched on.

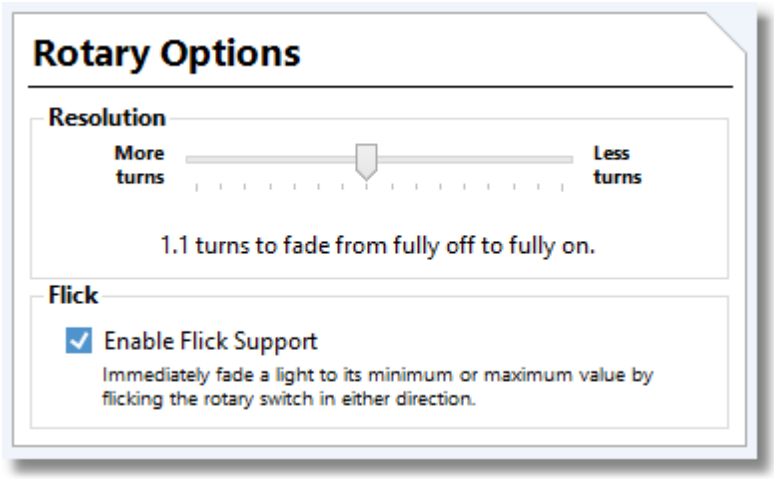
- **Active Brightness**
  This is the level (set up as a percentage) of all of the indicators on a channel just after the user has pressed a button on that channel.

- **Timeout**
  This is the number of seconds for how long to keep the indicators on a channel at the **Active** brightness before they dim back to the **Idle** brightness.

Note: *The **Night** brightness should be set to a value less than or equal to the **Idle** brightness, and the **Idle** brightness should be set to a value less than or equal to the **Active** brightness. Warnings will be displayed if this is not the case.*

Rotary Options

The Rotary Options section contains options that will apply to any rotary switches that are connected to the DALI eHub.



The Rotary Options section

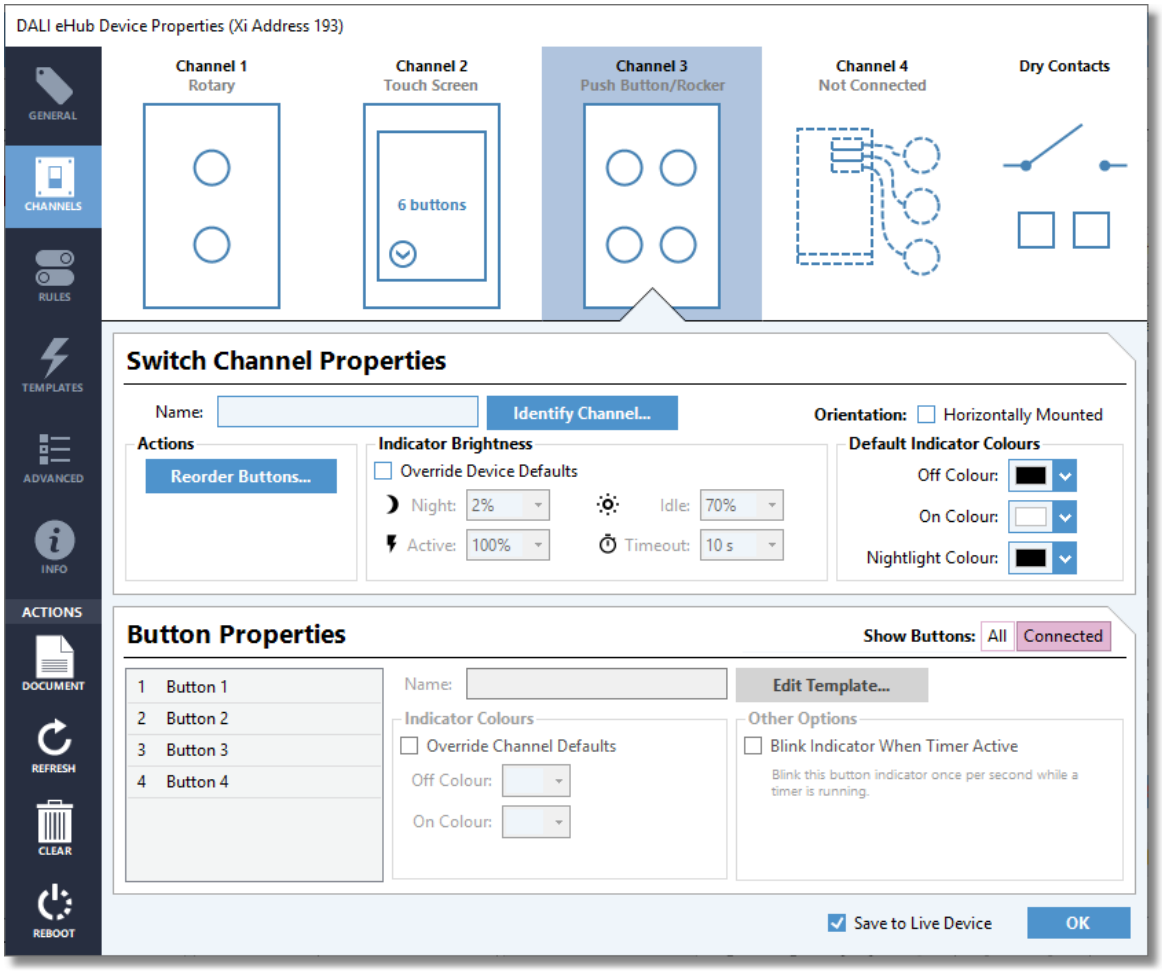
The options available to be configured are:

- **Rotation Resolution**
  This options adjusts how many turns of a rotary switch are needed to dim a light from its minimum value to its maximum value.

- **Enable Flicks**
  This option enables or disables the ability to very quickly rotate (or 'flick') a rotary switch to immediately dim a light to its minimum or maximum value.

4.10.4.2 Channels View

The Channels view allows the user to view and configure each of the channels and dry contact inputs of the DALI eHub.



The Channels view with the third channel selected

The Channels view shows the configuration for a single channel at a time, which can be selected by clicking on a channel in the graphical channel view at the top of the window. The selected channel will be highlighted blue.

Switch Channel Properties

The **Switch Channel Properties** section allows the user to set up channel-specific configuration. These options include:

- **Name**
  The name of the channel which can be up to 16 characters in length. Note that the name of the channel is also displayed in the graphical channel view at the top of the window.

- **Orientation**
  This option marks the switch for this channel as either vertically or horizontally mounted. The graphic for this channel in the graphical channel view will update accordingly.

Indicator Brightness Options

- **Override Device Defaults**
  Whether or not to use the default indicator brightness options that have been set up for the whole DALI eHub on the General view.

- **Night Brightness**
  This is the level (set up as a percentage) of indicators when all of the indicators on a channel are switched off, such that they are dimly lit so the wall switch can be seen during the night.

- **Idle Brightness**
  This is the level (set up as a percentage) of an indicator when the load it represents is switched on.

- **Active Brightness**
  This is the level (set up as a percentage) of all of the indicators on a channel just after the user has pressed a button on that channel.

- **Timeout**
  This is the number of seconds for how long to keep the indicators on a channel at the **Active** brightness before they dim back to the **Idle** brightness.

Note: *The **Night** brightness should be set to a value less than or equal to the **Idle** brightness, and the **Idle** brightness should be set to a value less than or equal to the **Active** brightness. Warnings will be displayed if this is not the case.*

Indicator Colour Options

- **Off Colour**
  This is the colour of the indicator to display when the load it represents is in the off state.

- **On Colour**
  This is the colour of the indicator to display when the load it represents is in the on state.

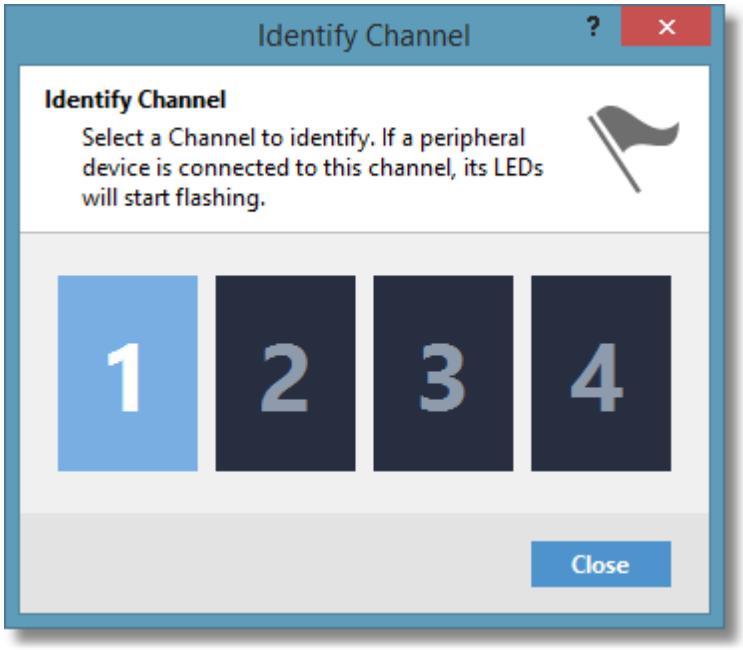
- **Nightlight Colour**
  This is the colour of the indicator to display when all of the indicators on this channel are in the off state.

Note: *The colours available to choose from are only those that the indicators on the channel are physically capable of displaying.*

Identifying a Channel

The ability to physically identify a channel of a DALI eHub can be done by clicking the "**Identify Channel...**" button:

This will show the **Identify Channel** window which allows the user to choose a channel on the DALI eHub to identify.



The Identify Channel window with channel 1 being identified

The window shows a large button for each channel, which will be flashing light and dark blue. The peripheral plugged into the channel will start rapidly flashing all of its indicators, making it easily visible at a distance.

Each channel button can be clicked to start identifying that corresponding channel.

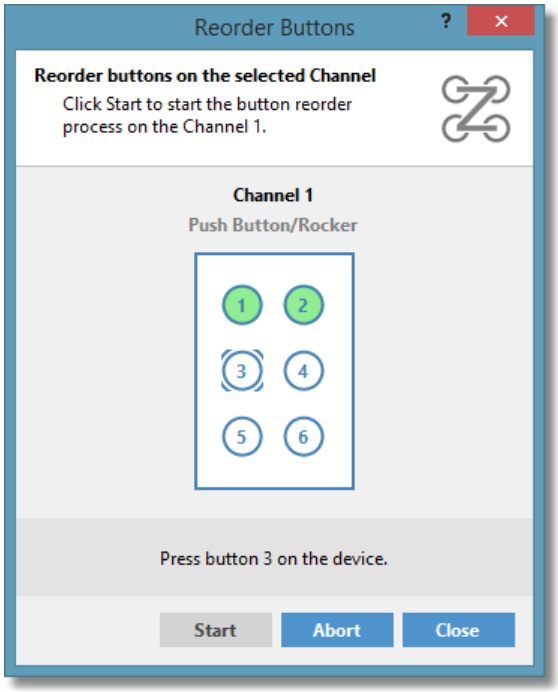
Reordering the Buttons on a Channel

The buttons on a channel can be reordered if the peripheral connected to the channel is a modular switch. A modular switch is one where slave buttons are plugged into a master button, which in turn is connected to the DALI eHub channel.

The ability to reorder the buttons according to how they are situated on the wall allows slave buttons to be plugged into the master button in any order.

To reorder the buttons of a modular switch channel, click the "**Reorder Buttons...**" button:

The **Reorder Buttons** window will then appear which allows the user to press the buttons on the wall in the order that matches the top-down left-to-right order suggested by RAPIX Addressing.



The Reorder Buttons window

To start the button reorder process, click the **Start** button.

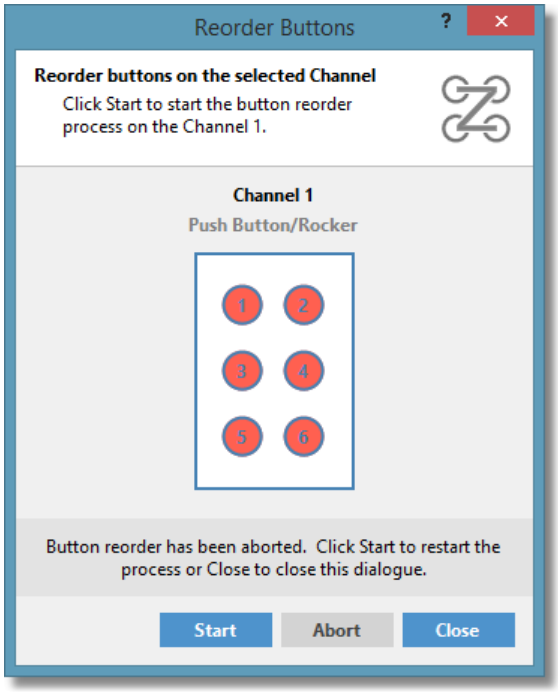
All of the buttons on the channel will begin flashing together, and the **Reorder Buttons** window will prompt the user to press the next button in the sequence.

