

Introduction

This Application Note describes the use of “tags” in a RAPIX Lighting Control System.

A “tag” is used to identify an item as belonging to a group of items. The use of tags provides significant benefits for efficiency and flexibility, particularly for large projects.

Tags can be applied to many items in the RAPIX System, including:

- DALI Units
- Zones
- Scenes
- Flags
- Operating Properties
- Schedules
- Interfaces (e.g. RAPIX API, Modbus, MQTT, BACnet)
- Email Recipients (for RAPIX Facilities)

Example of the use of tags include:

- A tag on a DALI unit can be used to indicate that is of a particular type, configuration or location, and allows all units with the same tag to be updated together.
- A tag on a DALI unit can be used to indicate that is part of a particular building tenancy, and allows RAPIX Facilities to generate reports for each tenant containing just the tenant’s DALI units.
- A tag on a Zone, Scene, Flag, Operating Property or Schedule can be used to indicate that it is allowed to be accessed via interfaces, such as the RAPIX API, Modbus, MQTT or BACnet.

Creating and Viewing Tags

Tags can be created and viewed on the **Tags** tab:

RAPIX Properties



OPERATING PROPERTIES



FLAG GROUPS



TAGS

Tags

Name

Purpose

Access

BACnet

Access

Area

Floor 1

Area

Configuration

Corridor Sensors

Configuration

Meeting Room Sensors

Configuration

Tag Details

Name:

Floor 1

Description:

Things on Floor 1

Colour:

Purpose:

Area

Tagged Items

Tagged Item

Details

Unit

Floor 1, Line 1, SA 0

Emergency

Floor 1, Line 1, SA 1

Relay

The Tags tab

To add a tag, click on the **Add** button and enter the tag details. A tag can have a “purpose” defined which is useful to indicate what it is used for:

- General: no specific purpose.
- Configuration: the tag is used to indicate a particular unit configuration.
- Area: the tag is used to indicate a particular area of a building.
- Access: the tag is used to indicate that the item is related to access control (i.e. whether it can be used via the interfaces, such as the RAPIX API, BACnet, Modbus or MQTT).

Tags can also be created and applied at the same time, as discussed below.

Details of the tags can also be viewed in the Project Report.

Tag Purpose	Tag Name	Tag Description
Configuration	 Corridor Sensors	Movement sensors that are used in corridors
Configuration	 Meeting Room Sensors	Movement sensors that are used in meeting rooms
Area	 Floor 1	Things on Floor 1
Area	 Floor 2	Things on Floor 2
Access	 BACnet	Things that can be controlled via BACnet
Access	 Modbus	Things that can be controlled via Modbus

Example from a Project Report

Applying Tags

DALI Units

The name of the tag(s) applied to a DALI unit can be seen by hovering the mouse over the tag.

Line 1

ADDRESSING

GROUPS

SCENES

GO MOBILE

DALI Units

Filter Units: All Unconfirmed

Confirm All

		Database		DALI Line			
Address	Name	Device Type	Device Type	Requested	New	Confirmed	State
DALI Address							
0	Device 0	Emergency	Emergency			☒	
1	Device 1	Relay	Relay			☒	
2	Floor1 = 2	Relay	Relay			☒	

Viewing the tag for a DALI unit

To add or change a tag applied to a DALI unit:

1. Right-click on the DALI unit
2. Select the **Tags** menu item
3. Select the tag(s) required
4. Click on the  icon to add a new tag

Select or Add Tags

Common Areas ☐

Floor1 ☒

Floor2 ☐

Floor3 ☐

Clear Selection

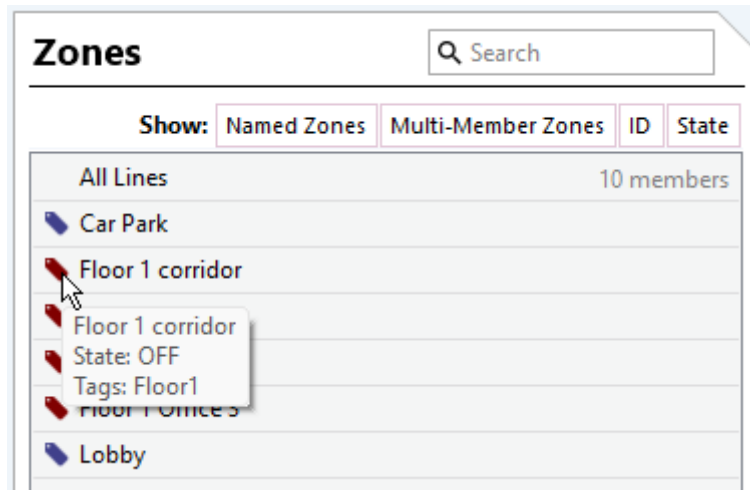
OK

Cancel

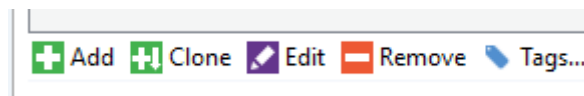
The Select or Add Tags form

Zones

Zone tags can be viewed using the pop-up hint, or by clicking the **Tags** button, or by right-clicking on the zone and selecting the **Tags** menu item.



