Introduction

This application note describes method to allow useful control functions for common areas and exhaust fans.
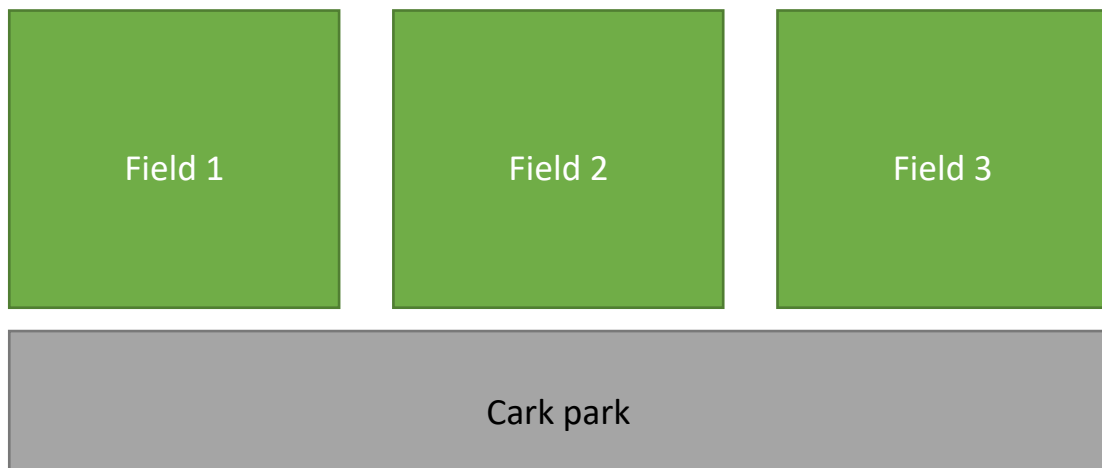
Common Area Control

Problem to be solved

The lighting of three sports fields can be turned on and off. Each field is independent, so the control of one field has no effect on the others.

When any of the sports fields have lighting turned on, the adjacent car park lighting must also be on.

When the lighting of all the sports fields is switched off, the car park lights must be switched off 10 minutes later.
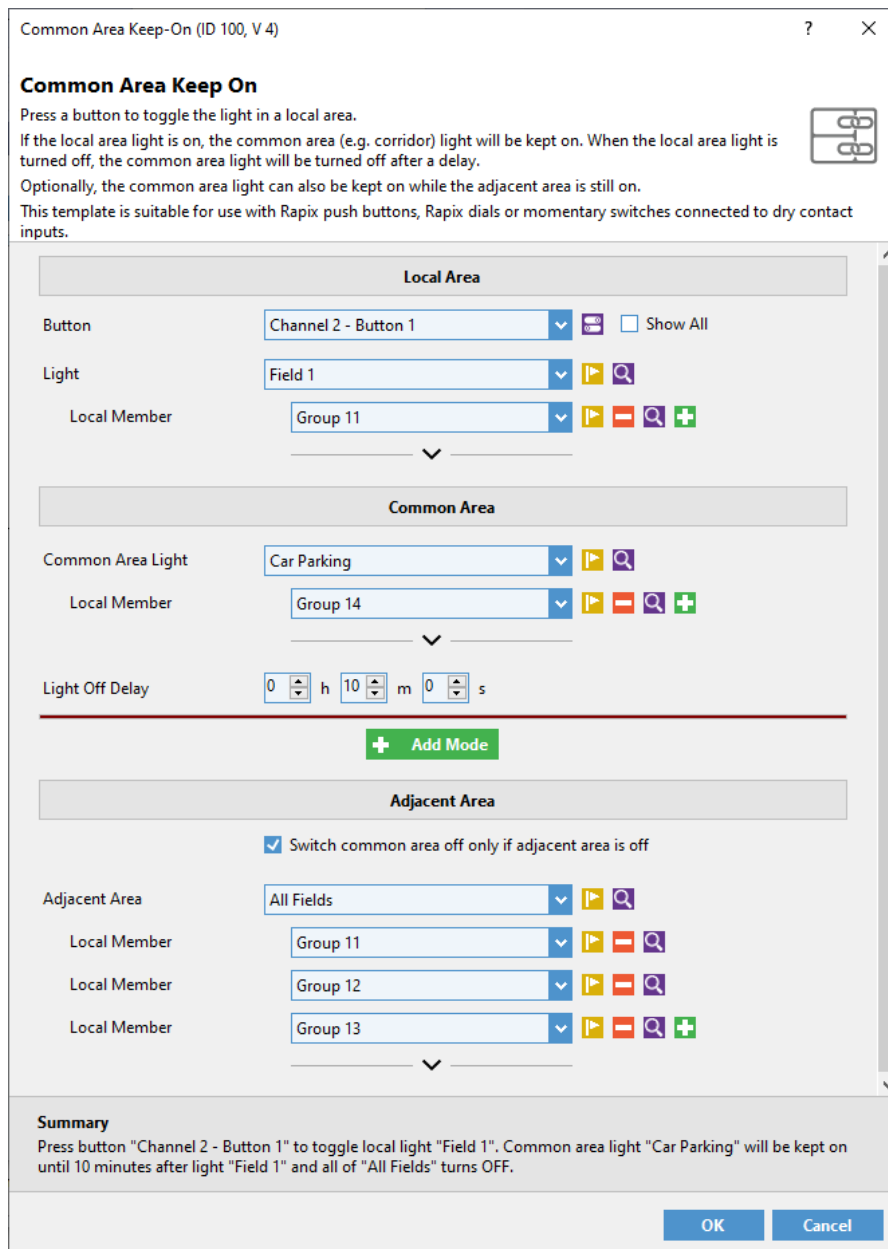

