

Tech Note (211029_01)

Date: October 29, 2021

Product: Aperio Platform

Subject: Firmware Release 4.0.0 and Essentials Software Release 4.0.0

Note: To download these releases visit our website at <http://brtint.com/downloads.html>

Firmware Release 4.0.0:

This release is meant to accompany Essentials release 4.0.0. It contains improvements and optimizations that increase the robustness and configurability of the Control Module.

Features:

-BACnet Points added for an AO's High and Low Trim Level Percentages. Option to enable in Essentials.

-Demand Response (DR) has been refactored to set DR policy at the channel level, grouped by output type, rather than per individual channel output. The two output types, binary (for ROs and DOs) and analog (for AOs), each have a policy setting for each of the three DR levels set by the master DR level control. These policies are configurable via Essentials, and also via BACnet. For BACnet, there are two optionally enableable sets of three points; one set for each type, each set with three levels.

-The timer duration for a Zone's Schedule Fallback timer is now adjustable from 1 minute up to 1 week. The default remains the historical setting of 2 minutes.

-Channel Daylight Harvesting (DLH) sequence gains three optionally enableable BACnet points for tuning the ramp behavior: the ramp period in seconds, the ramp step size in percent, and the DLH ramp affordance in percent.

-Channel Mode management gains two optionally enableable BACnet points, one each for Occupied and Unoccupied Mode, for the Off Light Level percentage setting.

-Channel Initial Light Level gains two optionally enableable BACnet point, one for each of Occupied and Unoccupied Mode, for the binary choice of enabling the Initial Light Level flag.

-Firmware management of persistent memory has been improved to extend longevity and, in certain rare cases, restore continuity.

Bugfixes:

-Improvements to accommodate 3rd party BACnet point reader/writer clients that don't quite behave in a standards conformant way.

-Light Sensor Control (LSC) sequence edge case behavior has been improved. 1) If LSC & Occupancy Sensing are both enabled and LSC turns the lights ON, do not stop the Occupancy Sensing vacancy countdown, if underway. 2) Do not turn lights momentarily ON and then immediately OFF when a Sensed Occupancy, Mode Change, or button press would otherwise cause them to go ON when all of the following circumstances are the case. a) LSC is enabled for the present mode and an LSC sensor assigned. b) LSC has its "But only ON after" time set to 0 minutes. c)The LSC sensor is reading higher than the "Off Above" Level, which would dictate turning the lights OFF.

Upgrade Instructions: As is good practice with any upgrade, make sure to create a backup of the Controller's settings by doing a "Retrieve Settings" followed by a "Save As" of those settings into a separate file.

Essentials Release 4.0.0:

This release is meant to accompany Firmware release 4.0.0. It contains logging and self-diagnostic improvements to allow Blue Ridge Technologies Tech Support to better assist customers.

Features:

-Outputs on the physical tree provide a clickable link to their logical tree Channel location if applicable. Similarly, outputs in Channels on the logical tree provide a clickable link to their location and detail panel on the physical tree.

-Locks on outputs can be controlled and synchronized with their remote counterpart while connected without needing to send additional settings. An indicator of the lock setting's synchronization status is displayed for each output.

-Relays having load status have been merged with their load status and combined into one row. When connected, the commanded-to value of the relay along with its sensed load status in the adjacent column are displayed.

-The Run Command for a Zone can now be commanded as a BACnet point from Essentials when connected.

-The Schedule Fallback Timer duration for a Zone can be adjusted from 1 minute to 1 week. The default remains 2 minutes as before.

-Control Modules may be dragged and dropped to different subnetworks on the physical tree.

-The File Chooser has been given the Windows look and feel.

-Essentials is now HiDPI display aware. It will look crisper and take full advantage of displays with Dots Per Inch (DPI) greater than 192 DPI.

-Throughout Essentials non-applicable options are no longer shown to streamline user experience. Most notably, if a channel has no Analog Outputs, no dimming related configuration and status is presented in the GUI. The BACnet point for Channel Level % is not enabled. And sequences like Daylight Harvesting and Initial Light Level are unavailable. In other cases, only options relevant to the assortment of I/O available from a given Control Module and its IO Modules are visible

Bugfixes:

-When a UI has its sub-type or global status changed, the popup window warning of affected dependencies now lists all specific dependencies rather than a general warning to better help inform the author's decision.

- Router Settings constraints have been updated to recognize that multi-IP-to-MSTP router systems likely share the same BACnet/IP Network number. As such the Network number needn't be unique to each router, merely distinct from the BACnet/MSTP network number (which must still be unique on each router.) IP address validation and getting the 'next' available IP address for automatically populating the fields has been improved as well.

-Fix the greying out of non-applicable options in the Channel Occupancy Sensing sub-panel. Specifically, when Vacancy Dim is checked, only enable the Timeout Timer, if the Vacancy Dim's "Then Timeout" Box is checked. Otherwise, disable Timeout Timer, as it is not applicable in this circumstance. Behavior is the same for both Occ and Unocc modes.

-Rather than going to Occupied mode after a send settings, channels that existed before and after a send settings make a 'best effort' to maintain continuity of Mode and stay in the Mode they were prior to the send settings. There are many exceptions to this rule, especially if the channel's sequences, mode source, and/or I/O portfolio were altered in such a way as to make a new, different mode the more correct choice.

-Duplicates of inputs in within Switch and Station assignments in a Channel are now explicitly disallowed by the dropdown menus. Previously, Essentials placed the burden on the system author to avoid this.

-Increased data fidelity checks, and if need be, file repair, when loading older Essentials system files into Essentials 4.0.