

Release Notes

SmartX IP Controller Firmware for MP-X, RP-C, and IP-IO Series

v3.01.01

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1. EcoStruxure™ Building Operation Introduction

These release notes document details a new release of firmware (3.01.01) for:

- RP-C Series controllers
- MP Series controller's including MP-C and MP-V
- IP-IO Series IO expansion modules

This is a major release that contains new features, defect fixes, and the introduction of the Connected Room Solution (CRS) light and blind modules and Multi Sensor.

This firmware release is fully compatible with EcoStruxure™ Building Operation v3.1.1 and therefore this document should be read in conjunction with the EcoStruxure Building Operation v3.1.1 release note.

Document change history:

Revision	Date	Author	Description/Change
A	2019-12-20	C. Bate	Complete and ready for release.
B	2019-12-23	C. Bate	Corrected minor typo's

2. Firmware Availability and Compatibility

The firmware included in this release is available for download on [The Exchange](#)

The firmware is delivered in a universal package file that contains all firmware files for all SmartX IP Controller products.

SmartX_IP_Controller_3.01.00.00631.mpfw Package		
Product	Version	EBO Compatibility
SmartX IP Controller – MP-C	3.01.01.00530	See table below
SmartX IP Controller – MP-V	3.01.01.00530	See table below
SmartX IP Controller – IP-IO	3.01.01.00530	See table below
SmartX IP Controller – RP-C	3.01.01.00530	See table below
Supporting Firmware		
SmartX Room Unit Application	1.02.05	
SmartX Room Unit Bootloader	0.03.04	
MP-C Main Board	3.01.01.04778 ¹	
MP-V Main Board	3.01.01.04778 ¹	
RP-C Main Board	3.01.01.04778 ¹	
RP-C EFR32	3.01.00.00012	
CRS – Blind LV	0.5.7.118	
CRS – Blind HV	0.5.7.118	
CRS – Light 0 to 10V	0.5.7.118	
CRS – Light DALI	0.5.7.118	
CRS – Multi-Sensor	0.5.7.118	

¹ Due to a defect, this will show as 3.01.04778 in the Device Report

Note: The SmartX IP Controllers shipped from the factory may not have the latest firmware installed. It is essential to verify that the controller has the latest firmware build loaded for the EcoStruxure Building Operation version build being used before programming the controller.

Please see section 8.1 for details on applying the latest firmware.

Supported EBO releases and IP Firmware

SmartX IP MP/RP and IP-IO Series Controller Versions			
EBO Versions	v1.00.0x	v2.00.01	V3.01.01
v2.0.1	Supported + Tested	Not supported	Not supported
v2.0.4	Supported + Tested	Supported + Tested	Not supported
v3.0.1	Not supported	Supported + Tested	Not supported
V3.1.1	Not supported	Supported + Tested	Supported + Tested

Note: RP-C is only supported on EBO 3.0 and later

3. New Features

3.1 Connected Room Solution (CRS) for Light & Blind applications

3.1.1 Introduction

Connected Room Solution supports the control and monitoring of Lights and Blinds via 5 new modules. In addition, the current SmartX sensor (Room unit) firmware has been enhanced to provide light and blind control.

3.1.2 Models

- Blind High Voltage (4 groups) with power distribution
- DALI 4 groups (1 channel) with power distribution
- MultiSensor for infrared motion detection and luminosity measurements
- Blind Low Voltage (2 groups) with power distribution
- Lighting 0 to 10v with power distribution


The new CRS modules are added and configured under a new Room Bus folder located in the RP-Cs IO Resources folder:

SmartX CRS modules can be hosted by the following IP Controller:

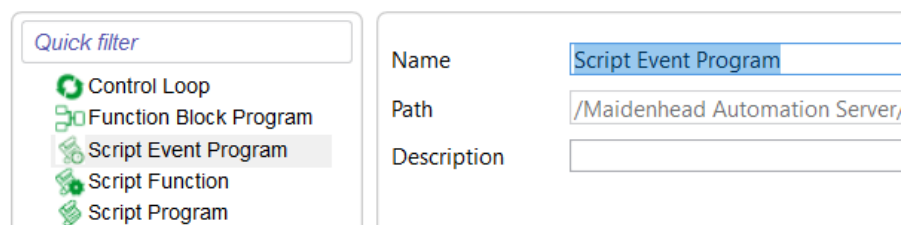
- RP-C 12A
- RP-C 12B
- RP-C 12C
- RP-C 16A-230v

3.1.3 Event scripts (IP Controllers only)

A Script Event Program is a new type of Script program that is available in SmartX IP controllers. The Script Event Program does not execute in any given task, but instead only executes when it is triggered by either an input or an expired timer. It is a FallThru program with one single logical line. Script Event Programs use several new keywords to declare and use triggering inputs and to accomplish actions based upon those inputs and timers. For further information, search on “Event Program” in Web Help.....