Once a button on the wall has been pressed, it will stop flashing, and RAPIX Addressing will register the button as having been reordered by marking it green. The window will then prompt the user to press the next button in the sequence.

Once all buttons on the channel have been pressed, they will all appear green, and will stop flashing. The reorder process is now complete, and the new button order is automatically saved by the DALI eHub.

Aborting the Button Reorder Process

The button reorder process can be stopped at any time, and the new button order discarded, by clicking **Abort**.



The Reorder Buttons window after the process was aborted

Once aborted, the buttons in the **Reorder Buttons** window will appear red.

The button reorder process can be restarted by clicking the **Start** button again.

Button Properties

The **Button Properties** section allows the user to set up button-specific configuration for buttons on this channel.

To set up the configuration of a button, click the button in the graphical channel view at the top of the window, or in the list on the left.

These button properties include:

- **Name**
  The name of the button which can be up to 12 characters in length.

Indicator colour options:

- **Override Channel Defaults**
  Whether or not to use the indicator colours that have been set up for the this channel. Select this option to set different indicator colours for this button.

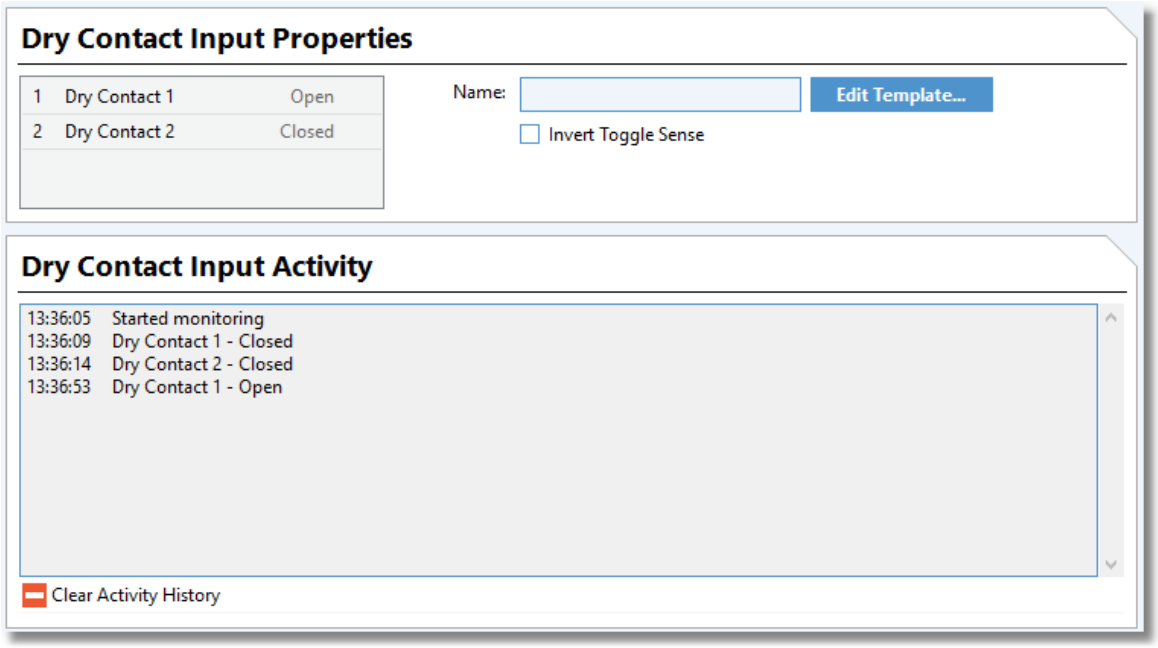
- **Off Colour**
  This is the colour of the button's indicator when the load it represents is in the off state.

- **On Colour**
  This is the colour of the button's indicator when the load it represents is in the on state.

Note: *The colours available to choose from are only those that the indicators on the button's channel are capable of displaying.*

Dry Contact Inputs

The **Dry Contact Input Properties** section, which is visible when the Dry Contacts area is selected in the graphical channel view, allows the user to name the dry contact inputs of the DALI eHub as well as view the open/closed state of the dry contacts live.



The Channels view with the Dry Contacts tab selected

The configuration of the dry contact inputs of the DALI eHub are limited to:

- **Dry Contact 1 Name**
  The name of the first dry contact input on the DALI eHub, which can be up to 16 characters in length.

- **Dry Contact 2 Name**
  The name of the second dry contact input on the DALI eHub which can be up to 16 characters in length.

Activity Log

The Activity History log displays any open and close events from both dry contact inputs on the DALI eHub while the view is visible to the user, at 1 second intervals.

Whenever this view is hidden, monitoring of the state of the dry contact inputs is stopped. Monitoring is automatically started again the next time this view is shown.

The **Clear Activity History** button will clear the activity history.

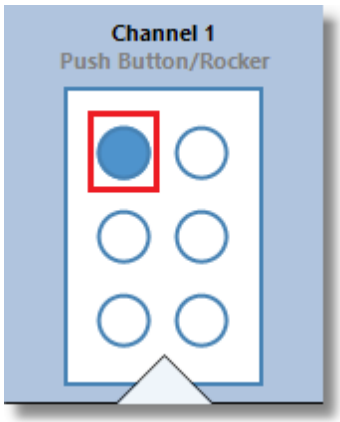
4.10.4.3 Configure Button Behaviour

There are two ways to configure the behaviour of DALI eHub buttons.

1. Double-click or right-click a button in the graphical channel view.
2. Double-click or right-click a button in the buttons list for a channel.

Via the Graphical Channel View

To configure the behaviour of a button when it is pressed, double-click the button in the graphical channel view:

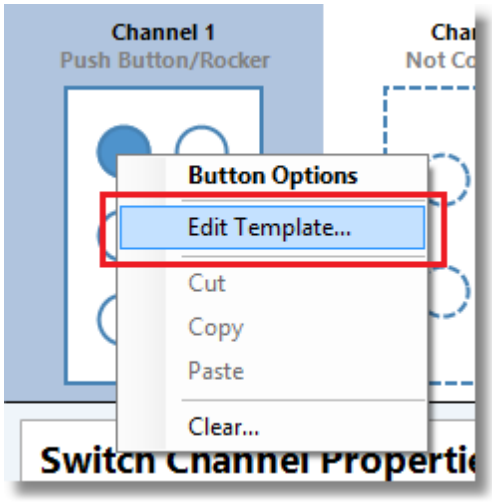


Double-click the button (highlighted in red)

If the button has no behaviour configured, the **Select Template** window will be shown (see below), and if the button has behaviour configured, the template editor will be displayed which will allow the behaviour of the button to be modified.

The button in the graphical channel view can also be right-clicked, which will show the a right-click menu. Then, select the **Edit Template...** option.

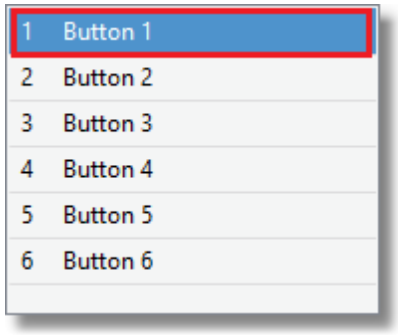
Again, if the button has no behaviour configured, the **Select Template** window will be shown (see below), and if the button has behaviour configured, the template editor will be displayed which will allow the behaviour of the button to be modified.



Right-click menu for the button with the desired Edit Template item highlighted

Via the Buttons List

To configure the behaviour of a button when it is pressed, double-click the button row in the buttons list.

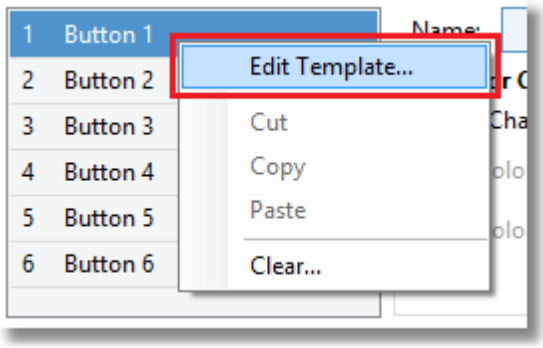


Double-click the button row (highlighted in red)

If the button has no behaviour configured, the **Select Template** window will be shown (see below), and if the button has behaviour configured, the template editor will be displayed which will allow the behaviour of the button to be modified.

The button row in the buttons list can also be right-clicked, which will show the a right-click menu. Then, select the **Edit Template...** option.

Again, if the button has no behaviour configured, the **Select Template** window will be shown (see below), and if the button has behaviour configured, the template editor will be displayed which will allow the behaviour of the button to be modified.

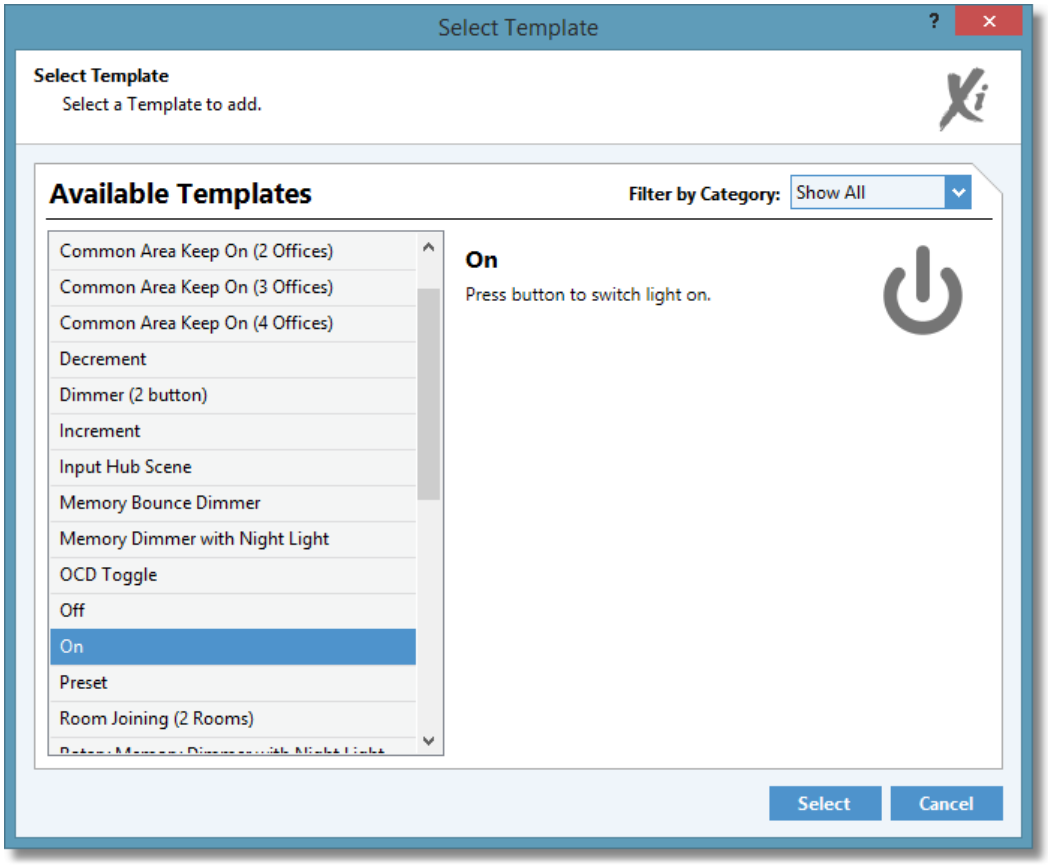


Right-click menu for the button row with the desired Edit Template item highlighted

Choosing a Template

The first step to defining the behaviour of a button when it is pressed, is to choose a template from a pre-defined list of templates that are bundled in RAPIX Addressing.

This is done from the **Select Template** window:



The Select Template window with the 'On' template selected

The **Select Template** window shows all of the available templates in the list on the left. A description of the currently-selected template is shown to the right, which allows the user to determine if that template is suitable for the button they are configuring.