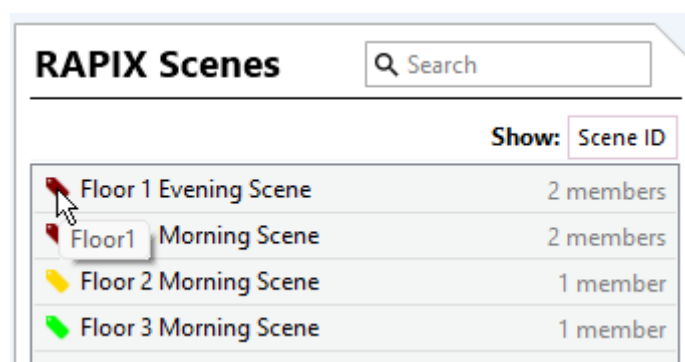
Viewing a Zone tag



The Tags button

Scenes

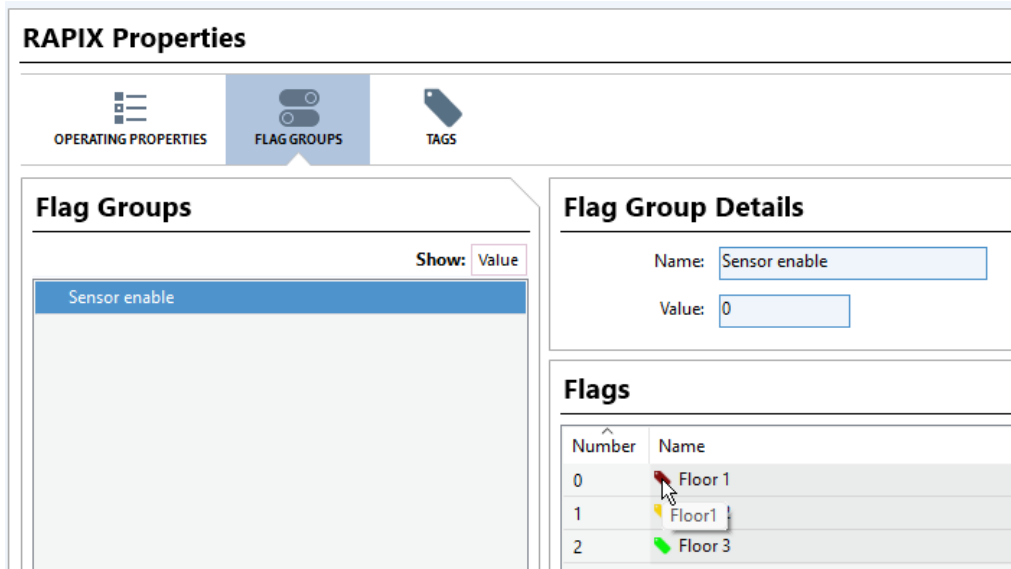
Scene tags can be viewed using the pop-up hint, or by clicking the **Tags** button, or by right-clicking on the scene and selecting the **Tags** menu item.



Viewing a Scene tag

Flags

Flag Group and Flag item tags can be viewed using the pop-up hint, or by clicking the **Tags** button, or by right-clicking on the Flag Group or Flag item and selecting the **Tags** menu item.



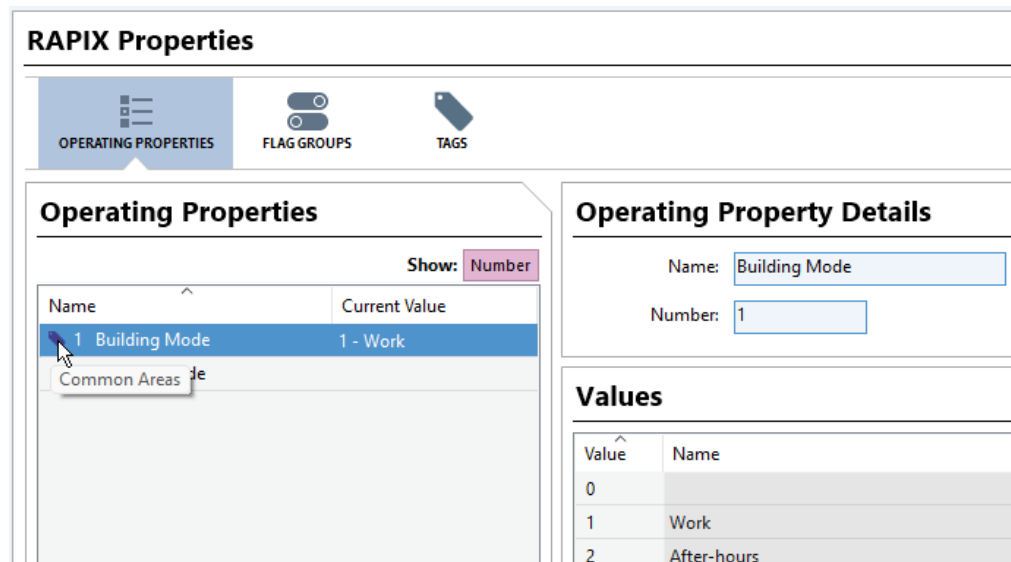
The screenshot shows the RAPIX Properties interface. The top navigation bar includes 'OPERATING PROPERTIES', 'FLAG GROUPS' (selected), and 'TAGS'. The main content area is divided into two panels. The left panel, titled 'Flag Groups', shows a list with 'Sensor enable' selected. The right panel, titled 'Flag Group Details', shows the 'Name' as 'Sensor enable' and the 'Value' as '0'. Below this, a 'Flags' table is displayed:

Number	Name
0	Floor 1
1	Floor1
2	Floor 3

Viewing a Flag tag

Operating Properties

Operating Property tags can be viewed using the pop-up hint, or by clicking the **Tags** button, or by right-clicking on the Operating Property and selecting the **Tags** menu item.



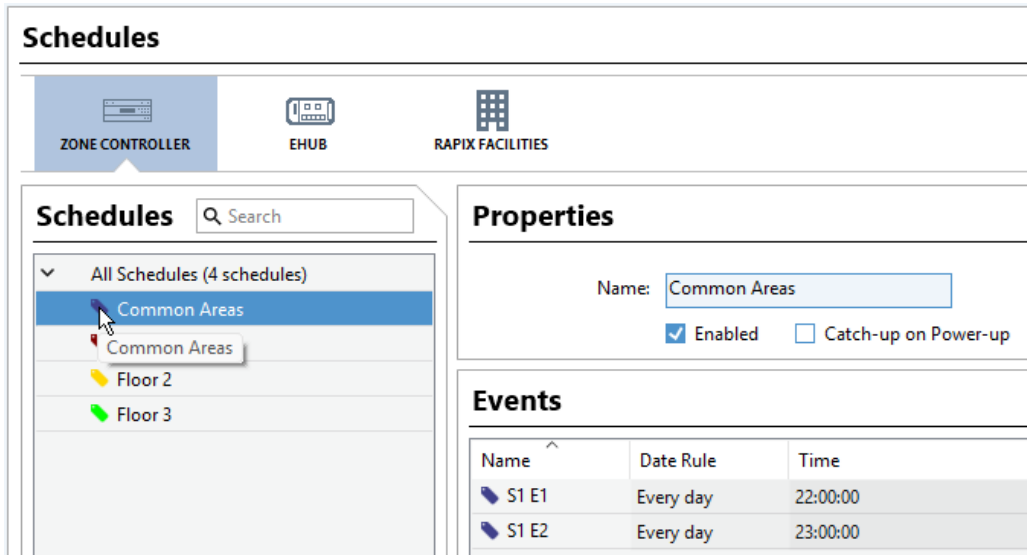
The screenshot shows the RAPIX Properties interface. The top navigation bar includes 'OPERATING PROPERTIES' (selected), 'FLAG GROUPS', and 'TAGS'. The main content area is divided into two panels. The left panel, titled 'Operating Properties', shows a list with '1 Building Mode' selected. The right panel, titled 'Operating Property Details', shows the 'Name' as 'Building Mode' and the 'Number' as '1'. Below this, a 'Values' table is displayed:

Value	Name
0	
1	Work
2	After-hours

Viewing an Operating Property tag

Schedules

Schedule and Schedule Event tags can be viewed using the pop-up hint, or by clicking the **Tags** button.



The screenshot shows the RAPIX Schedules interface. At the top, there are three tabs: ZONE CONTROLLER, EHUB, and RAPIX FACILITIES. The ZONE CONTROLLER tab is active. Below the tabs, there is a search bar and a list of schedules. The 'Common Areas' schedule is selected, and its properties and events are displayed on the right.