 Create Object: Script Event Program

Choosing the Type and Naming the Object



Quick filter	Name	Script Event Program
<ul style="list-style-type: none">Control LoopFunction Block ProgramScript Event ProgramScript FunctionScript Program	Path	/Maidenhead Automation Server
	Description	

A quick summary of the new keywords:

- Numeric **Triggered** Input
- GetTriggeredVariableId**
- GetTriggeredVariableName**
- StartTimer & StopTimer**
- GetTickCount** (Maximum time is 4.5 hours)
- GetElapsedTime** (Maximum time is 4.5 hours)

```

Select Case GetTriggeredVariableId()
Case LightSwitch.Id
|   if LightSwitch = Off then
      Level = 0           '0%, no lights
    Endif
    Break

Case ControlLevel.Id
    .....
    .....
    Break
EndSelect
    
```

Accessing variable attributes

Variable.Name ' Get the name of the variable that triggered the program

Variable.Id ' Get the Id of the variable that triggered the program

3.1.4 SmartX Sensor Device (Room Unit)

A variety of new features have been added to SmartX Sensor devices to support the control of Lights and Blinds and their corresponding control applications. To enable these new features, many icons and user controls, and configurable menus have been added to the SmartX Sensor display panel.

To take full advantage of these new features requires you to update both EcoStruxure Building Operation software and SmartX IP Controller firmware to the new versions.

Note; the existing features remain and in certain areas have a different look and feel. The SmartX Sensor Devices will be automatically upgraded once the v3.01.01 IP Controller firmware has been applied.

4. Defects Fixed

The table below lists all SmartX IP Controller Series fixes.

Defect ID	Functionality	Fixed In IP/ EBO	Summary	PSS Ticket ID
42288	BACnet	IP	RPC- problem with Relinquish on fault condition	61651800
42304	Custom types	EBO*	CRS: Bottom Up Deploy of an RP-C is not creating the Link to the Custom Type in the DB and objects are not present.	62349248

*Fixed in either EBO Server or EBO Client platform.

5. Known Defects in SmartX IP Controllers

The table below lists all known defects that effect the IP Controller firmware (MP-C, MP-V, RP-C, or IP-IO controllers, CRS Modules and SmartX Room Unit).

Functionality preceded by a '*' is new for this release.

Defect ID	Function	Description	Workaround/Solution
40351	Alarm	Program Execution Overrun Alarms occasionally show up in the Alarms view	Acknowledge or Recheck the alarm to clear it.
38318	Alarm	When creating a new alarm, there may be an error displayed on the Shunt variable property	Ignore. This property is unimplemented in MP Series (MP-C/V) 1.00.01 firmware.
41537	BACnet	EBO BACnet Event Enrolment accepts Command Failure Event Parameters when written from 3'rd-party device, but doesn't support them	Do not configure an EBO Event Enrolment with Event Parameters that specify the Command Failure Even Type, when using a 3'rd-party B-OWS
41865	BACnet *	There are 2 Damper Control Outputs displayed in the Onboard IO node in the EBO System Tree for MP-V-7A and MP-V-9A controllers – Damper control 1 and Damper control 2. Damper control 2 is not present in the controllers however.	Users should avoid binding to Damper control 2.

Defect ID	Function	Description	Workaround/Solution
43522	BACnet *	Although it is no longer permissible to set the Retain Level on the Value and Priority Array properties of “commandable” Value objects in SmartX IP Controllers, a scenario was discovered in which the system does not prevent this configuration. This scenario can occur when an image file for a SmartX IP Controller is created using a Standard Application file, and the image is used to perform a Bottom-up Deploy operation. When the SmartX IP Controller is subsequently hosted in the EcoStruxure Building Operation database, the invalid configuration was allowed.	Remove the Retain Level setting for either the Value or the Priority Array properties for the affected objects. Alternatively, perform a Download All command, which will remove the Retain Level setting for the Value property.
42939	BACnet *	When users directly modify the Value property of MP/RP “commandable” Value objects, the Value property is not retained in the EBO database, even when Retained is set to Warmstart or Coldstart. Although the MP/RP controller will still retain the value written to the Value property when the controller restarts, EBO will not re-write this value when a Download or Download All command is later executed.	None
41634	BACnet	MPC: RPC: Download may fail on a daisychain network when a multi-stage uprev is required for supplementary firmware file download.	Repeat uprev on failed controllers