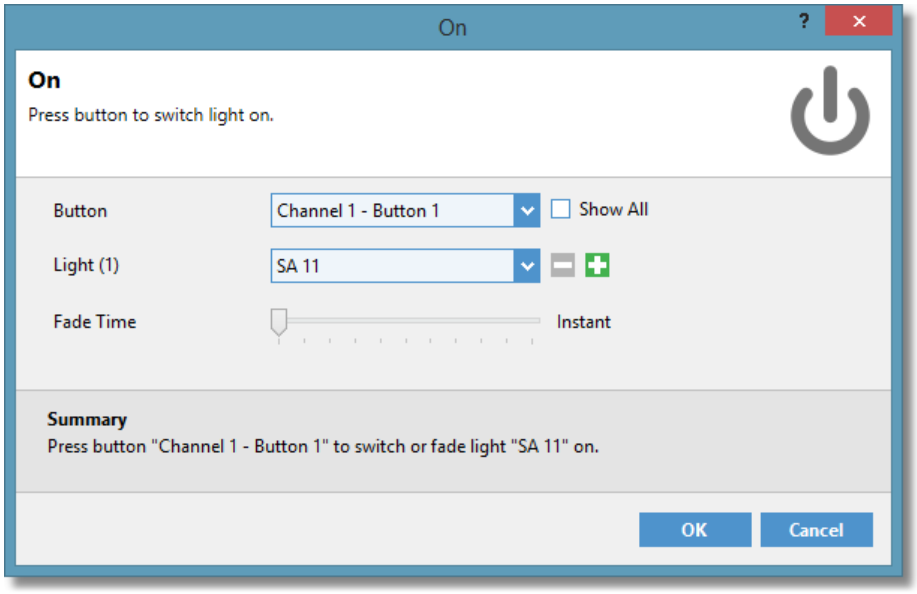
The available templates list can be filtered by choosing a category in the combo box on the top-right of the window:

The Select Template window with templates in the 'logic' category displayed

To use a specific template, select the template in the list, and click the **Select** button.

Configuring a Template

Once a template has been chosen from the window above, it can be configured to control the desired DALI short address(es), DALI Group, or perform a DALI Line broadcast.



The 'On' template configured to switch DALI short address 11 on instantly

Configuring a template simply involves filling out the available information, including any:

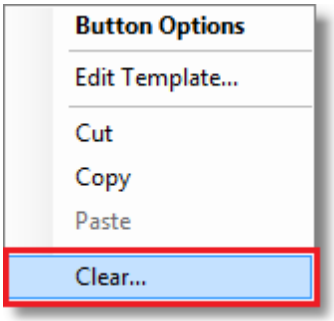
- Buttons that trigger the template behaviour;
- DALI short addresses, DALI Groups , or DALI Line to control;
- Delays, fade times, or ramp rates; etc.

Once the template is configured, click **OK** to confirm it.

The next time the configuration data is saved to the DALI eHub that button will function as expected.

Clearing a Button

To clear the behaviour of a button, right-click the button in the graphical channel view or the buttons list, and click the **Clear...** item.



Right-click menu for a button with the Clear... item highlighted

RAPIX Addressing will ask for confirmation, and then the template configured for that button will be cleared. This button can then be reprogrammed.

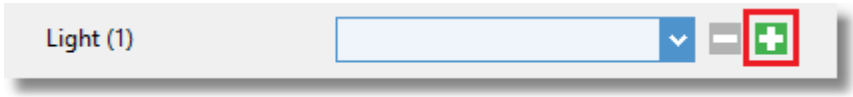
Note: *Other properties of the button like the name and indicator colours will not be cleared.*

Controlling Multiple DALI Addresses Together

Multiple loads can be controlled together in the DALI eHub providing greater flexibility.

Most of the templates available in RAPIX Addressing allow multiple fieldbus addresses to be controlled at once.

To control multiple addresses at once, look for the green **Add** symbol next to a combo box.



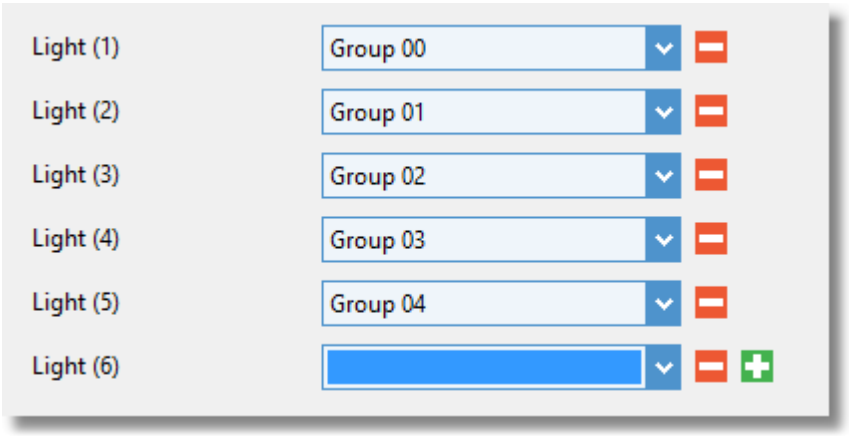
A single fieldbus address with the add address button highlighted

Click the green **Add** button to add a new row to control another address:

Two fieldbus addresses ready to be configured with the remove buttons highlighted

Individual addresses can also be removed at any time by clicking the orange **Remove** button.

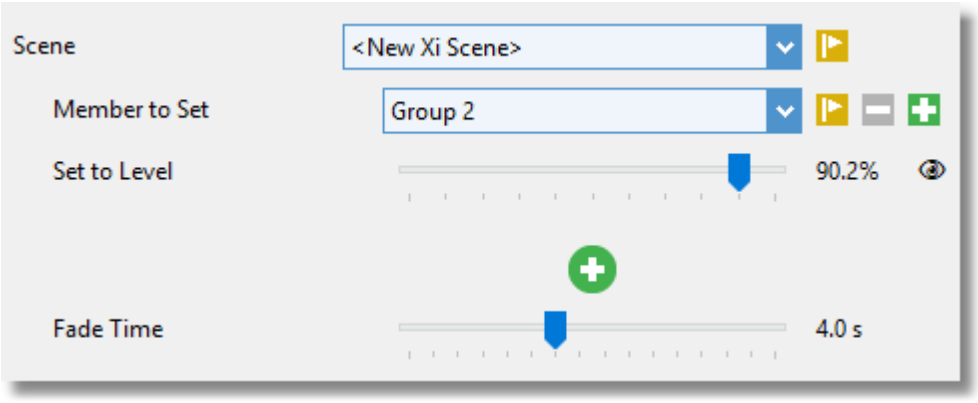
Below is an example of a template that is controlling five DALI Groups.



Five DALI Groups being controlled together

Xi Scenes

The "Scene Control (New Xi Scene)" template can be used to set a series of addresses to different levels. In the example below, DALI Devices in Group 2 will be faded to 90.2% over 4 seconds:

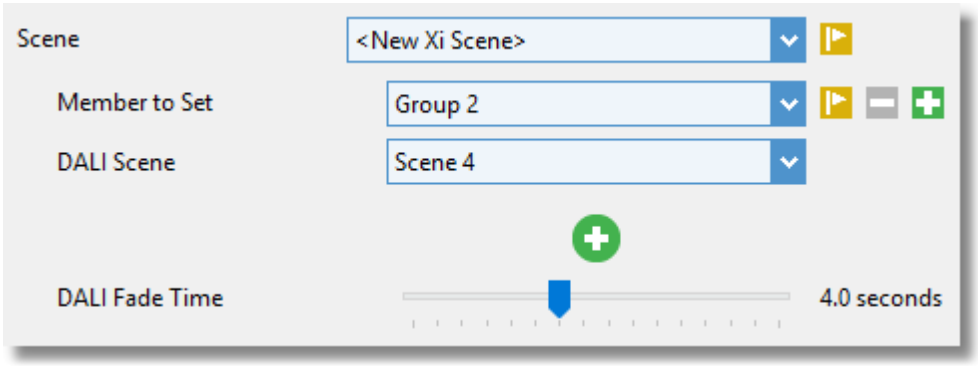


To add additional members at the same level, click the square green + button on the right.

To add additional members with a different level, click the circular green + button in the middle.

DALI Scenes

The "Scene Control (New DALI Scene)" template can be used to set a series of addresses to different levels. In the example below, DALI Devices in Group 2 will be faded to DALI Scene 4 over 4 seconds:



The editing of DALI Scene levels is described in the Scenes View[24] topic.

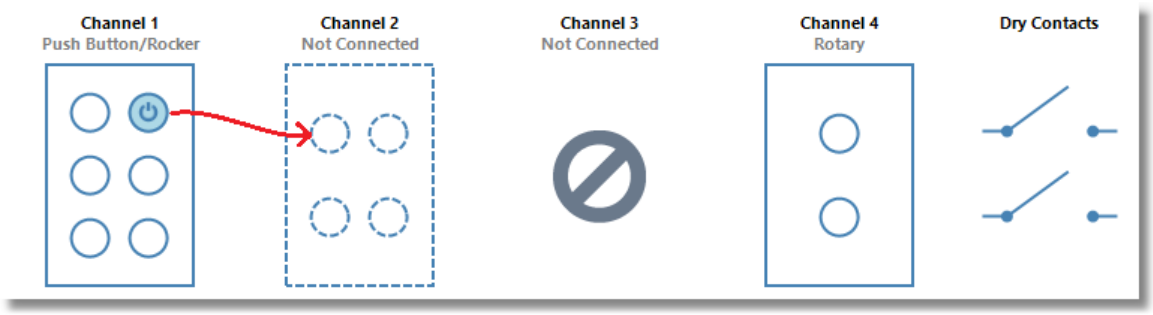
To add additional members with the same DALI Scene, click the square green + button on the right.

To add additional members with a different DALI Scene, click the circular green + button in the middle.

Drag and Drop

The behaviour of buttons can be moved or copied from one button to another, even across different channels.

To do this, simply drag the button in the graphical channel view to another button:



Dragging and dropping a button from one channel to another

As the drag takes place, a tool-tip we be displayed with the text **Move Button**.

To copy this button's behaviour instead of moving it, hold down the **Ctrl** key while dragging. The tool-tip will say **Copy Button** instead.

It is also possible to copy button or channel programming from one channel to another or from one DALI eHub to another using the right mouse click menu items "Copy" and "Paste".

4.10.4.4 Resolve Channel Conflicts

The configuration of channels of a DALI eHub can be set up with or without a peripheral plugged into the DALI eHub.

Therefore there are a number of situations which RAPIX Addressing can handle during the setting up of a DALI eHub.

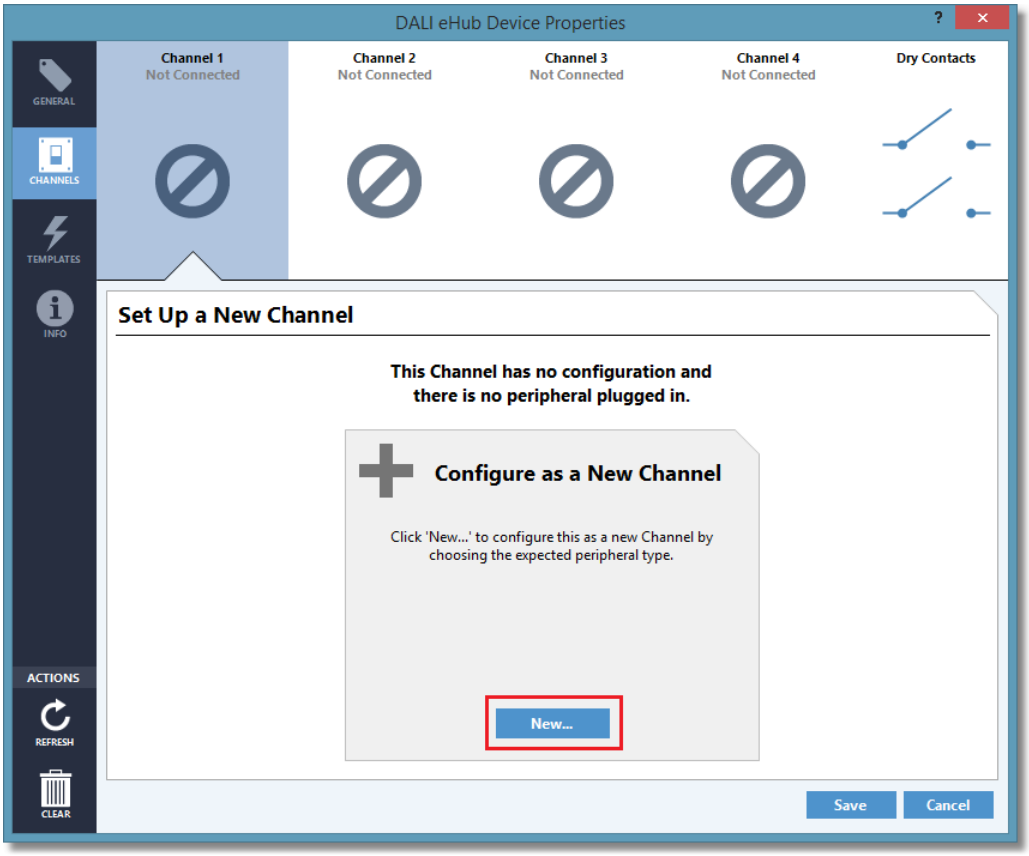
These scenarios are:

1. A channel has not yet been configured and there is no peripheral connected.
2. A channel has not yet been configured, but a peripheral is plugged into that channel.
3. A channel has been configured, but there is no peripheral connected.
4. A channel has been configured, but the peripheral plugged into that channel does not match.
5. A channel has been configured, but its matching peripheral is plugged into the wrong channel.
6. A channel has been configured which matches the peripheral plugged into the channel.