Schedules

Search

▼ All Schedules (4 schedules)

- Common Areas
- Common Areas
- Floor 2
- Floor 3

Properties

Name: Common Areas

☒ Enabled ☐ Catch-up on Power-up

Events

Name	Date Rule	Time
S1 E1	Every day	22:00:00
S1 E2	Every day	23:00:00

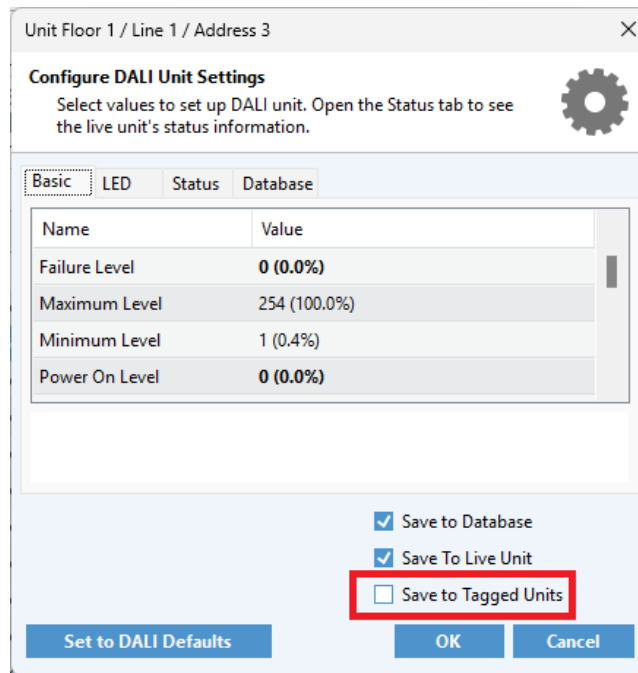
Viewing a Schedule tag

Using Tags for Editing Unit Properties

Tags can be used to simplify the programming of units that have the same configuration. ***See the Master Configuration App Note for a more efficient way of doing this.***

Using Tags for Editing Output Unit Properties

When the properties of an output unit are edited, there is an option at the bottom of the form to apply the settings to tagged units.



Unit Floor 1 / Line 1 / Address 3

Configure DALI Unit Settings
Select values to set up DALI unit. Open the Status tab to see the live unit's status information.

Basic LED Status Database

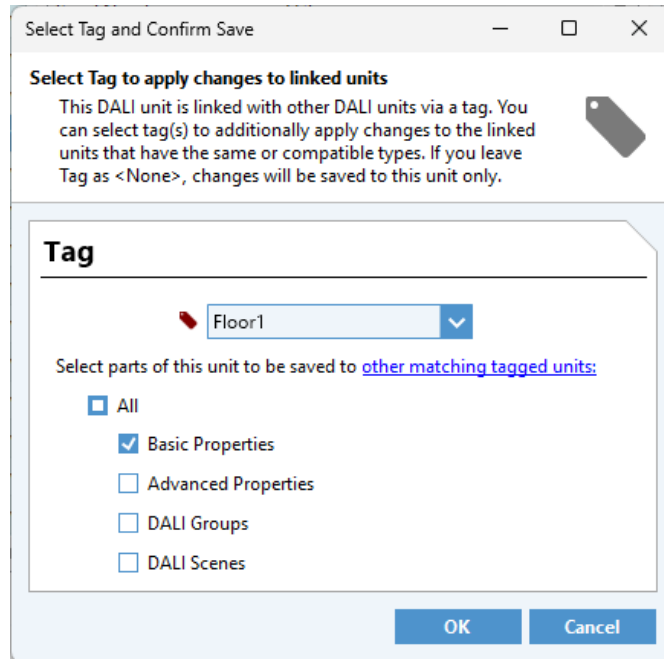
Name	Value
Failure Level	0 (0.0%)
Maximum Level	254 (100.0%)
Minimum Level	1 (0.4%)
Power On Level	0 (0.0%)

☒ Save to Database
☒ Save To Live Unit
☐ Save to Tagged Units

Set to DALI Defaults OK Cancel

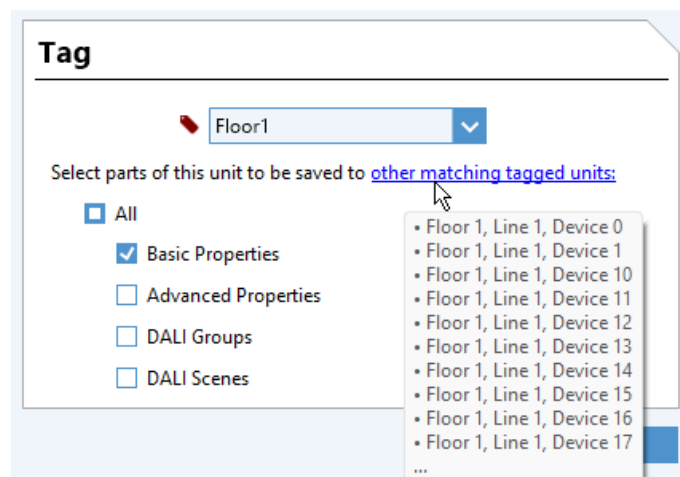
The Save to Tagged Units check box

If the **Save to Tagged Units** option is selected when the **OK** button is clicked, the **Select Tag and Confirm** form will be shown.



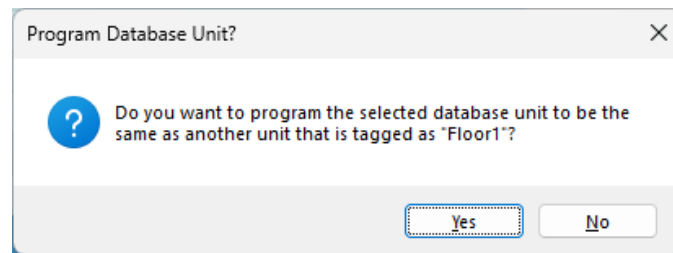
The Select Tag and Confirm Form

The selected output unit properties will be saved to the tagged output units. To find out which units will be affected, hover the mouse over, or click on the “other matching tagged units” link.



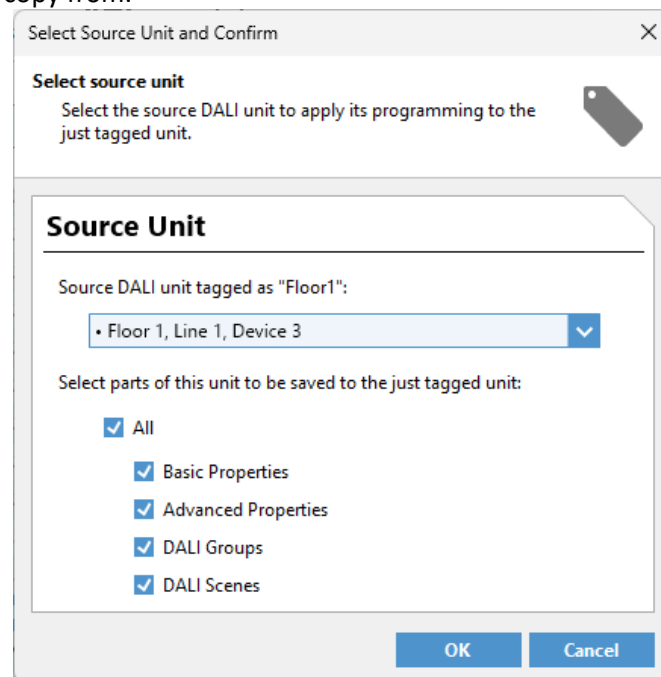
The Select Tag and Confirm Form showing the list of affected units

If a tag is added to an output unit and there are other compatible output units with the same tag, the following message is shown:



Confirmation of copying output unit configuration

Clicking **Yes**, will show the **Select Source and Confirm** form, which allows selecting which properties to copy and which output unit to copy from.