Defect ID	Function	Description	Workaround/Solution
43338	BACnet *	In EBO 3.1, “commandable” Value objects in MP/RP may no longer have a Retain Level set on the Value property, while Retain Level is also set of any of the Priority Array elements. This is true for Analog, Binary, and Multistate Value objects.	Users should not attempt to set the Retain Level on both the Value property and the Priority Array property.
37780	Binding	External Consumer binding not updating value if bound to schedule and subscribe type = COV. This is because BACnet Schedule and Calendar objects do not support COV subscriptions from other devices.	To share the value of these objects with other controllers use the polling option in the consumer objects or bind the schedule or calendar to an intermediate Value object in the source controller or server and then bind all consumer objects to that Value object using the COV option.
41700	Bindings	External Binding Digital Producer object does not retain its value on warm start and goes into communication failure.	Don’t use the Retain level setting on the Producer object. Instead drive it’s value by binding to another object in the controller such as a Schedule, Program or Digital Value object.
43347	CRS *	EBO does not present two properties of DALI colour temp light objects correctly, when viewed in the Property editor. The properties are: Physical minimum colour temperature (K) Physical maximum colour temperature (K) To know the actual values/capabilities of the physical colour light refer to the light manufacturer’s documentation.	None
43228	CRS *	CRS: Discover new light on the Dali Power light module does not detect the last added light	na
43352	CRS *	CRS: Blind Angle is not restored after a power-cycle (Event driven scripts seems to trigger a NULL->0 transition at startup)	Add code to the script to catch different startup behavior this can be filtered out.

Defect ID	Function	Description	Workaround/Solution
43263	CRS *	Light DALI: Light Status is 'ControlGearFailure' after 230V is disconnected and reconnected	na
43362	CRS *	CRS: Starting CRS DALI module with DALI bus disconnected never recovers when the DALI bus is reconnected	na
43370	CRS *	CRS: Light 0-10V not set to correct intensity after restart.	na
43292	CRS *	CRS RU: When a Scene button is configured to be used on a Menu button the icon is grayed out so the scene can't be accessed	na
43319	CRS *	CRS: "Discover new Lights" reassigns short address of offline light	na
43370	CRS *	CRS: Light 0-10V not set to correct intensity after restart.	na
42911	CRS *	When using the EBO binding tool to make a binding to a DALI Light or DALI Colour Light, the object browser does not display the properties of the object when the down arrow is clicked as it does for other objects.	Double-click the object in the browser to display the properties of the object rather than using the down arrow.
43468	CRS *	The tool tip for the Current value (%) property in Blind objects indicates that a value is out of range if the value is greater than 100%, although this condition is expected in cases where Blinds are resynchronized.	None
43185	CRS *	The system does not prevent users from associating DALI light objects with color temp light objects.	Users should avoid associating unlike DALI light types.

Defect ID	Function	Description	Workaround/Solution
43494	CRS *	When using the Save As command to save a CRS Module Diagnostic File (Crash Report, System Information, Trace Log), EBO does not present progress indication as it prepares to save the file to disk. When using the Save As command to save a Diagnostic File, Workstation may be unresponsive as the file is being saved. This time is typically less than 2 minutes.	Alternatively, users may choose to open the file in a text editor, then save the file. Although Workstation will still not accept user input for the same amount of time as when the Save As command is used, users will receive a progress indicator.
43031	CRS *	DALI Groups created outside the EBO system using third-party configuration tools are not visible to the EBO system. If a DALI Group is created in the EBO system and the Group address conflicts with the third-party Group, the behavior of DALI Lights added to either group may be unpredictable.	Avoid the use of third-party configuration tools to create and configure DALI Group objects.
43464	CRS *	CRS: Repair command does not find new light to replaced defective one	Do a Light Discover and the light will appear
43539	CRS *	CRS: Lamp Failure alarm each time I create and associate DALI light	na
43550	CRS *	CRS: Lamp Failure alarm each time I create and associate DALI light	na
43508	CRS *	CRS: It takes longer than the required 250ms for DALI lights to change light level with four lights connected	na
43583	CRS *	CRS: DALI lights are offline after replacing DALI CRS module	Restart DALI CRS module after FW upgrade is complete and CRS module has completed start up. Lights return online
41468	Erase db.	Some settings object properties does not persist through an Erase database operation. Affected properties are: Display network information, Hand override control, Sensor bus, Ethernet port 2, Bluetooth and Whitelist settings object properties.	Re-configure these properties after doing an Erase database.

Defect ID	Function	Description	Workaround/Solution
36189	IO	<p>The behavior of MP Series (MP-C/V) and AS-B supervised input reliability is not consistent with CIO: The CIO 10k NC series/parallel supervised input reliability is open circuit for resistance >60k and is unreliable for resistance between 12k and 60k. The MP Series (MP-C/V) and as-B 10k NC series/parallel supervised input reliability is open circuit for resistance >12k. The CIO 10k NC series/parallel supervised input reliability is short circuit for resistance <300 ohms and is unreliable for resistance between 300 ohms and 4.2k. The MP Series (MP-C/V) and as-B 10k NC series/parallel supervised input reliability is short circuit for resistance < 4.2k.</p> <p>Same behavior for NO series/parallel and similar behavior for NO series, NC series, NO parallel and NC parallel when value is not On or Off</p>	None
37136	IO	IO points locally configured using front panel display are unconfigured when an IO point is created using EBO	None
38274	Loop Object	Loop object - unable to bind to the Setpoint Reference property (disabled).	Use the Binding Editor and bind directly to the Setpoint property shown under the Variables group.
41005	Loop Object	The value of Loop object Setpoint does not persist through warm start or cold start	Use a value object bound to the Loop setpoint reference and set the retain level of the value object to cold start retained.
37134	MP	If there is not enough memory the MP Series (MP-C/V) goes offline instead of showing an error message	Reduce the size of the application and download again.