Each of these scenarios can be handled in RAPIX Addressing so that the DALI eHub is configured as desired, via some simple to follow steps.

Scenario 1: Unconfigured Channel with No Peripheral Connected

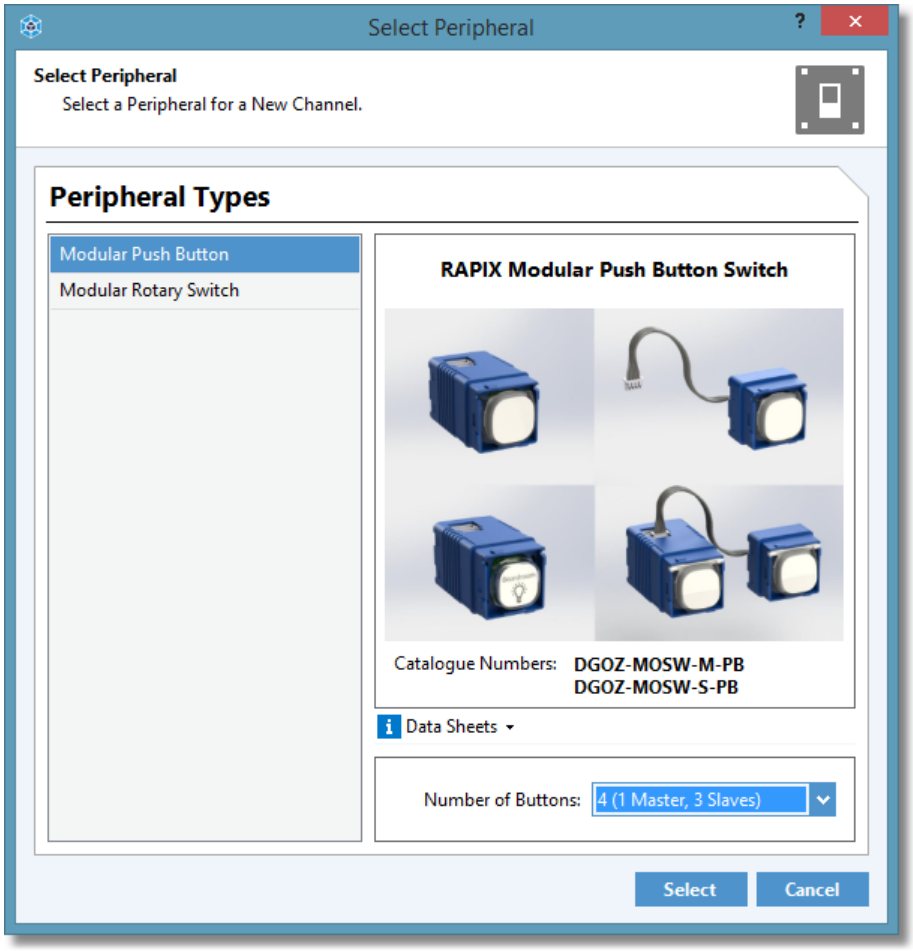
When a channel has not yet been configured and there is no peripheral plugged in, the channel can be configured to be anything.



An unconfigured channel with the New... button highlighted

To configure the channel, click the **New...** button.

This shows the **Select Peripheral** window, where the type of channel input can be chosen, as well as how many buttons.



The Select Peripheral window with a 4-button push switch selected

The available types of peripherals are displayed in the list on the left, and details about the selected peripheral type are displayed on the right, including:

- **Description**
  A short text description of the selected peripheral type.

- **Image**
  This is a rendering of the selected peripheral type which allows the user to visually identify the peripheral before choosing it.

- **Catalog Numbers**
  The catalog numbers of the selected peripheral type which allows the user to quickly identify the peripheral before choosing it.

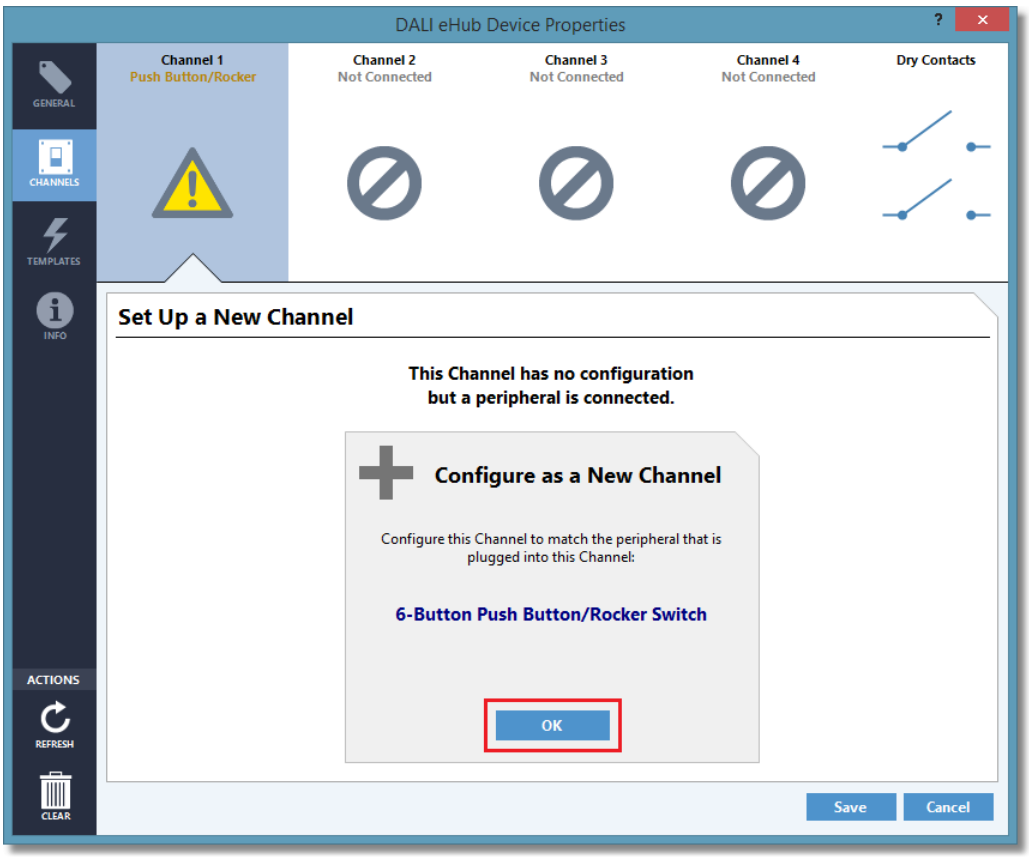
- **Data Sheets**
  Any data sheets for the selected peripheral type can be opened in the PC's default PDF viewer.

Once the desired peripheral has been selected, as well as the number of buttons, click the **Select** button.

The software will now look like **Scenario 3** listed below.

Scenario 2: Unconfigured Channel with a Peripheral Connected

When a channel has not yet been configured and there is a peripheral plugged in, RAPIX Addressing allows that channel to be set up to match the plugged in peripheral.



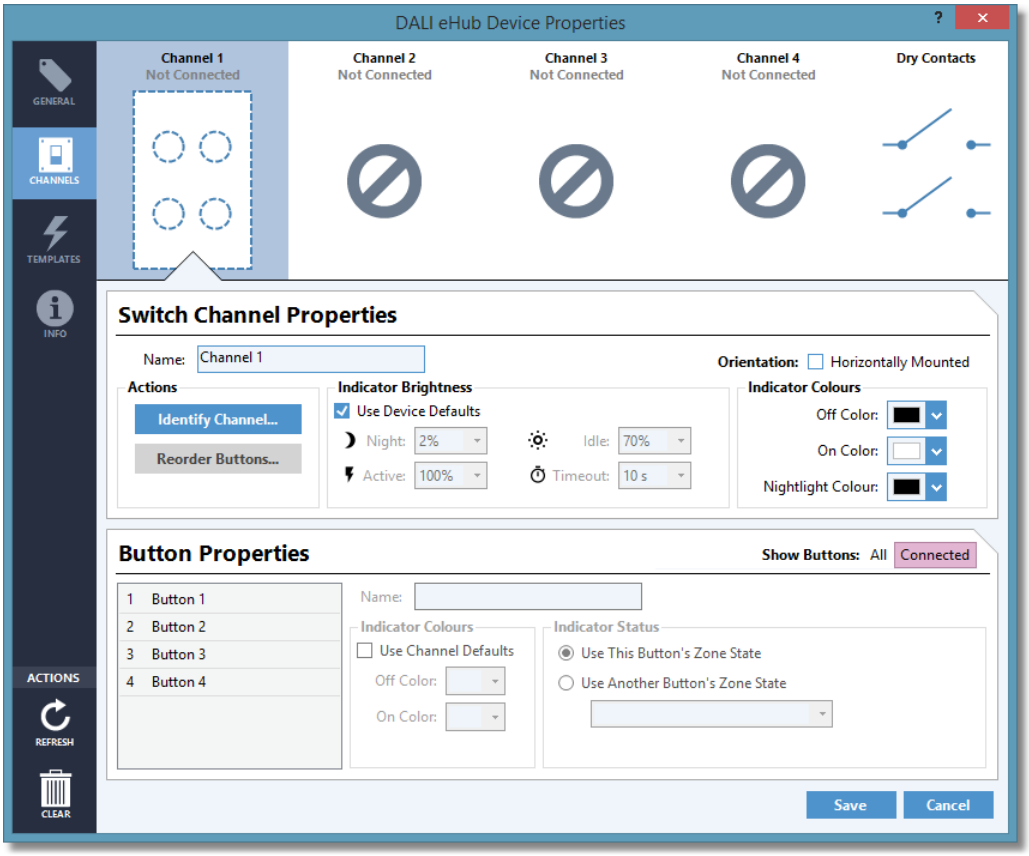
Unconfigured channel with a 6-button push switch plugged in with the OK button highlighted

With a single click of the **OK** button, the channel will not be configured to match the peripheral that is plugged into the channel.

The software will now look like **Scenario 6** listed below.

Scenario 3: Configured Channel with No Peripheral Connected

When a channel has been configured to be a particular type, but no peripheral is connected, its configuration can be set up as per normal, but the graphical channel view will draw the channel in a ghost-like fashion:

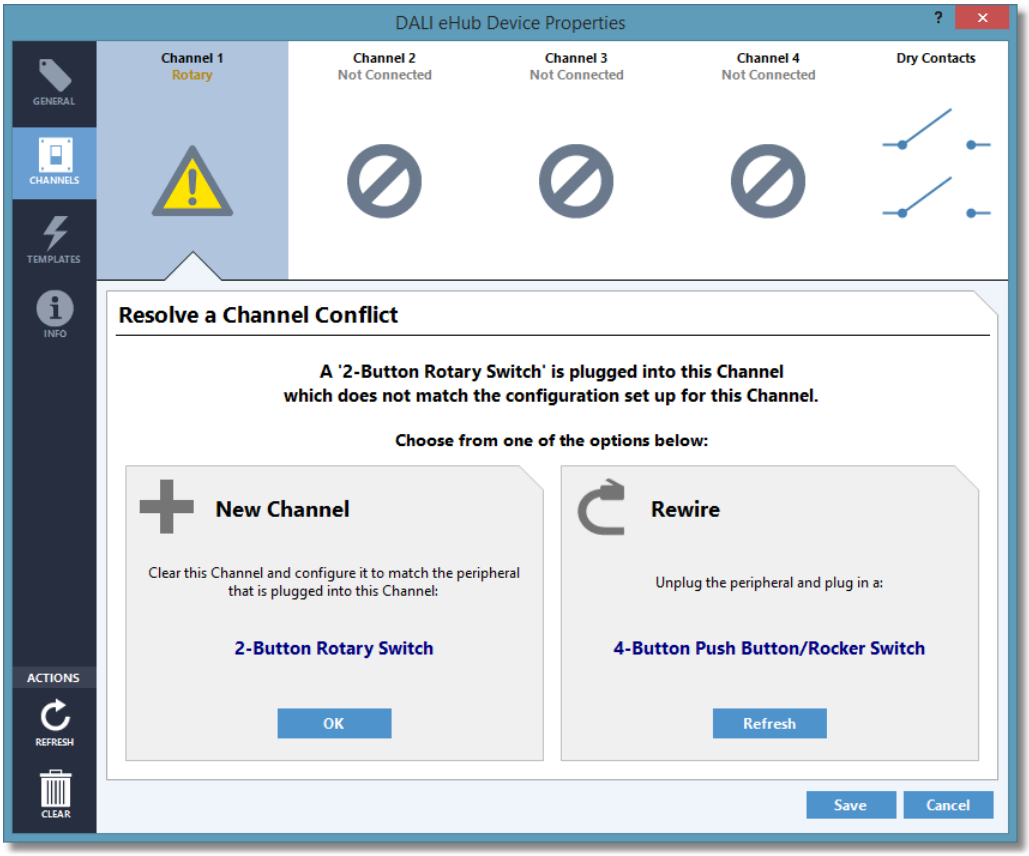


Channel configured as a 4-button push switch, with no peripheral connected

At any point, a matching 4-button push switch peripheral can be plugged into channel 1, and after clicking the **Refresh** button in the bottom-left, the software will now look like **Scenario 6** below, whereby the graphical channel view will no longer show a ghost-like representation of the channel.