A sports field with a common area (car park) to be controlled

Solution 1

A possible solution uses the _Common Area Keep On_ template. This template allows the control of an area (Zone) and ensures that the common area is also kept switched on.

An example is shown below, which uses the button that controls a space (_Field 1_) to also control the common space (_Car parking_):
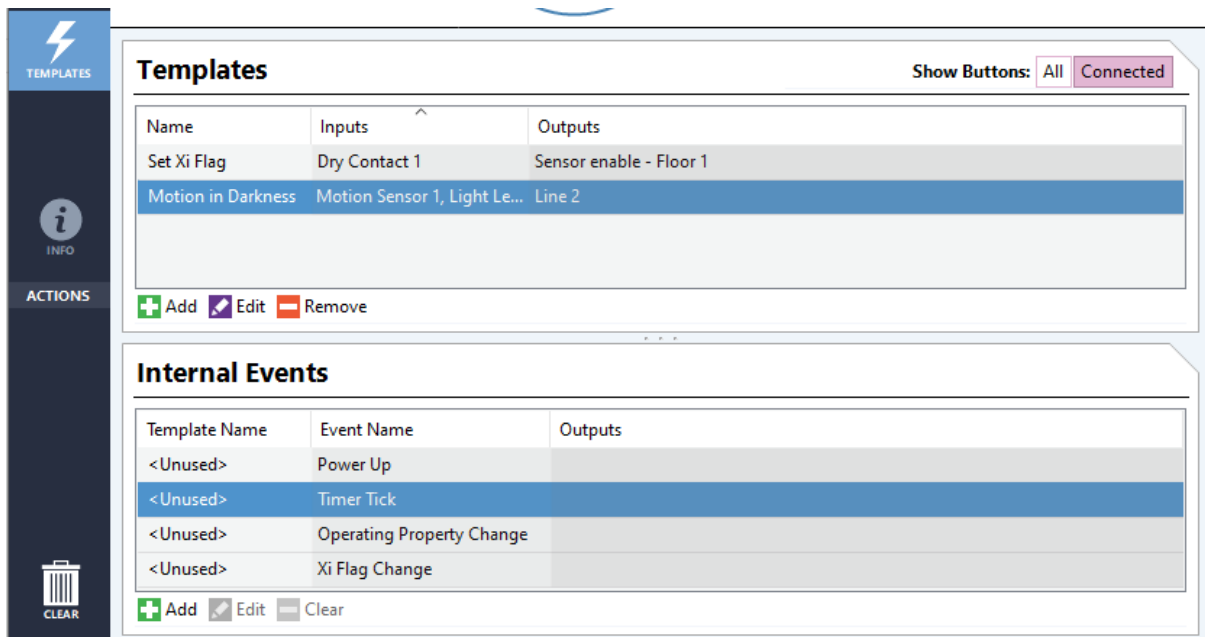

The Common Area Keep On Template

When using the Common Area Keep On template, the _Adjacent Area_ will be a Zone that contains the areas that are adjacent to the common area. In this case, the Adjacent Area Zone contains Fields 1, 2 and 3.

