

Integrating a Honeywell XL15B building manager into a RapidZone Project

Honeywell RapidZone version 3.2 and below was designed for use with the XL15A / Command Display / Lonstation user interface option. It does not support the Honeywell Excel 15B device. It may be desirable to use an Excel 15B (XL15B) in lieu of the Excel 15A and wall mount command display/LonStation combination to provide advanced time master, controller schedule, alarming, trending, and optional graphic user interface functions. Modification of the standard RapidZone algorithms and network programming may be required in order to utilize the XL15B with a project originally engineered with RapidZone.

RapidZone projects with single-zone applications ONLY

RapidZone 3.2 supports up to 40 single zone AHU controllers. If the RapidZone project does NOT include any multizone air handling units, then the inclusion of the XL15B is relatively straightforward. It may be installed on-site and configured using the XL15B's built-in HTML webpages. This is the recommend approach, since it does not require importing of the RapidZone project into LonSpec and does not require any modification to any of the controller programs.

1. Use RapidZone to configure a project for 24 hr operation (no time schedule).
2. Install the XL15B onsite per standard procedures. Once the LON devices are discovered within the XL15B web environment, create schedules, alarms and trends using the web screens. All single-zone AHU controllers may be scheduled by assigning the devices to the appropriate global schedules.

The XL15C, as originally configured by RapidZone, does not have any linkage to XL15B time schedules. Integration of the XL15B into a project with a multizone AHU requires modification of the standard RapidZone configuration of the XL15 C controller and related network reference points.

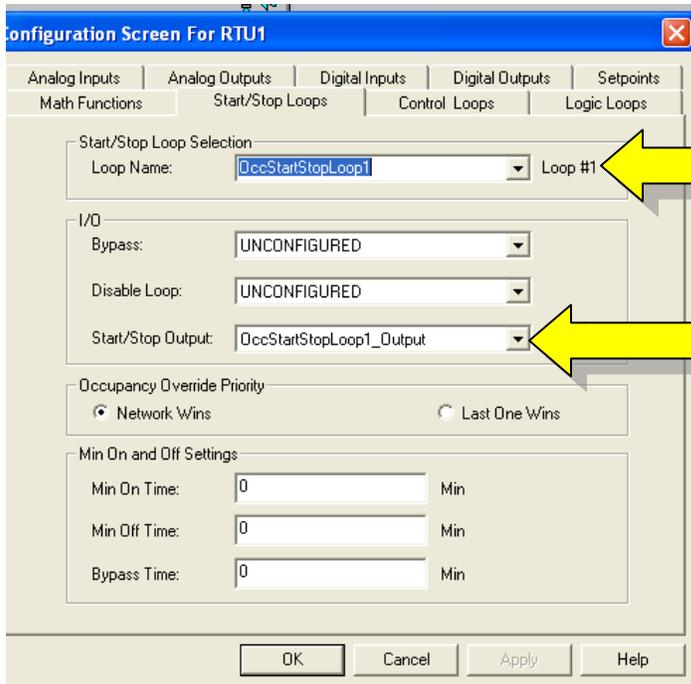
This procedure uses LonSpec to modify the XL15C program for network controlled by adding a start/stop loop for occupancy in lieu of an external time clock input. It also removes the network time clock links from the XI15C controller to the individual zone controllers to allow for individual network scheduling of each zone.

Modification of the application algorithms is not possible using the RapidZone tool. LonSpec is required. This guide will detail how to add to and modify the XL15C code to allow an assigned XL15B schedule to disable the supply fan when unoccupied. The same schedule may be used to control the occupancy status of the associated zone controllers. If an associated zone module bypass button is pressed while in the unoccupied mode, the AHU supply fan will be enabled ONLY if the zone then calls for cooling or heating (The supply fan operates in intermittent mode while a zone is in bypass).

This guide assumes a working knowledge of both the Honeywell RapidZone and LonSpec engineering tools as well as XL15B configuration procedures. Screen snaps are typical but may NOT match exactly.