Scenario 4: Configured Channel with Non-matching Peripheral Connected

When a channel has been configured to be a particular type, and a peripheral of a different type is connected, a channel conflict has occurred:



A rotary switch is plugged into a channel set up as a 4-button push switch

In the example above, channel 1 is set up as a 4-button push switch, but a 2-button rotary switch has been plugged in.

There are two options available to the user to resolve this problem.

Configure as a New Channel

The first option is to clear any existing configuration for this channel (which includes button behaviour, indicator colours, etc.), and set the channel up as new, to match the peripheral type that is plugged in.

To do this, click the **OK** button in the **New Channel** section.

This will immediately clear and reconfigure the channel.

Rewire the Connected Peripheral

The second option is to unplug the peripheral on this channel, and plug in a peripheral that matches the configuration that is set up for this channel.

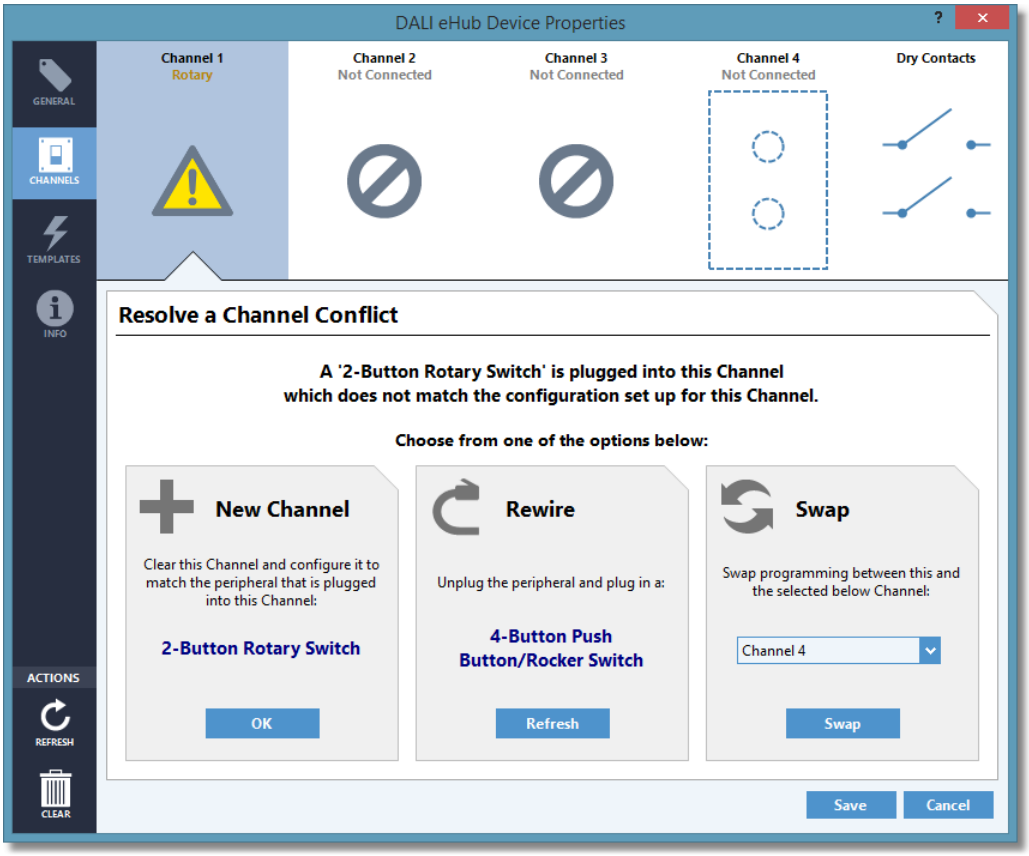
To do this:

1. Unplug the currently-connected peripheral from this channel.
2. Plug in a peripheral with the matching type.
3. Click the **Refresh** button in the **Rewire** section. This will get the most up to date information about what is connected to each channel of the DALI eHub.

If the correct peripheral type is now plugged in, the software should look like **Scenario 6**.

Scenario 5: Configured Channel with Peripheral Plugged into the Wrong Channel

This scenario is the same as **Scenario 4** above, (where a channel has been configured to be a particular type, and a peripheral of a different type is connected), except where there is another channel on the DALI eHub that matches the peripheral plugged into this channel:



A rotary switch has been plugged into a channel set up as a 4-button push switch

In the example above, channel 1 is set up as a 4-button push switch, but a 2-button rotary switch has been plugged in.

There are three options available to the user to resolve this problem.

Configure as a New Channel

The first option is to clear any existing configuration for this channel (which includes button behaviour, indicator colours, etc.), and set the channel up as new, to match the peripheral type that is plugged in.

To do this, click the **OK** button in the **New Channel** section.

This will immediately clear and reconfigure the channel.

Note: *This is exactly the same as the option that is listed in* ***Scenario 4*** *above.*

Rewire the Connected Peripheral

The second option is to unplug the peripheral on this channel, and plug in a peripheral that matches the configuration that is set up for this channel.

To do this:

1. Unplug the currently-connected peripheral from this channel.
2. Plug in a peripheral with the matching type.
3. Click the **Refresh** button in the **Rewire** section. This will get the most up to date information about what is connected to each channel of the DALI eHub.

If the correct peripheral type is now plugged in, the software should look like **Scenario 6**.

Note: *This is exactly the same as the option that is listed in* ***Scenario 4*** *above.*

Swap the Configuration of This Channel with Another

The third option is to swap the configuration of this channel with another channel on the DALI eHub.

This option is useful in the case where the channel has been configured already, but the peripheral for this channel has been plugged into the wrong channel. In this case, it may be easier to swap the channel configurations in software, particularly if the DALI eHub is in a hard-to-access location.

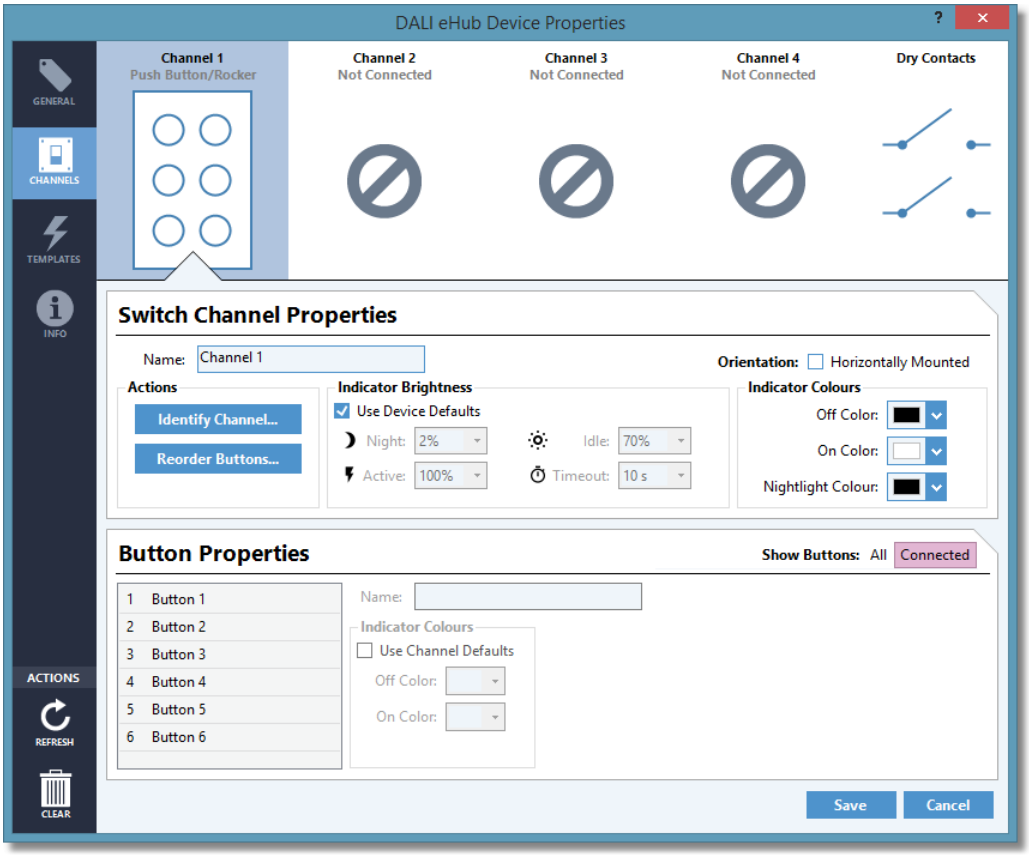
To do this:

1. Choose the channel to swap with in the combo box.
2. Click the **Swap** button.

This channel's configuration will then be swapped with the channel that was just chosen.

Scenario 6: Configured Channel with Matching Peripheral

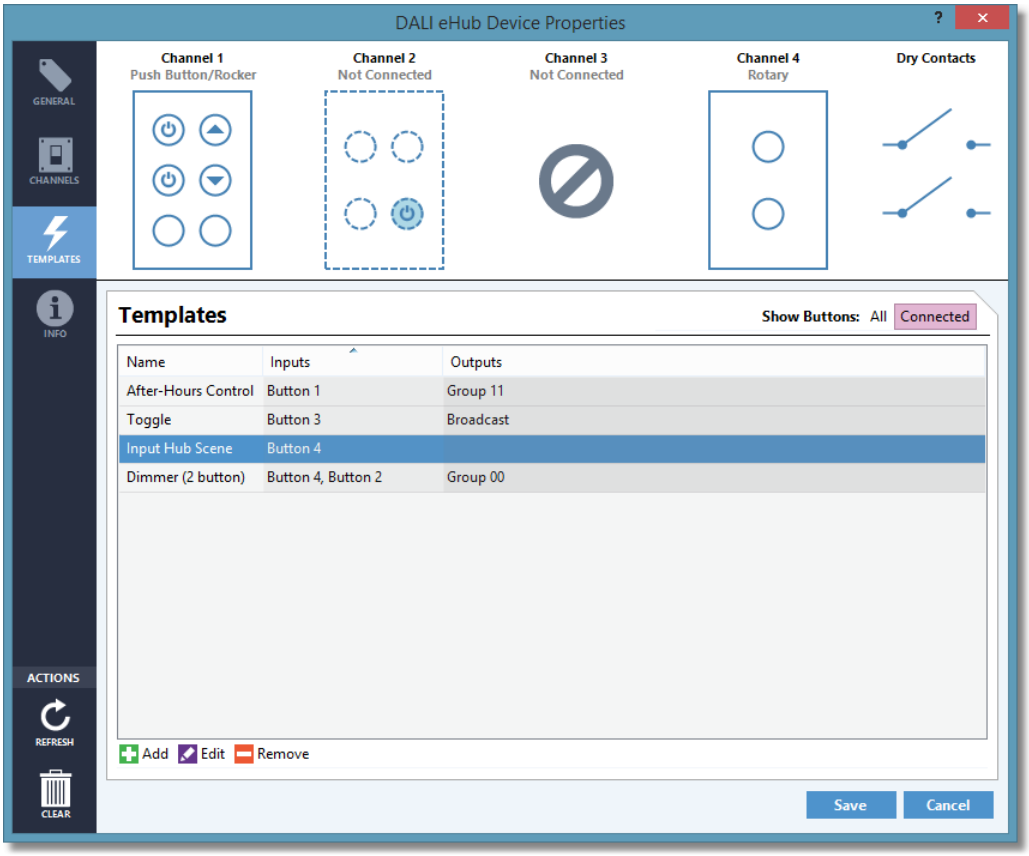
This scenario is the ideal scenario for all channels to be in, where the configuration of the channels match the peripherals that are plugged in.



Channel 1 configured to match the plugged in peripheral

4.10.4.5 Templates View

The Templates view allows the user to configure the behaviour of buttons on the DALI eHub and displays all of the templates currently configured for the DALI eHub.



The Templates view with 4 templates configured

Templates List

The Templates list displays all of the templates that have been configured for the DALI eHub.

Each row represents a single template, and displays the following attributes for each one:

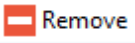
- **Name**
  A short description of the template.
- **Inputs**
  The button(s) that, when pressed by the user, trigger the template.
- **Outputs**
  A comma-separated list of all of the DALI addresses that are controlled by the template.

Button Bar

Below the Templates list is the button bar, which allows for the adding and removing of templates.

"Add Template" button
Click this button to add a new template. This will display the Select Template window.
See topic Configure Button Behaviour 82 for more information.