This method works well for lighting that is controlled by buttons, but cannot be used for lighting controlled by sensors, schedules or other means.

Solution 2

A simpler, more powerful solution is to use the _Common Area Control_ template.

This template allows a common area to be kept on while any part of some other Zone is on. This template uses the timer-tick event, and can be found in the Internal Events list of the Xi Device templates tab:

The Internal Events list

To use the Common Area Control template, select the Timer Tick event and click on the **Add** button.

This is the configuration for the sports field:

The Common Area Control Template

The sports fields are all in Zone 1 and the car park is Zone 2 (Common Area).

The advantage of this approach is that it will work no matter how the areas in Zone 1 are controlled (e.g. wall switches, motion sensors, light level sensors or schedules).

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Exhaust Fan Control

Problem to be solved

An exhaust fan is to be turned on when any of the bathroom lights have been on for 1 minute, then stay on for 5 minutes after they are turned off.

Solution

The solution is similar the previous example. The configuration of the Common Area Control template is shown below.

The Common Area Control Template

Common Area Control Template

The Common Area Control template causes a follower Zone (Zone 2) to follow the state of a first Zone (Zone 1). When any part of Zone 1 turns on, Zone 2 will be turned on, optionally after a delay. When all of Zone 1 turns off, Zone 2 will be turned off, optionally after a delay. The fade on and fade off times can be set independently. The delay and fade times can be used in any combination.
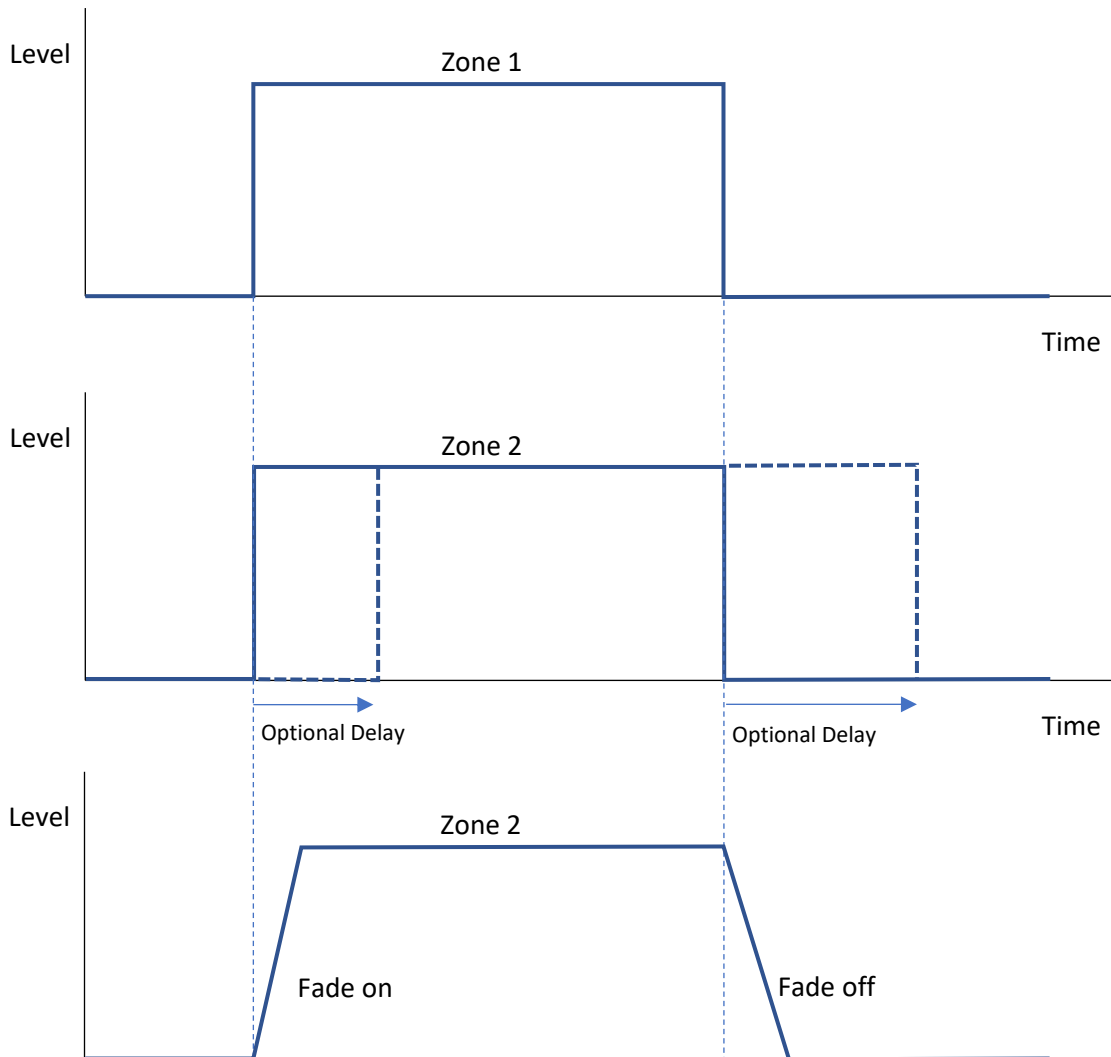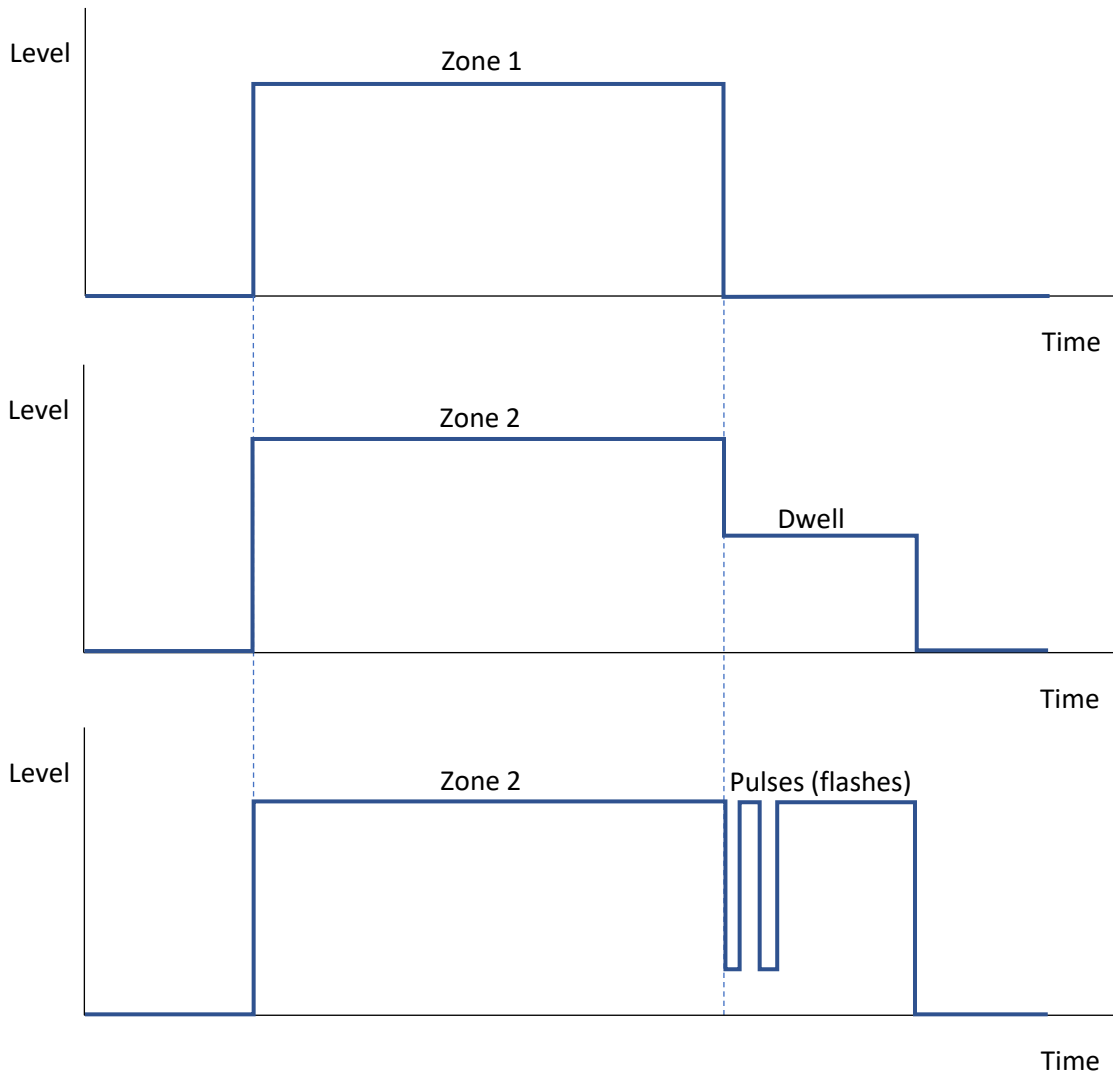