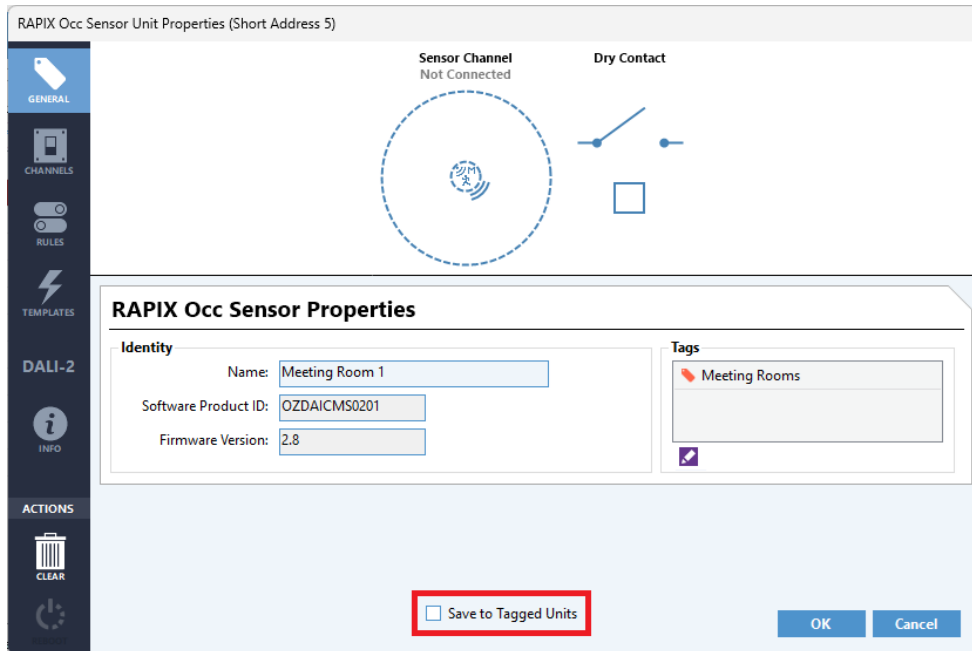


The Select Source and Confirm form

Click on **OK** to confirm the changes.

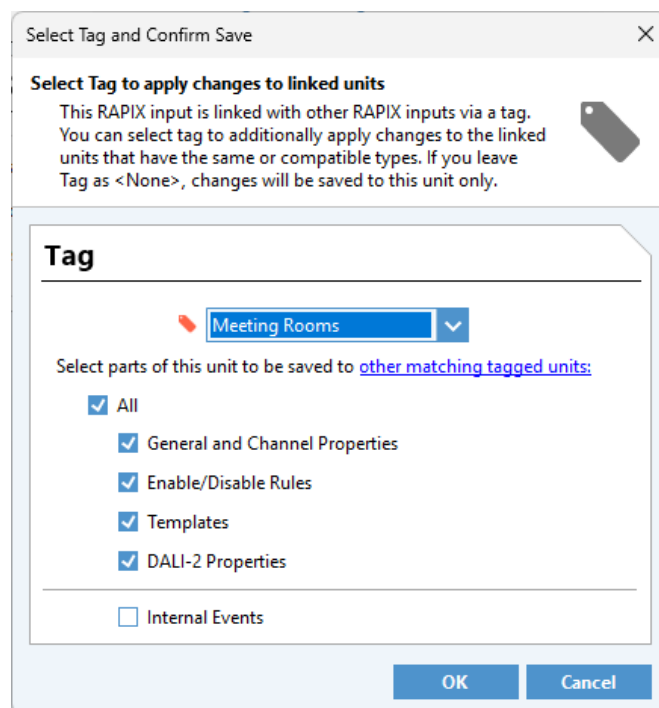
Using Tags for Editing Input Unit Properties

When the properties of an input unit are edited, there is an option at the bottom of the form to apply the settings to tagged units.



The Save to Tagged Units check box

If the **Save to Tagged Units** option is selected, the **Select Tag and Confirm** form is shown.



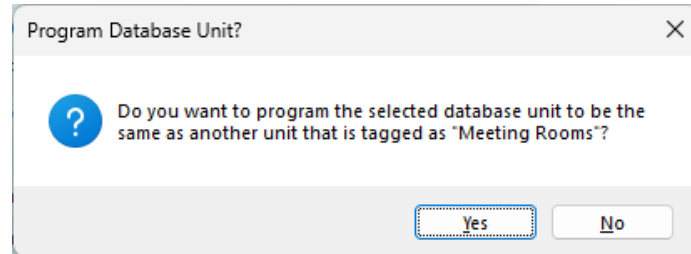
The Select Tag and Confirm Form

In the example above, the changes are to be made to all input units (of compatible type) with the “Meeting Rooms tag”. Other input units (for example, those with the “Corridor” tag) will not be changed. In the DALI Line shown below, only addresses 5 to 8 will have the changes applied because they have the “Meeting Rooms” tag.

Line 1		
ADDRESSING GROUPS SCENES GO MOBILE		
DALI Units		
Database		
Address	Name	Device Type
4	Office 1	RAPIX Occ+LL Sensor
5	Meeting Room 1	RAPIX Occ Sensor
6	Meeting Rooms 2	RAPIX Occ Sensor
7	Meeting Room 3	RAPIX Occ Sensor
8	Meeting Room 4	RAPIX Occ Sensor
9	Corridor 1	RAPIX Occ Sensor
10	Corridor 2	RAPIX Occ Sensor
11	Corridor 3	RAPIX Occ Sensor