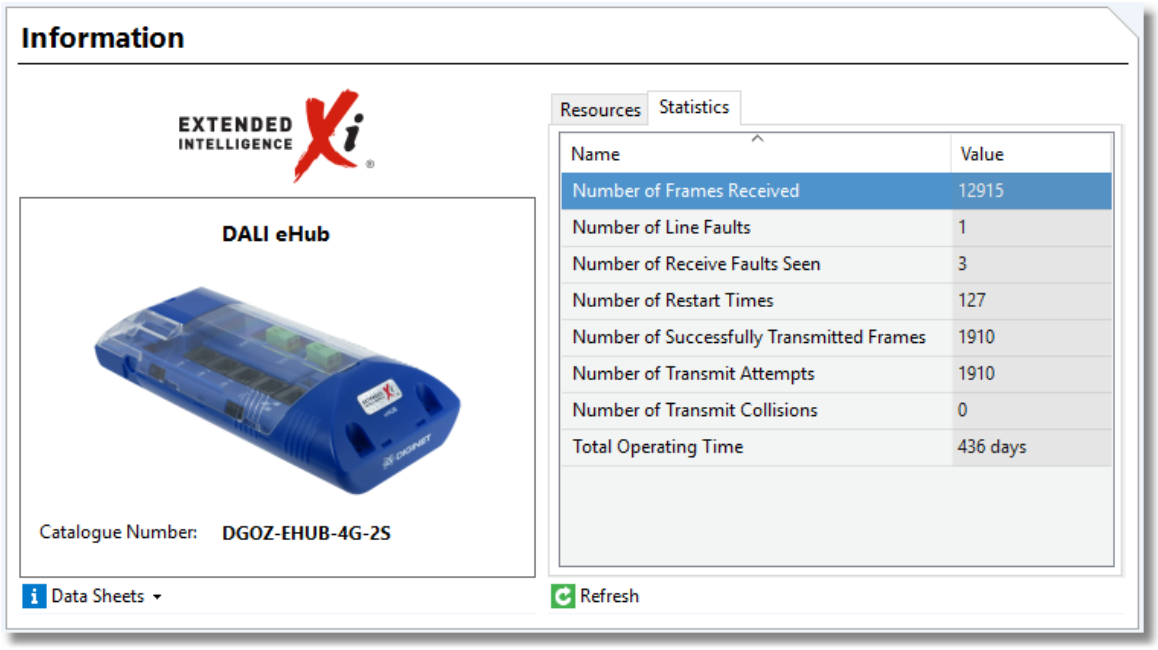
"Edit Template" button
Click this button to edit the selected template.
See topic Configure Button Behaviour 82 for more information.



"Remove Template" button
Click this button to remove the currently-selected template.
See topic Configure Button Behaviour 82 for more information.

4.10.4.6 Info View

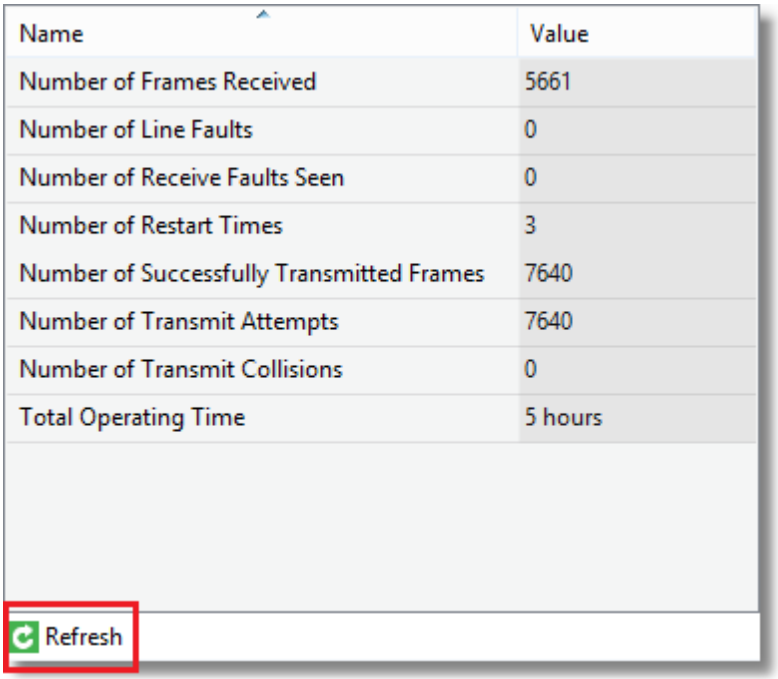
The Info view allows the user to view diagnostic information and any relevant data sheets for the DALI eHub.



The Info view

Diagnostic Information

The Info view also shows the most up to date diagnostic information retrieved from the DALI eHub.

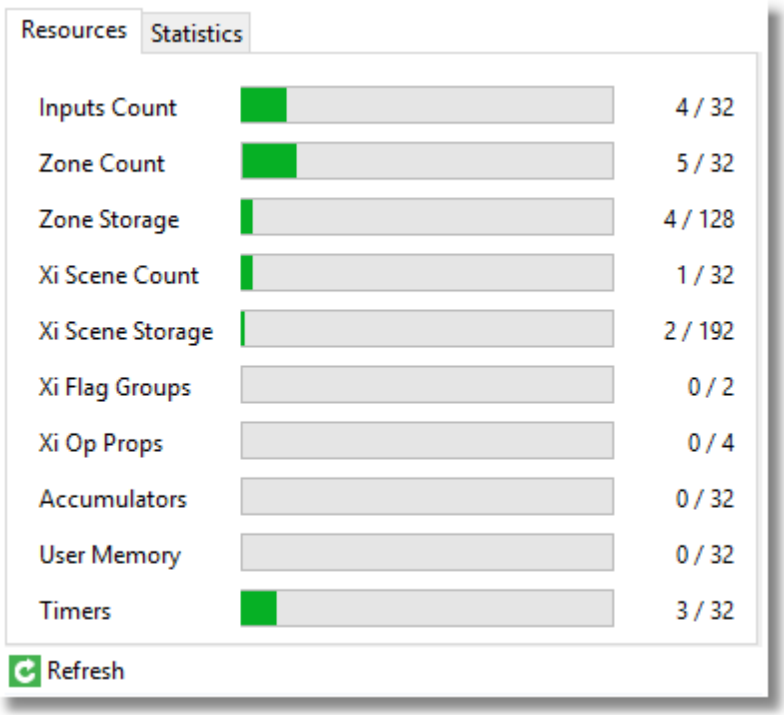


The diagnostic information section with the Refresh button highlighted

This data can be refreshed at any time by clicking the **Refresh** button.

Resources

The **Resources** tab shows the various DALI eHub resources that are used and how many are available.

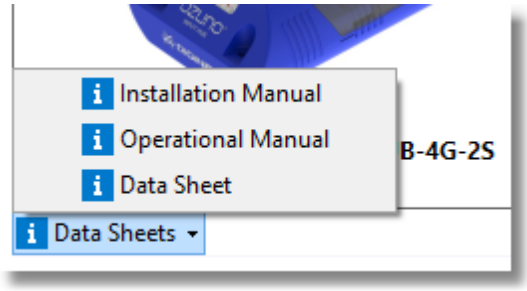


The resources tab

Data Sheets

The **Data Sheets** button allows the user to view data sheets like the installation manual and operation manual for the DALI eHub.

Clicking the **Data Sheets** button reveals the available options:

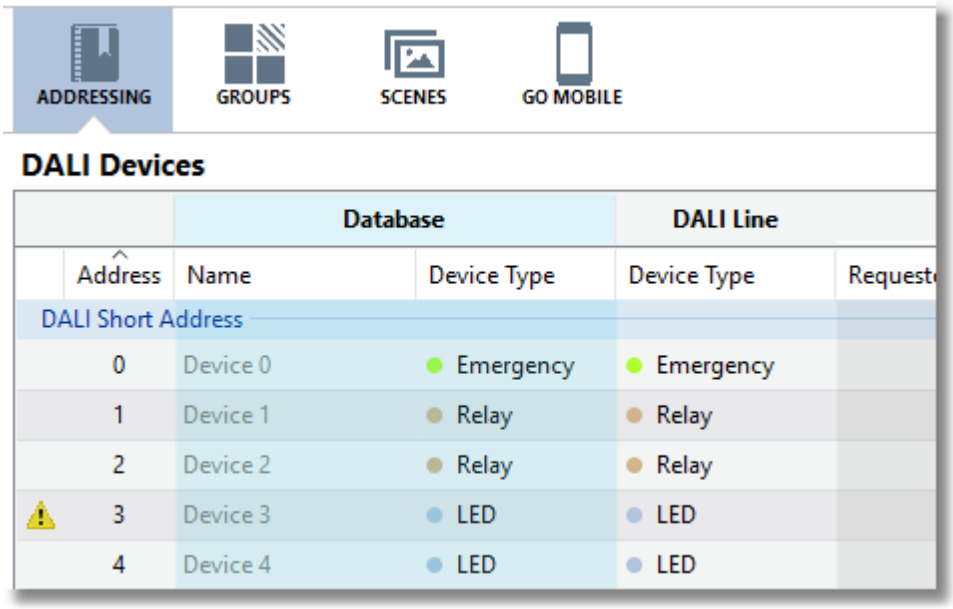


The data sheet options for the DALI eHub

Click one of the data sheets to open them in the PC's default PDF viewer.

4.10.5 Synchronising DALI Device Properties

If there is a difference between the database information and the live data for a device, a yellow warning will be shown next to the device to show that it is not "synchronised":

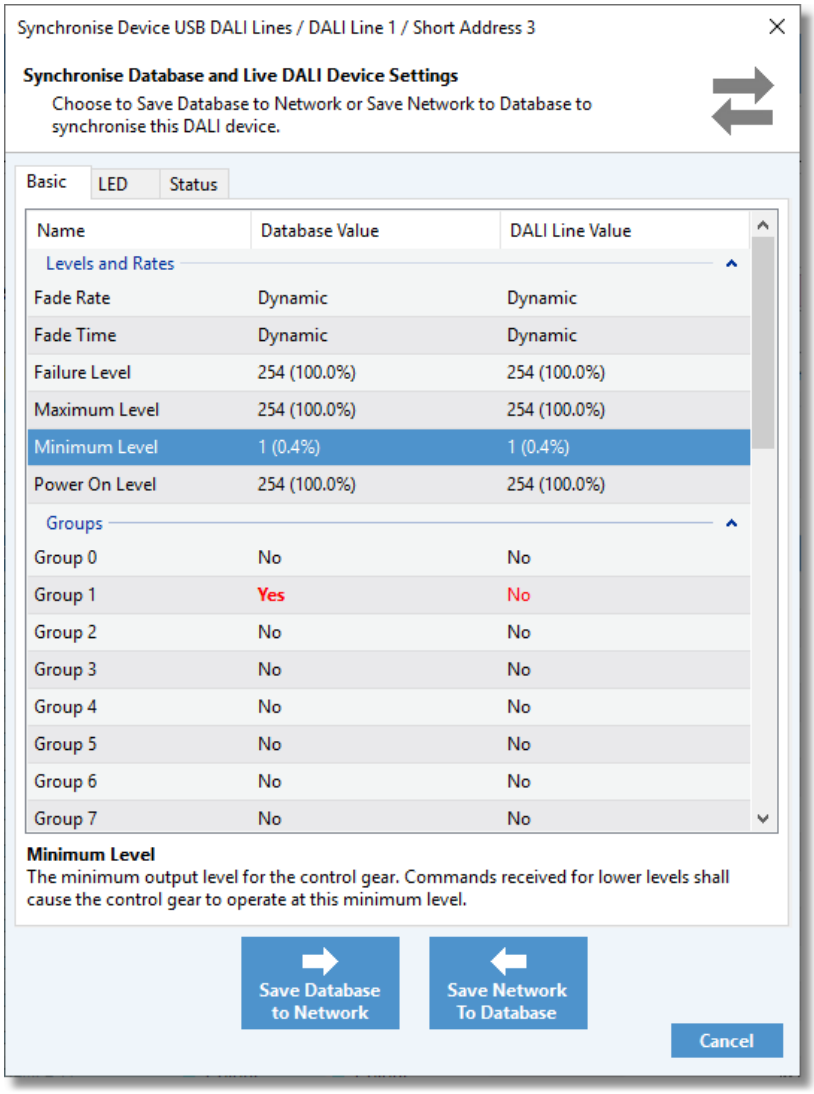


A device cannot be edited until it is synchronised. It is possible to sync individual DALI Devices or all DALI Devices.

Sync Single Device

To sync a single device, double click on it, or click the **Edit** button.