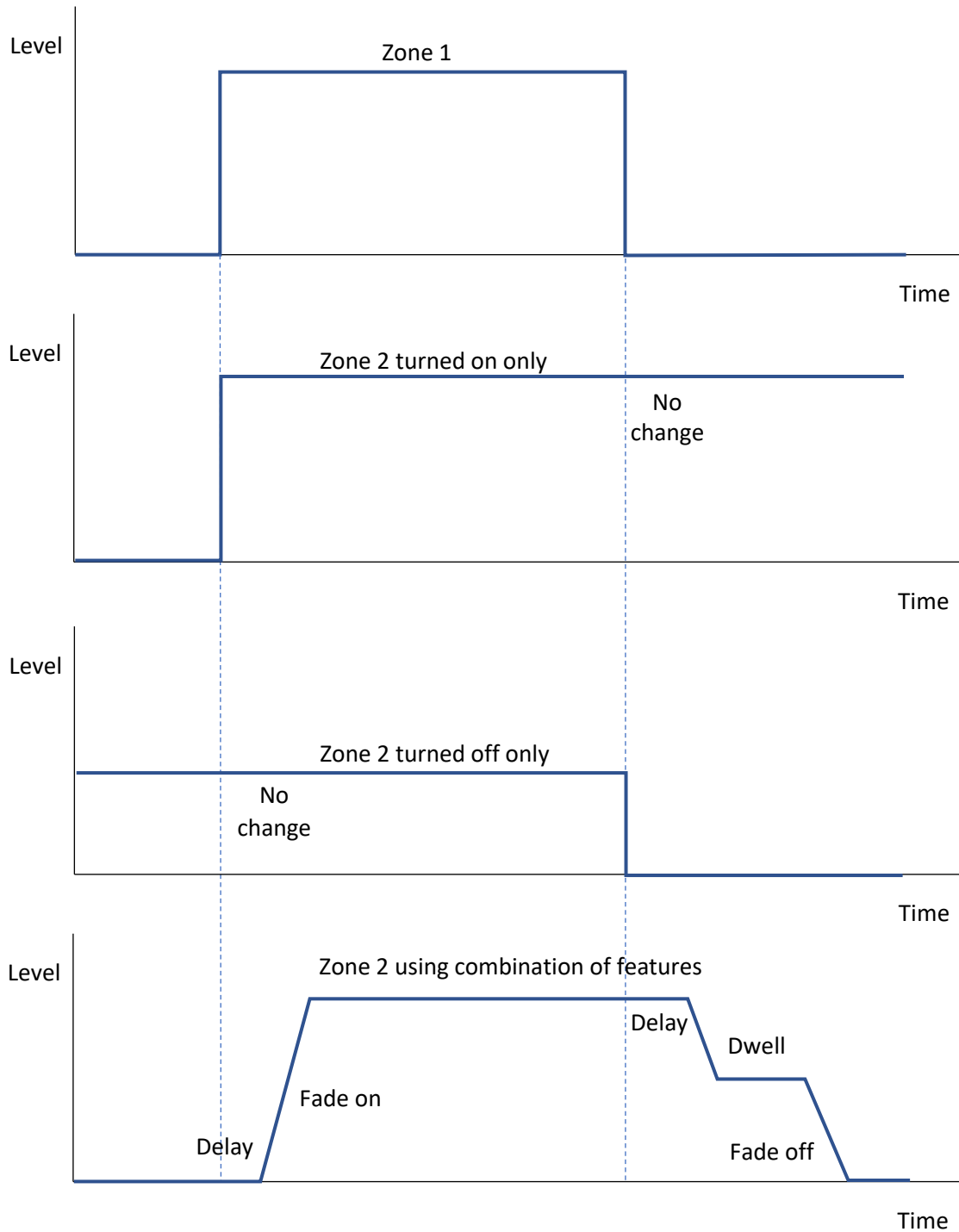*The Common Area Control Template Options*