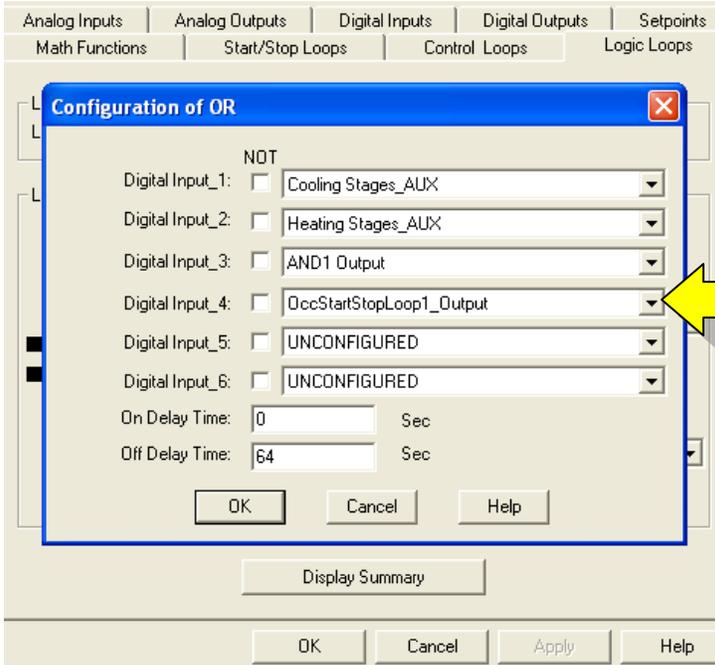
Steps:

1. Fully **engineer** the project first in Rapidzone, **Make sure that you configure all of the units in the system for external time clock input.**
 - Be sure that all desired features and functions for the entire project are complete and correct. (You won't be using RapidZone again for this project after this step). Once complete the project is saved and then restored in LonSpec. Once modified in LonSpec, do NOT change the project in RapidZone. **Perform all subsequent modifications of the project within the LonSpec environment ONLY.** If modification in RapidZone is required, then this procedure will have to be repeated.
2. **Save** the RapidZone project, (if prompted, there is no need to save it as a backup), then exit the program
3. **Open Lonspec** and under the Project menu item, use the **Batch Restore** function and open the network. The default location of the existing RapidZone project is under drive c. "C:/RapidZone/<project name>, but you actual file location may be different depending upon how you installed your RapidZone program.
4. **Edit** (click on) the Excel 15 C controller for the multizone AHU.
5. **Modify** unused StartStopLoop1 as shown below.

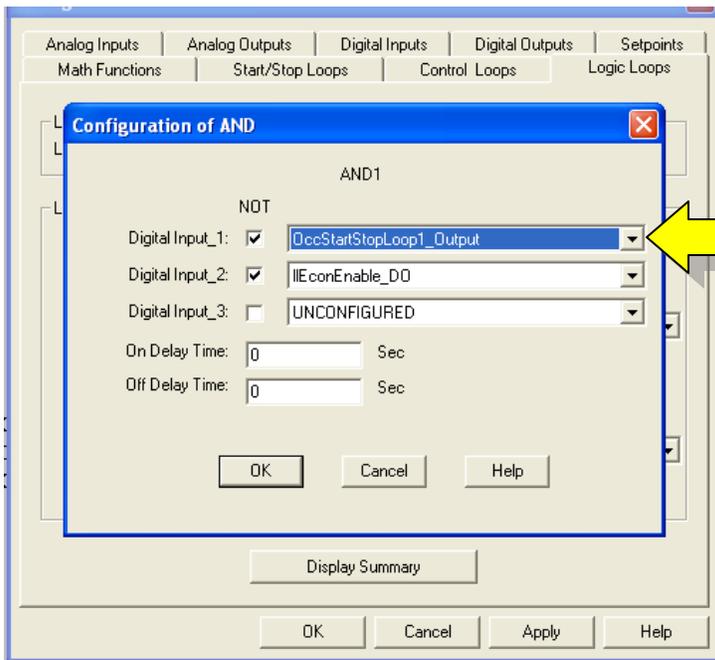


This creates a new point called OccStartStopLoop1 that will be later be assigned to an XL15B global schedule.

6. **Modify** LogicLoop11 (IIFanCommand1) to use the start stop loop output in the OR statement instead of the hardware TimeClock input as shown below:

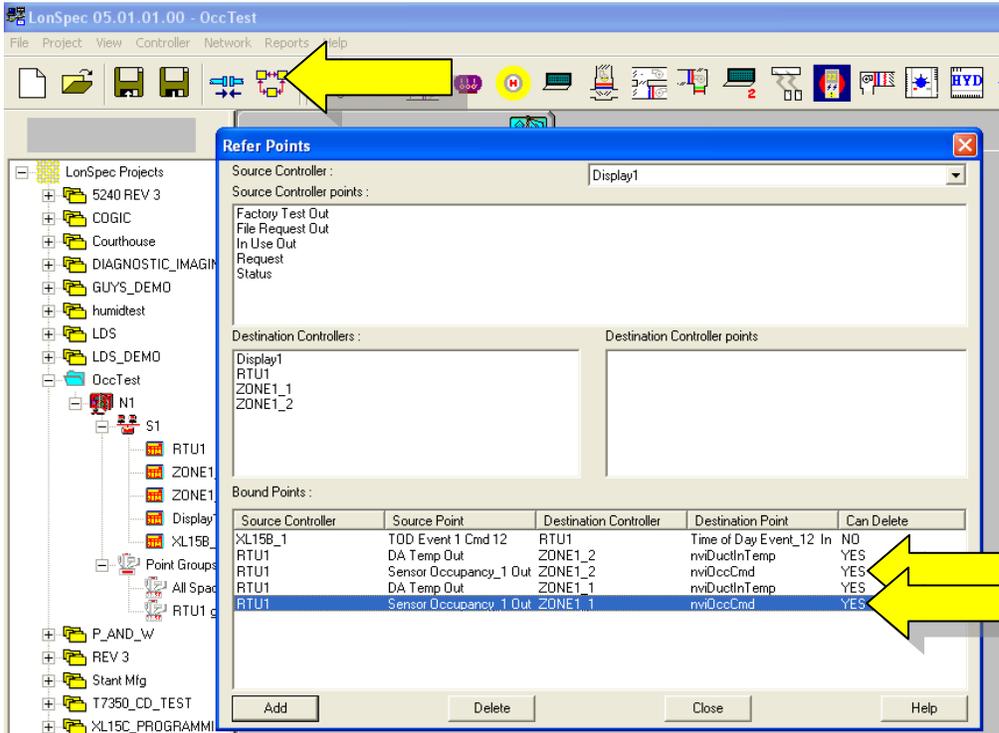


7. Select Logic Loop #30 (IIShutEcon) and **modify** the AND1 object to use the start stop loop output in the AND1 statement instead of the hardware TimeClock input as shown below:

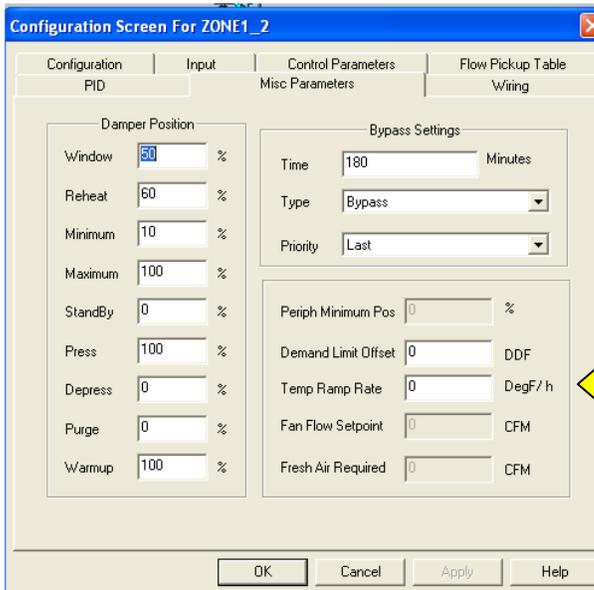


This completes the modification to the XL15C controller. Repeat this procedure for any other multizone units

- RapidZone software also automatically configures reference bindings between the XL15C sensor occupancy input (the unused time clock input) and the associated zone controllers. These links should be removed using the LonSpec reference configuration window. Select the reference icon on the top of the screen. The Refer Points window will open. **Delete** the reference links between the source SensorOccupancy_1 Out point on each XL15C controller (RTU1 in the example below) to the nvoOccCmd points on EACH of the associated Zone Controllers.



- If Optimum Start (Setpoint Recovery) is desired for the zones, modify the Temp Ramp Rate in the zone controller configuration. 4 DegF/h is a good starting point.



10. At this point, an XL15B device may be added to the LonSpec project. Schedules, alarms and trends may be pre-configured. *(Alternatively, the Excel 15B may be installed on the job after it is commissioned with LonSpec, with schedules, alarms and trends configured entirely using the XL15B web pages).*
11. **Assign** the new OccStartStopLoop1 in each XL15C plus ALL zone controllers and to at least one global schedule in the XL15B as desired
 - Note: The schedule assigned to the RTU sets the occupied time to run the fan during continuous occupied operation.
 - Note: The schedules assigned to the individual zones select the operational setpoints. Each zone may be assigned to a different schedule.
12. Use standard LonSpec procedures to assign IDs and commission all nodes on the project. Perform any additional modifications to the job within LonSpec only.

Reminder: Do not use the RapidZone tool to make any subsequent changes, as the project in RapidZone no longer matches the actual job.