A form will be shown to allow selection of the sync process:



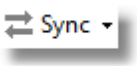
The options are:

- **Save Database to Network**: copy all database properties to the live DALI Device
- **Save Network to Database**: save all live DALI Device properties to the database

Sync Multiple Devices

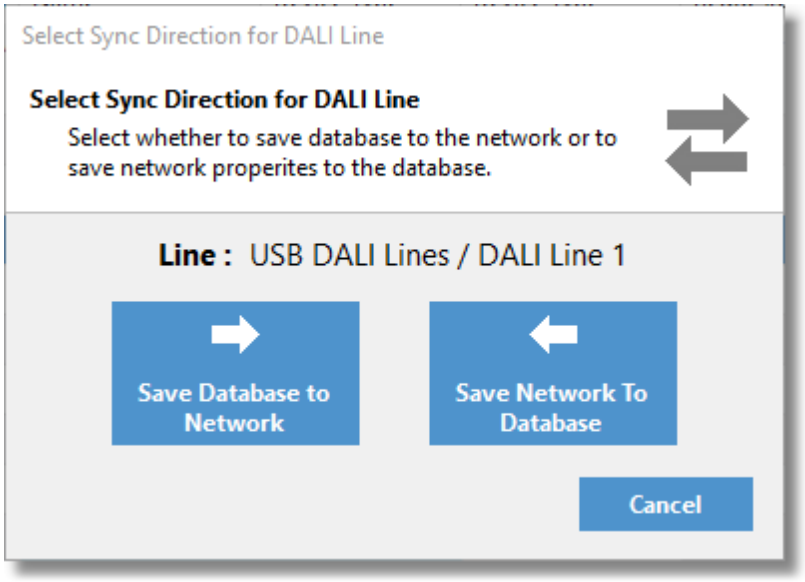
To sync a whole site or a single DALI Line:

1. Click on the **Sync** button in the Network Interfaces view:



2. Select whether to sync the site or DALI Line

3. The sync form will be show:



4. Select the sync direction.

4.11 Tools

Click the "**Tools**" button at the top -right of the RAPIX Addressing form to select one of the available tools:

Support

Select the "**Support**" tool to open a form with details about getting technical support for the RAPIX Addressing software.

Export Logs

Select the "**Export Logs**" tool to open a form with details about exporting the RAPIX Addressing software log files for diagnosing problems or for providing to technical support staff.

Update eHub Firmware

Select the "**Update eHub Firmware**" tool to open a form which allows the firmware in all eHubs to be updated.

Update Xi Device Firmware

Select the "**Update Xi Device Firmware**" tool to open a form which allows the firmware in all Xi Devices to be updated.

Check for Updates

Select the "**Check for Updates**" tool to check to see whether there are any updates available for the RAPIX Addressing software.

4.12 Working Off-Line

The RAPIX Addressing software can be used while off-line (i.e. not connected to a DALI Line).

This allows various actions to be performed while not on-site, including:
- Creating projects
- Editing projects
- Viewing projects

While off-line, changes can be made to the project database. When back on-site, the changes can be copied to the live devices by synchronising the project. See the Synchronising DALI Device Properties 101 topic for details.

5 Troubleshooting

if you have any problems using RAPIX Addressing, this section lists common problems and potential solutions.

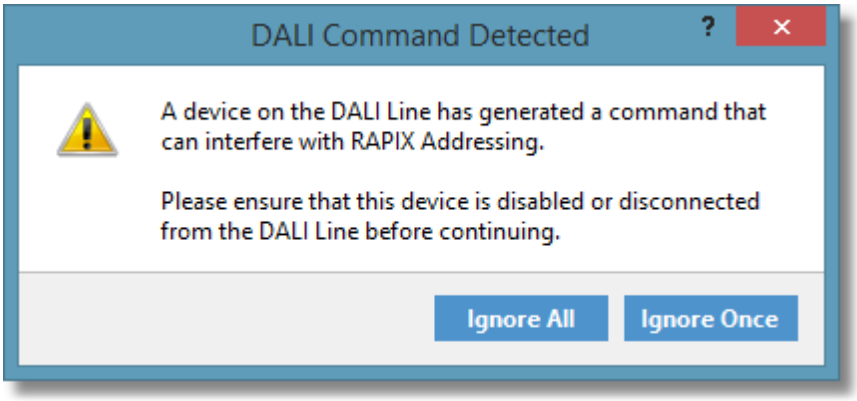
If attempting to diagnose a difficult problem, the logs generated by RAPIX Addressing can be a useful tool. See topic Options 30 for more information about setting log levels and exporting logs.

5.1 DALI Command Interference

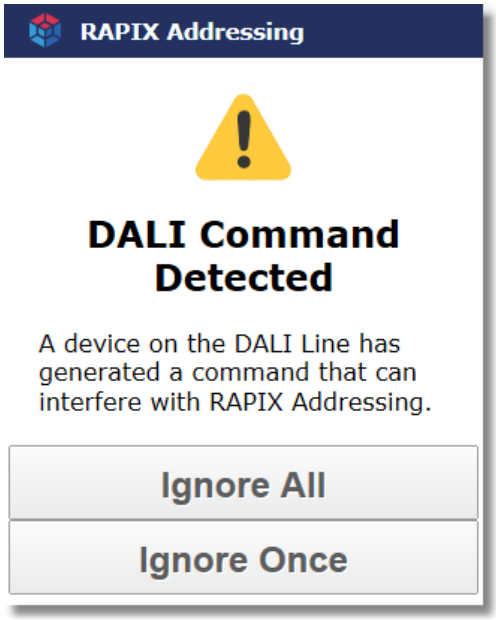
RAPIX Addressing provides functionality that can switch DALI Devices on and off.

If there are any Devices on the DALI Line that generate commands that can also switch DALI Devices on or off, this can interfere with the normal operation of RAPIX Addressing, in that lights can be switched on or off when not expected.

If there are any Devices on the DALI Line that generate commands, the following message will be shown:



DALI Command Detected warning message on the PC



DALI Command Detected warning message on the mobile interface

This message allows you to:

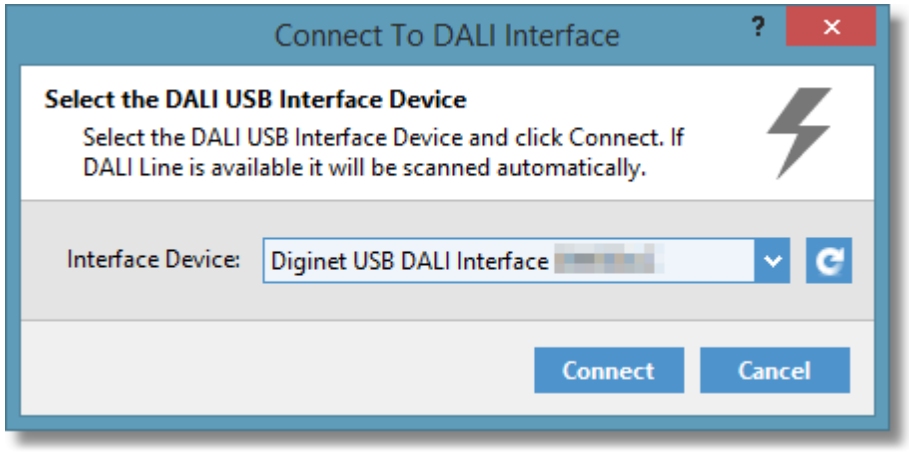
- **Ignore Once.**
  This message will be displayed the next time that a DALI command is seen on the DALI Line that RAPIX Addressing did not generate.

- **Ignore All.**
  This message will not be displayed again until the DALI Line is rescanned.

5.2 PC User Interface Problems

DALI USB Interface Device Not Appearing in Connect to DALI Interface Window's List

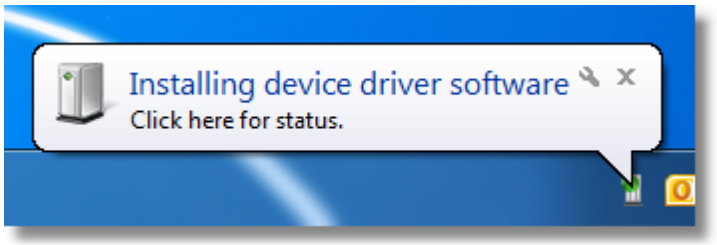
The most common reason for a DALI USB Interface Device not appearing in the **Connect to DALI Interface** window list is that the drivers are not installed.



The Connect to DALI Interface window

When plugging in a DALI USB Interface Device, Microsoft Windows should detect a new device was

inserted and automatically install the drivers for it.



Microsoft Windows installing drivers for the DALI USB Interface Device

This process may take a few moments.

Note: *Installing RAPIX Addressing will also include the USB drivers necessary to use a DALI USB Interface Device, and Windows will also automatically download the USB drivers if not installed on the PC.*

After the USB drivers are installed, reopen the **Connect to DALI Interface** window, and a new device should be listed in the combo box.

See topic Installing RAPIX Addressing 8 for more information on installing RAPIX Addressing.

Can't Connect to DALI

If a DALI USB Interface Device is connected to the PC, and RAPIX Addressing has trouble connecting to DALI, this may be because:

1. The DALI cables are not correctly inserted into the DALI USB Interface Device; or
2. The DALI Line is not properly powered; or
3. There is a short circuit on the DALI Line.

Ensure that the DALI Line is plugged into the DALI USB Interface Device and that the DALI Line is correctly powered. This can be tested by pressing the **Turn DALI Line On** and **Turn DALI Line Off** buttons on the DALI USB Interface Device.

5.3 Mobile Interface Problems

Can't Connect a Mobile Device

Failing to connect a mobile device to RAPIX Addressing can be because:

1. Wi-Fi is not enabled on the PC running RAPIX Addressing; or
2. Wi-Fi is not enabled on the mobile device; or
3. You are trying to connect the mobile device to RAPIX Addressing via the wrong network interface; or
4. The HTTP port number conflicts with another service; or
5. You are out of Wi-Fi range.
6. A firewall on the PC is blocking Wi-Fi communications.

Wi-Fi Not Enabled on PC

The PC might not be connected to the local network. Check that an Ethernet cable to the router is plugged into the PC, and that Wi-Fi is enabled. Then, the mobile device must connect to the same Wi-Fi network as the PC for communications to work.

Wi-Fi Not Enabled on Mobile Device

If Wi-Fi is not enabled on the mobile device, then it must be enabled. Ensure that once Wi-Fi is enabled, that the mobile device is connected to the same Wi-Fi network as the PC running RAPIX Addressing.

Wrong Network Interface

It might be possible that the wrong network interface was chosen in the **Connect a Mobile Device** window.

The Connect to Mobile Device window with combo box for choosing a network interface

Try choosing a different network interface by selecting a different item in the **Network Interface** combo box (see image above). When choosing a different network interface the IP address displayed in the URL will change, as well as the QR code.

Note: *Normally a network interface labelled* ***Wireless Connection*** *or* ***Local Area Connection*** *will allow a mobile device to connect.*

See topic Connecting a Mobile Device 45 for more information.

Invalid HTTP Port Number

It could be possible, though rare, that the HTTP port number used for communications is in conflict with another service or application on the PC.

Try changing the HTTP port number in the **Options** window, and then attempt to reconnect the mobile device.

See topic Options[30] for more information on the HTTP port number.

Web Access is Disabled

This problem occurs when mobile web access is disabled.

Web Access Disabled error page

To enable mobile web access, go to the **Go Mobile** view by clicking the **Go Mobile** button in the tool bar:

The Go Mobile tool bar button

The web browser currently displaying the **Access Disabled** error should automatically refresh and display the short address grid page. Manually refresh the page if this does not occur.

No HTML5

If you are using a mobile device with a web browser that does not support HTML5, you may find that the mobile interface neither renders nor functions properly. If you are experiencing issues viewing the mobile interface on your mobile device, ensure that your mobile device software is up to date.

JavaScript is Disabled

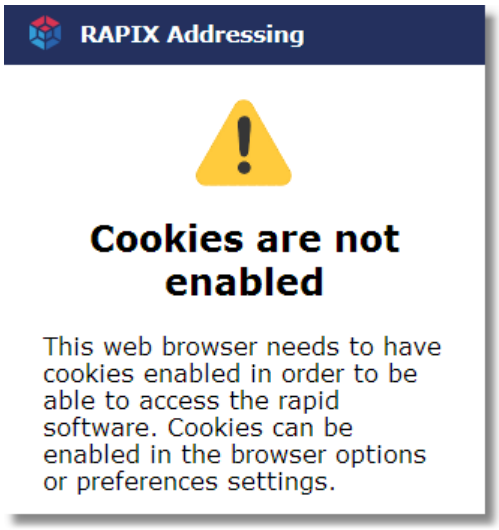
JavaScript must be enabled in your mobile device's web browser for RAPIX Addressing to function. If JavaScript is not enabled, the following error page will be shown:

JavaScript is Disabled error page

If you turn on JavaScript and refresh the page, you will be redirected to the short address grid page where you can use RAPIX Addressing.