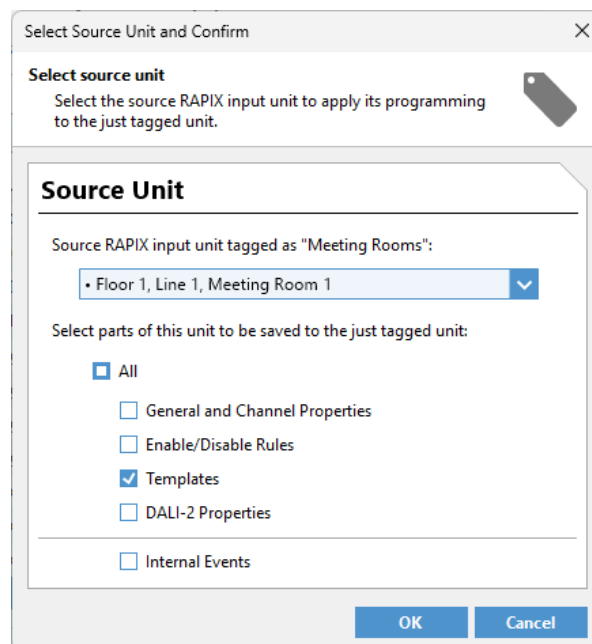
Example DALI Line with sensors with different tags

If a tag is added to an input unit and there are other compatible input units with the same tag, the following message is shown:



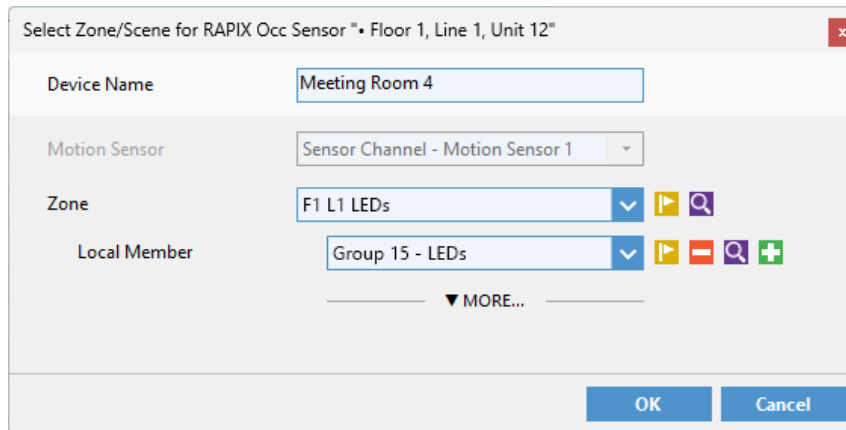
Confirmation of copying input unit configuration

If **Yes** is selected, the **Select Source and Confirm** form will be shown which allows selecting which properties to copy and which input unit to copy from.



The Select Source and Confirm form

If clicking on **OK**, select the Zone for this input unit:



Select Zone/Scene for RAPIX Occ Sensor "• Floor 1, Line 1, Unit 12"

Device Name: Meeting Room 4

Motion Sensor: Sensor Channel - Motion Sensor 1

Zone: F1 L1 LEDs

Local Member: Group 15 - LEDs

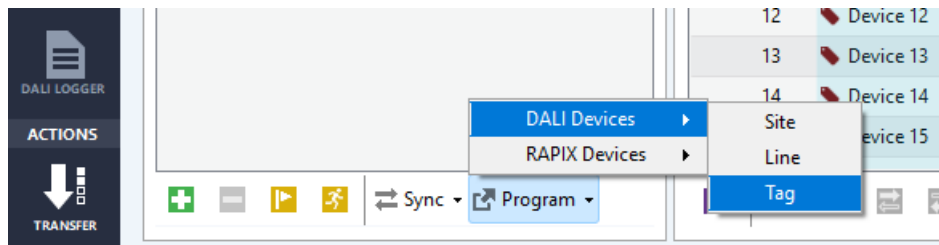
▼ MORE...

OK Cancel

Selection of the Zone to be controlled by the new input unit

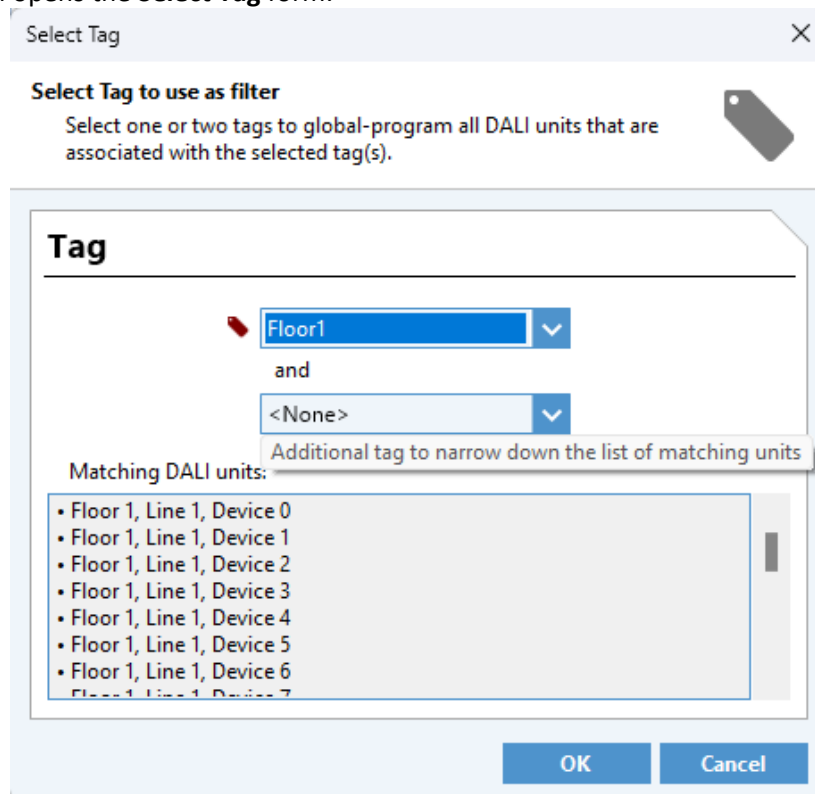
Using Tags for Global Programming

The RAPIX Integrator global programming feature allows changes to be made to multiple units. The **Program** menu has a **Tag** menu item under the **DALI Devices** and **RAPIX Devices** submenus:



Selection of the Global Programming by Tag

The **Tag** menu item opens the **Select Tag** form:



The 'Select Tag' form is displayed. It has a title bar 'Select Tag' with a close button. Below the title bar, it says 'Select Tag to use as filter' and 'Select one or two tags to global-program all DALI units that are associated with the selected tag(s)'. There is a tag icon. The main area is titled 'Tag' and contains two dropdown menus: the first is set to 'Floor1' and the second is set to '<None>'. Below these is a text box 'Additional tag to narrow down the list of matching units'. Underneath is a list titled 'Matching DALI units:' with the following items: 'Floor 1, Line 1, Device 0', 'Floor 1, Line 1, Device 1', 'Floor 1, Line 1, Device 2', 'Floor 1, Line 1, Device 3', 'Floor 1, Line 1, Device 4', 'Floor 1, Line 1, Device 5', 'Floor 1, Line 1, Device 6', and 'Floor 1, Line 1, Device 7'. At the bottom are 'OK' and 'Cancel' buttons.

Select Tag form

After selecting a tag and clicking **OK**, the standard **Configure DALI Units** form will appear, allowing selection of new values for Basic and Advanced DALI settings. Upon clicking **OK** on the **Configure DALI Units** form, the new values will be saved to all units tagged with the selected tag.