Common Area Control (Advanced) Template

The Common Area Control (Advanced) template provides the same capability as the Common Area Control template, but with additional options:

- The follower Zone (Zone 2) has various turn-on options in addition to the delay and fade time:
    - It be disabled by an Xi Flag;
    - It can be disabled by an Operating property (though modes);
    - It can be disabled entirely;
    - The level is selectable.
- Zone 2 has various turn-off options in addition to the delay and fade time:
    - It be disabled by an Xi Flag;
    - It can be disabled by an Operating property (though modes);
    - It can be disabled entirely;
    - Dwell, then off;
    - Pulse (flash) then off.

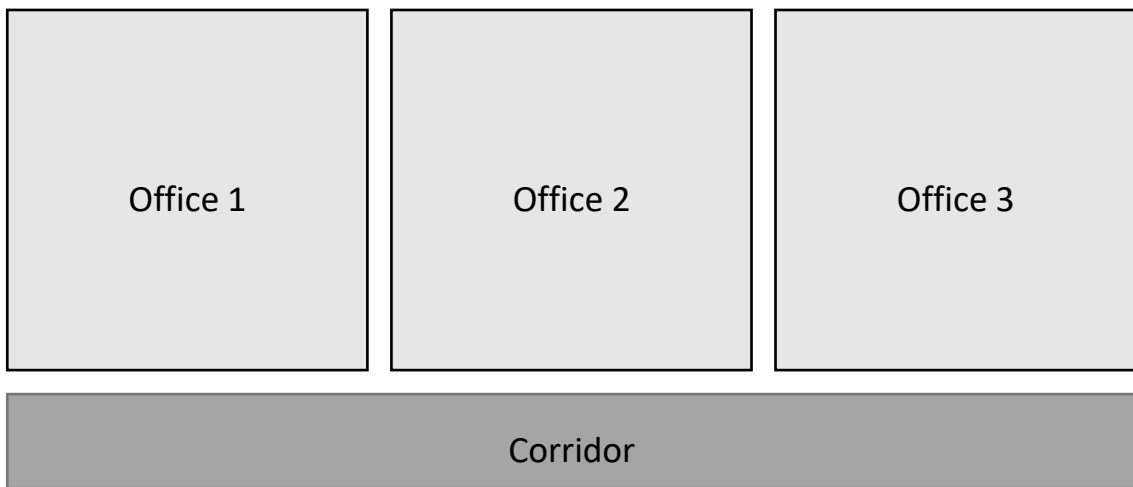*The Common Area Control (Advanced) Template additional turn-off options*

Level — Zone 1 — Time

Level — Zone 2 turned on only — No change — Time

Level — Zone 2 turned off only — No change — Time

Level — Zone 2 using combination of features — Delay — Dwell — Fade on — Delay — Fade off — Time

The Common Area Control (Advanced) Template additional examples

Corridor Control

Problem to be solved

When someone walks into the corridor or the offices, the local lights need to be turned on using motion sensors. When an area has been vacant for 5 minutes, the lights need to dim to 70% for 10 minutes before switching off.

The corridor light needs to stay on while any of the offices are occupied so that the exit path is always lit when someone is present.

Office 1	Office 2	Office 3

Corridor

An office area with a common area (corridor) to be controlled

Solution

Each of the office areas can be controlled using the Motion Sensor template. The corridor needs to use the Motion Sensor Advanced template which has support for common areas.

In this case, the Adjacent Zone is created to contains Office 1, 2 and 3. The corridor light will be kept on while anything in the Adjacent Zone is on.

The Motion Sensor Advanced Template

Change History

Rev	Date	Updated By	Comment
1	2 June 2020	D Snodgrass	First Release

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