Cookies Are Disabled

Cookies must be enabled in your mobile device's web browser for RAPIX Addressing to work. If cookies are not enabled, the following error page will be shown:

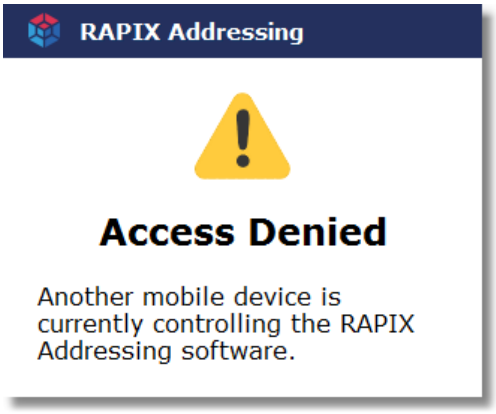


Cookies Disabled error page

If you turn on cookies and refresh the page, you will be redirected to the short address grid page where you can use RAPIX Addressing.

Web Access is Denied

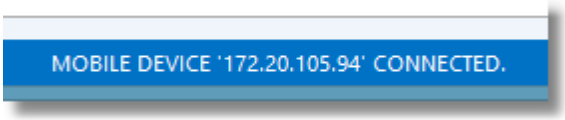
This problem can occur if there are multiple web-enabled devices attempting to connect to RAPIX Addressing.



The Access Denied error page

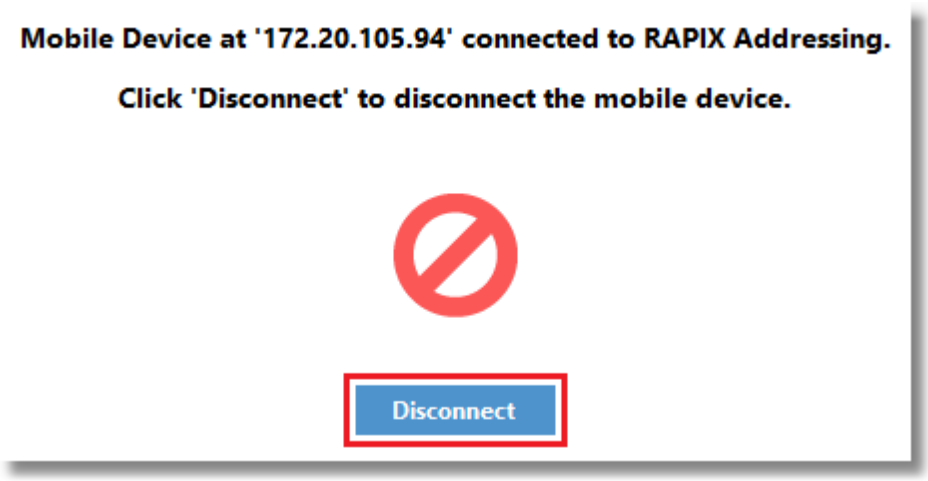
RAPIX Addressing supports only one mobile device connected at a time.

The IP address of the mobile device connected to RAPIX Addressing will be displayed in the PC interface's blue bar at the bottom of the window, as seen below.



Mobile Device with IP address 172.20.105.94 is connected to RAPIX Addressing

If you wish to connect another mobile device to RAPIX Addressing you must first disconnect the currently-connected mobile device by closing the RAPIX Addressing web page, and then go to the **Go Mobile** view, and click the **Disconnect** button:

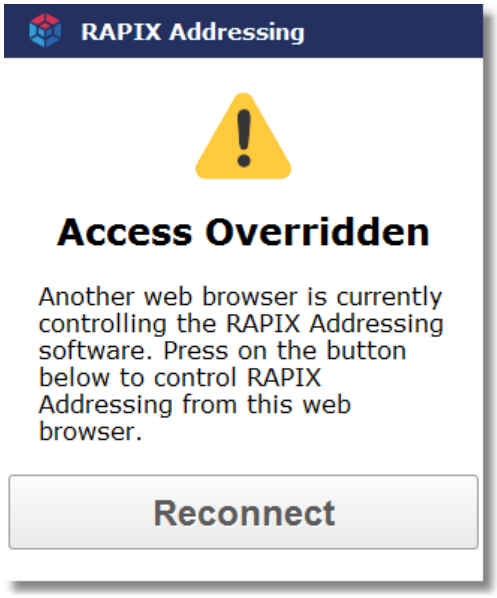


The Disconnect button (highlighted)

Then, clicking the **Connect a Mobile Device** button again will allow a different mobile device to connect.

Access Overridden

This error message can appear on a mobile device if there are multiple applications running on it which are accessing the RAPIX Addressing mobile interface.



The Access Overridden error page

A common example of this error showing up is on a smart phone which has used a third-party QR scanning application to scan the QR code:

1. The scanned URL is opened in the QR scanning application's own embedded web browser.
2. Then the link is reopened in the mobile device's native web browser.

This leaves two applications with the same web page open, one with control, and the other without.

Press the **Reconnect** button to take control of RAPIX Addressing. This will override access in the other open web browser (which will now show the **Access Overridden** error page).

Timeout

A timeout error can occur for one of two reasons:

1. When Wi-Fi communications between the mobile device and PC running RAPIX Addressing are interrupted. This can occur when the mobile device goes out of Wi-Fi range of the PC.
2. When RAPIX Addressing on the PC is not running, but the web page remains open on the mobile device.

The Timeout error page

Out of Wi-Fi Range

If the mobile device has gone out of Wi-Fi range, you will need to:

1. Ensure that Wi-Fi is still turned on on the mobile device.
2. Check that Wi-Fi is connected to the same Wi-Fi network that the PC is connected to.
3. If the mobile device has lost the Wi-Fi connection completely, you may need to move closer to the PC running RAPIX Addressing where Wi-Fi reception is stronger. Then, try refreshing the page if it does not automatically display the short address grid page again.
4. If the mobile device is still unable to connect, ensure that Wi-Fi is still active on the PC, and that RAPIX Addressing is still running.

RAPIX Addressing Not Running

To use the mobile interface on a mobile device, RAPIX Addressing needs to be running.

If RAPIX Addressing is not running, open it and go to the Go Mobile view which will display the **Connect a Mobile Device** section. Then, refresh the page in the mobile device's web browser.

The Connect to Mobile Device button

Rapid Find Algorithm Too Quick

The Rapid Find Algorithm can be too quick in cases where it may take time for the DALI Devices on the DALI Line to respond to **On** and **Off** commands.

If this is the case, the Rapid Find Algorithm step time, which is the delay between successive switching on and off of DALI Devices can be changed. The default is 3.0 seconds.

This value can be changed in the **Options** window to any value up to 10.0 seconds.

See topic Options 30 for more information.

6 End User License Agreement

SUBSCRIPTION END-USER LICENSE AGREEMENT (EULA)

IMPORTANT: PLEASE READ THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT CAREFULLY BEFORE CONTINUING WITH THIS PROGRAM INSTALL.

This Subscription End-User License Agreement **("EULA")** is a legal agreement between you (either an individual or a single legal entity) and Ozuno Holdings Limited **("Ozuno")** for the software product (s) identified above which may include associated software components, physical hardware security devices, media, printed materials, and "online" or electronic documentation ("SOFTWARE PRODUCT"). By installing, copying, or otherwise using the SOFTWARE PRODUCT, you agree to be bound by the terms of this EULA.

If you do not agree to the terms of this EULA, do not continue to install or use the SOFTWARE PRODUCT.

This EULA represents the entire agreement concerning the program between you and Ozuno and it supersedes any prior proposal, representation, or understanding between the parties.

Authorised Distributor. The distributor of this software in Australia and New Zealand is Gerard Lighting Pty Ltd ("Gerards"). Support is provided by Gerards and all enquiries should be directed to Gerards.

The SOFTWARE PRODUCT is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE PRODUCT is licensed, not sold.

1. GRANT OF LICENSE

The SOFTWARE PRODUCT is licensed as follows:

(a) Installation and Use.
Ozuno grants you the right to install and use copies of the SOFTWARE PRODUCT on your computer running a validly licensed copy of the operating system for which the SOFTWARE PRODUCT was designed [e.g. Windows 7, Windows 8, Windows 10].

(b) Commercial in Confidence.
This SOFTWARE PRODUCT is provided commercial in confidence and shall not be reproduced or transmitted to unauthorised personnel without the expressed written permission of Ozuno.

(c) Backup Copies.
You may only make copies of the SOFTWARE PRODUCT as may be necessary for backup and archival purposes.

2. DESCRIPTION OF OTHER RIGHTS AND LIMITATIONS

(a) Maintenance of Copyright Notices.
You must not remove or alter any copyright notices on any copies of the SOFTWARE PRODUCT.

(b) Distribution.
You may not distribute copies of the SOFTWARE PRODUCT to third parties.

(c) Prohibition on Reverse Engineering, Decompilation, and Disassembly.
You may not reverse engineer, decompile, or disassemble the SOFTWARE PRODUCT except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.

(d) Rental.
You may not rent, lease, or lend the SOFTWARE PRODUCT to any other person.

(e) Support Services.
Ozuno or Gerards may provide you with support services related to the SOFTWARE PRODUCT ("Support Services"). Any supplemental software code provided to you as part of the Support Services shall be considered part of the SOFTWARE PRODUCT and subject to the terms and conditions of this EULA.

(f) Compliance with Applicable Laws.
You must comply with all applicable laws regarding use of the SOFTWARE PRODUCT.

3. TERMINATION

Without prejudice to any other rights, Ozuno may terminate this EULA if you fail to comply with the terms and conditions of this EULA. In such event, you must destroy all copies of the SOFTWARE PRODUCT in your possession. Physical hardware security devices are to be returned or destroyed. Clauses 4 to 8 inclusive of this agreement survive the termination of this agreement for any reason.

4. COPYRIGHT

All title, including but not limited to copyrights, in and to the SOFTWARE PRODUCT and any copies thereof are owned by Ozuno or its suppliers. All title and intellectual property rights in and to the content which may be accessed through use of the SOFTWARE PRODUCT is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants you no rights to use such content. All rights not expressly granted are reserved by Ozuno.

5. NO WARRANTIES

Subject to your rights (if any) under clause 8 Ozuno expressly disclaims any warranty or representation in respect of the SOFTWARE PRODUCT. The SOFTWARE PRODUCT is provided 'As Is' without any express or implied warranty of any kind, including but not limited to any warranties of merchantability, non-infringement, or fitness for a particular purpose. Ozuno does not warrant or assume responsibility for the accuracy or completeness of any information, text, graphics, links or other items contained within the SOFTWARE PRODUCT. Ozuno gives no warranties respecting any harm that may be caused by the transmission of a computer virus, worm, time bomb, logic bomb, or other such computer program.

6. LIMITATION OF LIABILITY

Subject to your rights (if any) under clause 7 in no event shall Ozuno be liable for any damages (including, without limitation, lost profits, business interruption, or lost information) arising out of your use of or inability to use the SOFTWARE PRODUCT, even if Ozuno has been advised of the possibility of such damages. In no event will Ozuno be liable for loss of data or for indirect, special, incidental, consequential (including lost profit), or other damages based in contract, tort or otherwise. Ozuno shall have no liability with respect to the content of the SOFTWARE PRODUCT or any part thereof, including but not limited to errors or omissions contained therein, libel, infringements of rights of publicity, privacy, trademark rights, business interruption, personal injury, loss of privacy, moral rights or the disclosure of confidential information.

7. GOVERNING LAW

This agreement is governed by the laws of South Australia, Australia including the Australian Consumer Law or where the SOFTWARE PRODUCT is supplied in New Zealand, by the laws of New Zealand including the Consumer Guarantees Act (Consumer Laws).

8. CONSUMER LAWS

Ozuno acknowledges the following rights, liabilities and limitations under Consumer Law. Where you purchase the SOFTWARE PRODUCT as a Consumer under a relevant Consumer Law:

(a) The SOFTWARE PRODUCT is purchased subject to the statutory guarantees under the Consumer Law (Consumer Guarantees);

(b) If the SOFTWARE PRODUCT fail to meet any Consumer Guarantee, you will be entitled to such rights and remedies as are permitted or provided in the Consumer Law for such failure, to the extent that such rights and remedies cannot be lawfully excluded. This may include the right to reject or return the SOFTWARE PRODUCT and obtain a refund, have the failure remedied by repair or replacement/substitution or to receive compensation for any reduction in the value of the SOFTWARE PRODUCT below the price paid or payable for them;

(c) You may only exercise any right or remedy for breach of any Consumer Guarantee strictly in accordance with your rights and responsibilities under the Consumer Law;

(d) Where the SOFTWARE PRODUCT is not of a kind ordinarily acquired for personal, domestic or household use or consumption, then, unless Ozuno is the manufacturer of the SOFTWARE PRODUCT under the Consumer Law, its liability to you for breach of any Consumer Guarantee is limited at its option to repairing or replacing the SOFTWARE PRODUCT, supplying an equivalent SOFTWARE PRODUCT or paying the costs of the repair or replacement of the SOFTWARE PRODUCT or of acquiring an equivalent SOFTWARE PRODUCT

Index

A

B

C

D

E

F

G

H

I

L

M

N

O

P

Q

R

S

T

U

V

W

Y