Optionally, a second tag can be selected to further narrow down the list to units that are tagged with both tags. For example, selecting the "Floor1" and "Meeting Rooms" tags will reduce the list of units to only those located in the meeting rooms on the first floor.

Using Tags for Access Control

Each of the RAPIX Interfaces can be used to control and monitor the RAPIX system:

- RAPIX API
- Modbus
- BACnet
- MQTT

Each interface can be configured to access selected entities:

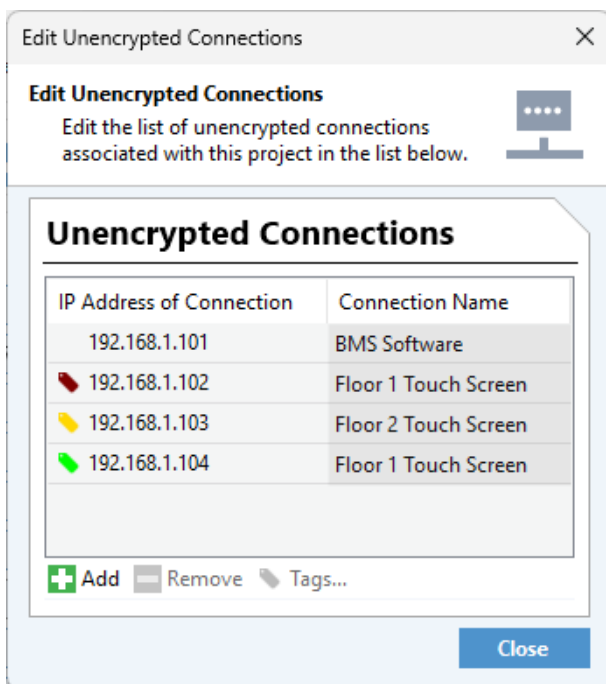
- Zones
- Scenes
- Flag Groups (a flag for a Flag Group automatically applies to its Flags)
- Flags
- Operating Properties
- Schedules (a flag for a schedule automatically applies to its events)
- Schedule Events

RAPIX API

The tags for use with the RAPIX API are defined:

- Per connection in the unencrypted connections section.
- Per user in the users section.

When first connected, the tags for the unencrypted connection are used. Once a user has logged-in, the user's tags will be used.



Edit Unencrypted Connections

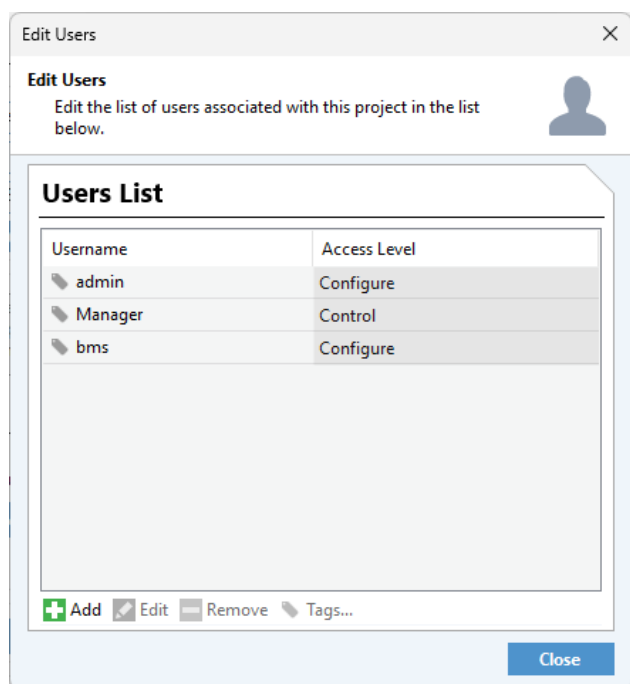
Edit the list of unencrypted connections associated with this project in the list below.

IP Address of Connection	Connection Name
192.168.1.101	BMS Software
192.168.1.102	Floor 1 Touch Screen
192.168.1.103	Floor 2 Touch Screen
192.168.1.104	Floor 1 Touch Screen

+ Add - Remove Tags...

Close

Unencrypted Connection tags



Edit Users

Edit the list of users associated with this project in the list below.

Username	Access Level
admin	Configure
Manager	Control
bms	Configure

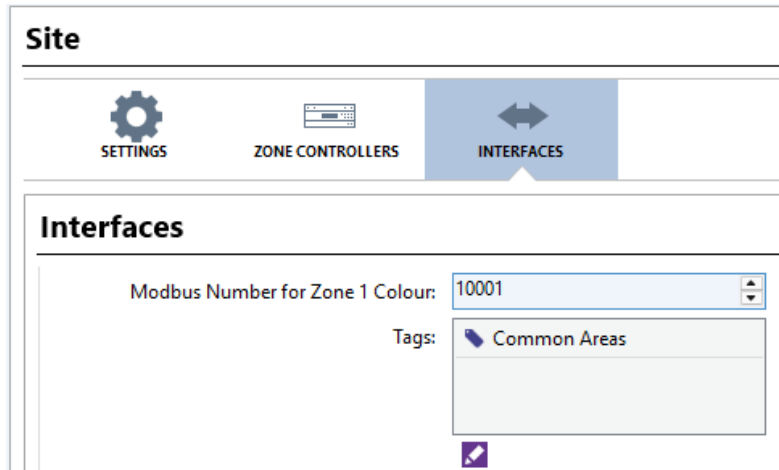
+ Add - Edit - Remove Tags...

Close

User Tags

Modbus

Tags for Modbus can be selected at the bottom of the Modbus section.

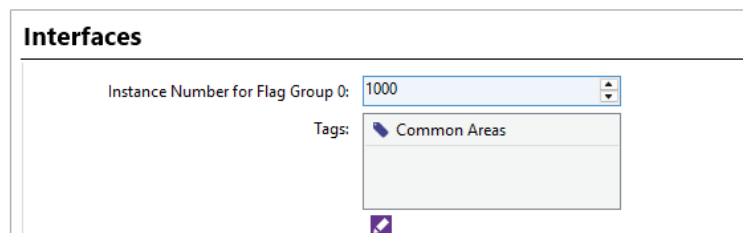


The screenshot shows the 'Site' configuration page with the 'INTERFACES' tab selected. Under the 'Interfaces' section, the 'Modbus Number for Zone 1 Colour' is set to 10001. Below this, the 'Tags' dropdown menu is open, showing 'Common Areas' as the selected option. A small purple icon is visible at the bottom right of the tags menu.

Modbus Tags

BACnet

Tags for BACnet can be selected at the bottom of the BACnet section.

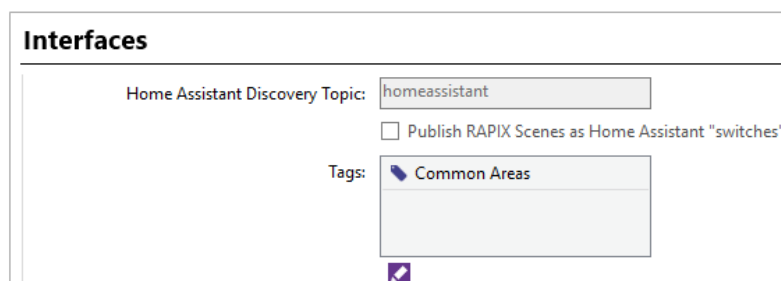


The screenshot shows the 'Interfaces' configuration page. The 'Instance Number for Flag Group 0' is set to 1000. Below this, the 'Tags' dropdown menu is open, showing 'Common Areas' as the selected option. A small purple icon is visible at the bottom right of the tags menu.

BACnet Tags

MQTT

Tags for MQTT can be selected at the bottom of the MQTT section.



The screenshot shows the 'Interfaces' configuration page. The 'Home Assistant Discovery Topic' is set to 'homeassistant'. Below this, there is a checkbox labeled 'Publish RAPIX Scenes as Home Assistant "switches"' which is currently unchecked. The 'Tags' dropdown menu is open, showing 'Common Areas' as the selected option. A small purple icon is visible at the bottom right of the tags menu.

MQTT Tags

Allowing Full Access

By default, all interfaces have access to everything. To allow an interface to have full access, do not add any tags to the interface.

Allowing selected access

To allow an interface to only access items with a particular tag, add that tag to the interface.

Preventing any access

To prevent an interface from having access to anything, it will be necessary to create a tag that is applied to the interface, but not used anywhere else.

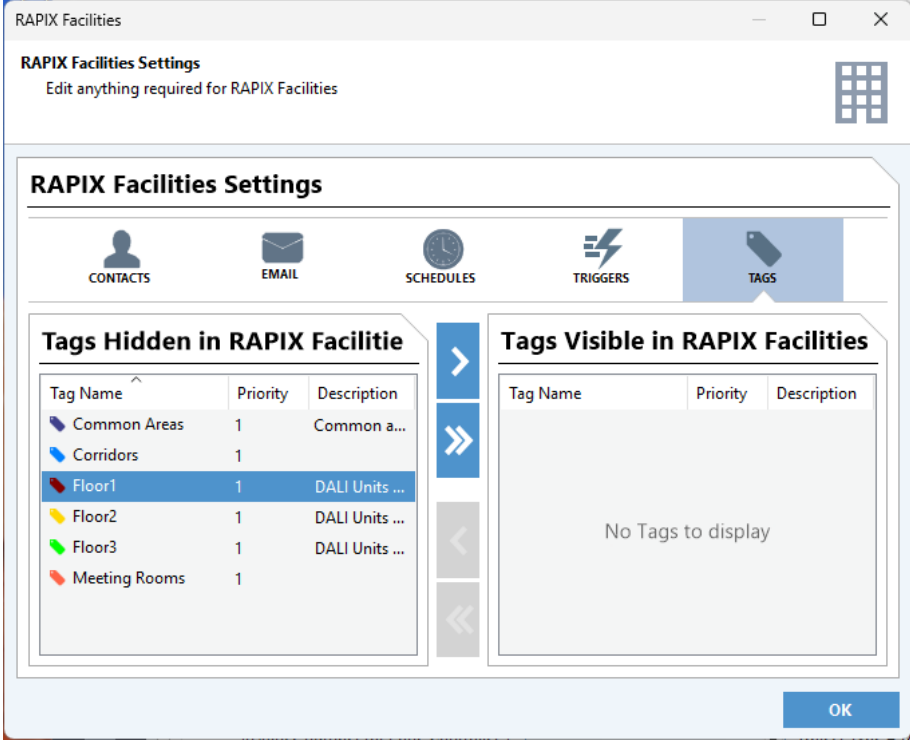
This can be used to prevent access through the RAPIX API until a user has logged-in (at that point, the user's tags will apply).

Using Tags with RAPIX Facilities

Tags for use with RAPIX Facilities are created using RAPIX Integrator.

Selecting Tags

Tags for use with RAPIX Facilities are selected using the RAPIX Facilities form.



The screenshot shows the 'RAPIX Facilities Settings' window. It has a title bar 'RAPIX Facilities' and a subtitle 'RAPIX Facilities Settings' with the instruction 'Edit anything required for RAPIX Facilities'. Below the subtitle is a grid icon. The main content area is titled 'RAPIX Facilities Settings' and contains a navigation bar with icons for CONTACTS, EMAIL, SCHEDULES, TRIGGERS, and TAGS. The TAGS tab is selected. Below the navigation bar, there are two panels: 'Tags Hidden in RAPIX Facility' and 'Tags Visible in RAPIX Facilities'. The 'Tags Hidden in RAPIX Facility' panel contains a table with columns 'Tag Name', 'Priority', and 'Description'. The table lists five tags: 'Common Areas', 'Corridors', 'Floor1', 'Floor2', and 'Floor3', all with a priority of 1. 'Floor1' is selected. The 'Tags Visible in RAPIX Facilities' panel is empty and contains the text 'No Tags to display'. There are navigation arrows between the two panels. An 'OK' button is at the bottom right.

Tag Name	Priority	Description
Common Areas	1	Common a...
Corridors	1	
Floor1	1	DALI Units ...
Floor2	1	DALI Units ...
Floor3	1	DALI Units ...
Meeting Rooms	1	

Selecting tags for use with RAPIX Facilities

Test Reports

If a building has multiple tenants, it may be necessary to have separate test reports to each tenant. This can be achieved by applying a tag to the email address of each tenant. Each test report will only contain the results of the units with the same tags.

List of Email Recipients

Recipient Name	Recipient Email Address	Status
OK		
Tenant 1	manager@tenant1.com	OK
Tenant 2	manager@tenant2.com	OK
Tenant 3	manager@tenant3.com	OK

Add
 Remove
 Tags...

Multiple recipients send email options:

☐ Send one email to all recipients
☒ Send an individual email to each recipient

Using tags to select which tenant receives which test result data

Viewing Tags in RAPIX Facilities

The tags for each unit are displayed in the lists of DALI Units, Operating Properties and Flags.

DALI Units					
Interface	DALI Line	Unit Name	Location	Address	Type
Floor 1					
Floor 1	Line 1	Device 0	Floor 1 corri...	0	EM
Floor 1	Line 1	Device 1	All Lines	1	Relay
Floor 1	Line 1	Tags: Floor1	All Lines	2	Relay
Floor 1	Line 1	Device 3	All Lines	3	LED

DALI Units List

Operating Properties		Flags		
Operating Property Name	Current Value	Flag Group	Flag Name	Flag State
Building Mode	Unknown	Sensor enable	Floor 1	Unknown
Carpark Mode	Unknown	Sensor enable	Tags: Floor1	Unknown
		Sensor enable	Floor 3	Unknown

Operating Properties and Flags Lists

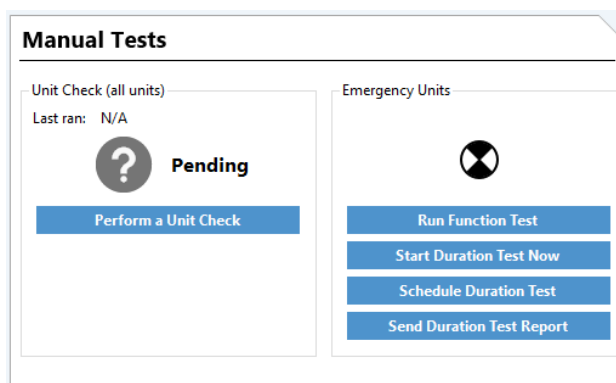
Filtering by Tag in RAPIX Facilities

To view just part of the data for a project, a tag can be selected on the toolbar:

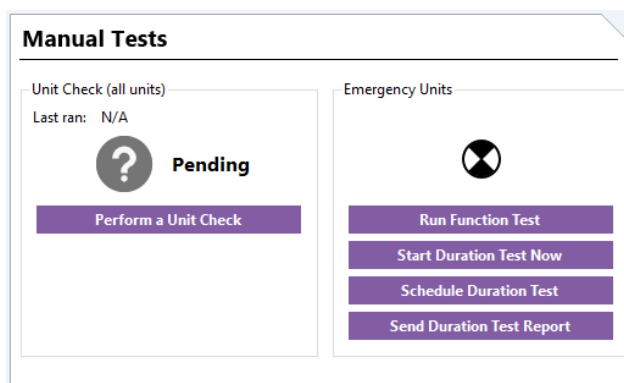


The RAPIX Facilities tag selection

When this is done, the RAPIX Facilities software will only show data for units that have the matching tag. The user interface changes slightly to show a different colour for the buttons to indicate that they will perform their tasks only for the tagged units.



Normal Operation

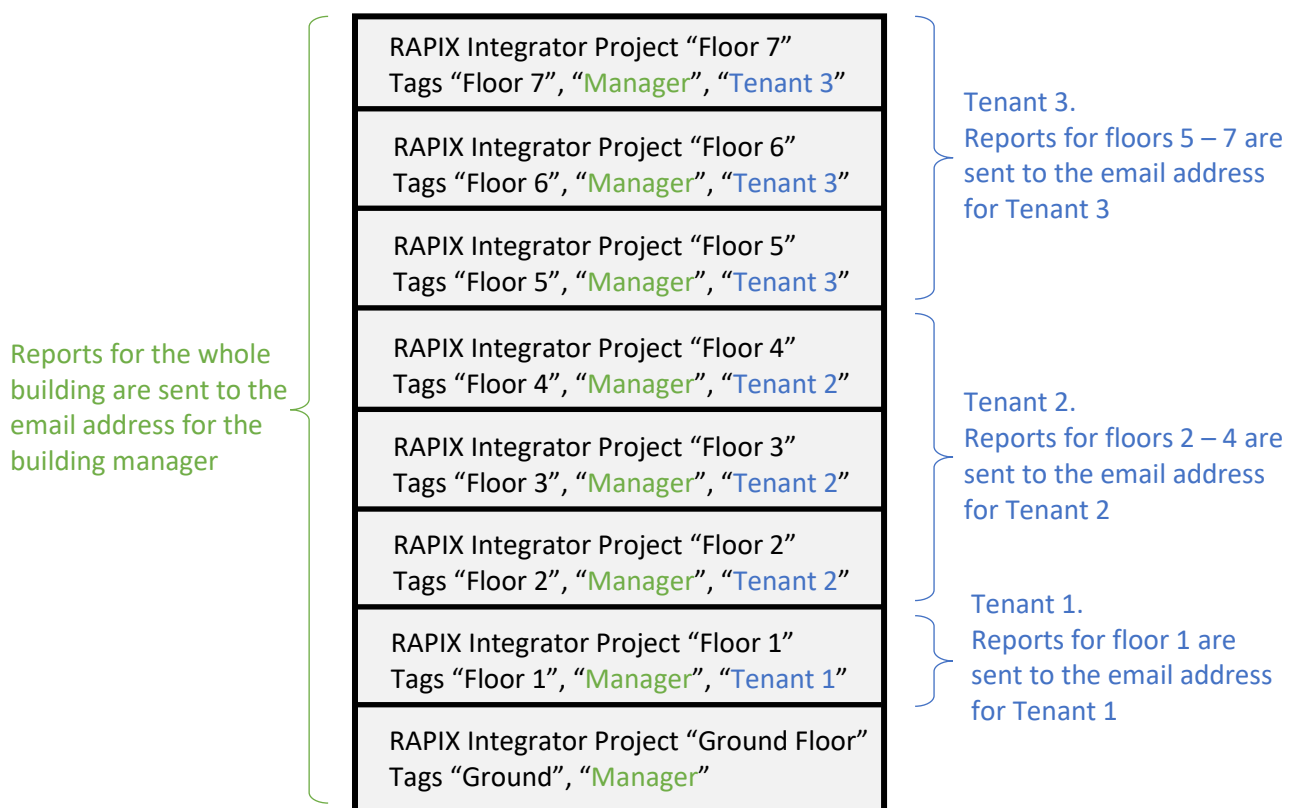


Tag Selected

Tenancies and Multi-Project Sites

RAPIX Facilities can be used with multiple RAPIX Integrator projects to allow them to be handled as a single site. In this situation, the tags from each project are combined. This supports tenants that occupy areas covered by more than one RAPIX Integrator project. For this to work correctly, it is essential that the same tag is used for each tenant in each of the RAPIX Integrator projects.

In the example below, some of the tenants occupy multiple floors of the building, with each floor having its own RAPIX Integrator project. The email address for each tenant in each RAPIX Integrator project has the relevant **tenant** tag. The email address for the building manager has the "**Manager**" tag, indicating that they want reports for all units.



An example multi-storey building with multiple tenants

Requirement	Solution
Email recipient receives report for everything in a single RAPIX Integrator project	Either do not tag the email recipient or apply the tag but don't tag individual units.
Email recipient receives report for selected units in a single RAPIX Integrator project	Apply the tag to the email recipient. Tag relevant units.
Email recipient receives single report for everything in multiple RAPIX Integrator projects	Apply the tag to the same email recipient in each project but don't tag individual units. Ensure tag name is identical in all projects. RAPIX Facilities will email a single joined report for the tests in all projects that start at the same time.
Email recipient receives single report for selected units in multiple RAPIX Integrator projects	Apply the tag to the email recipient. Tag relevant units. Repeat for each project relevant to the recipient. Ensure the same email address and tag name are used in each project. RAPIX Facilities will email a single joined report for the tests in all projects that start at the same time.

Change History

Rev	Date	Updated By	Comment
1	3 Oct 2025	DS, GK	First Release
2	5 May 2026	DS	Added details of tag “purpose”

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