Defect ID	Function	Description	Workaround/Solution
42159	MP	MPV: Zero Box Flow implementation breaks BACnet Reliability functionality of Velocity Pressure Minimum value	na
38151	MP-V	Loss of the MP-V Actuator Auto-calibrate Mode From Factory Is not recovered By Factory Reset. This could be a problem if the controller is powered up before it is correctly mounted on a VAV box.	If possible, always do initial power up after the controller is mounted on the VAV box. Or invoke the stroke calibration through the VAV object using WorkStation.
35232	Multi Server	MP-C/V: In a multi-server environment, the list of available firmware is not specific to any one server, this can cause download failures	Import, assign and download firmware logged on either on top server OR directly on the child server. Don't mix and switch between servers for different operations.
38319	Script	StrToNum() failure in MP Series (MP-C/V) script programs when converting the Current line property of the same program.	None, but probably a rare use case.
42820	Script *	Event driven script can be saved and downloaded to older RPC version that does not support it.	Delete the script and make sure you use the 'Script Program' type not 'Script Event' Program type
43464	Script *	Event Driven script status always shows "Running" which is misleading	na
43534	Trace Log *	Trace Log entries like the following appear in the EcoStruxure Building Operation Server Trace Log when a SmartX IP Controller is downloaded, corresponding to the built-in SmartX Series System Alarm objects: nsp.pin.BACnet MpxEventEnrollmentProxy failed to write ResetDelay. Property may not exist in the current device firmware version (AsyncCommands) These Trace Log entries do not indicate any operational problem.	na

Defect ID	Function	Description	Workaround/Solution
37723, 37770	Trends	After a restart, the trend logs show property changed by a huge number of seconds	None
33140	Trends	Error changing Trend Log buffer size	Set the buffer size down to 100. Enable\Disable and then set the buffer size back up to 50K
37737	Trends	Extended trend logs monitoring MP Series (MP-C/V) BACnet trend logs contain duplicate records (two records for the same date and time stamp). NOTE: in all cases there are no duplicate records in the BACnet trends in the MP Series (MP-C/V) that the ETLs are monitoring.	There is no impact on reports if a record with same date-time is read from ES. If a duplicate record (with same date and time) is read again by the Reporting agent, then existing record in reports database that matches the date-time would be updated.
37756	Trends	Trend logs could be truncated after a power cycle or an upgrade. This should be a very rare case due to the circular backup storage in flash wraps and starts to overwrite older data. This should usually take a very long time to happen. For example, a controller with 40 logs, at 10 minute intervals, would take 13 days to roll over.	Use the Extended trend logging feature in the server to back up critical log data. Ensure that the Extended trend log is configured for a relatively short maximum transfer interval – perhaps a day or less.
37771	Trends	Trend Log records that have been cleared by setting the Record count property to 0 are added back to Log Buffer after a restart.	Delete and re-create the trend log.
37826	Trends	Deleting trend log can take a significant and variable amount of time depending on how much data they have accumulated. A new trend log with little or no data may take much longer than a trend log that has been running a long time.	None
41554	Trends	First value after warm start for Room unit temperature trend log is incorrect.	None

Defect ID	Function	Description	Workaround/Solution
38309	Upgrade	Upgrading a group of MP Series (MP-C/V) controllers with the Immediate option does not seem to take place immediately.	The new firmware files are sent to each of the selected controllers sequentially. Activation of the new firmware takes place only after all controllers have received the new firmware files. When all files are transferred the Upgrade status will be “Active firmware scheduled” and the Firmware activation time will be the current time. Then the Upgrade status will become “Active firmware in progress” and the Firmware activation time will become blank. Then the Upgrade status will become “Upgrade completed successfully” and the Firmware activation time will become 01/01/1970 00:0:00.
40653	Upgrade	Uprev of firmware may occasionally end with a Download Failed error.	Perform a Warm start command and do the uprev again.
41284	Upgrade	Uprev of firmware may occasionally end with an Activation failed error.	Perform a Warm start command and do the uprev again.
41397	Upgrade	Upgrading firmware results in outputs that have been overridden using the front panel display no longer be overridden	Before an upgrade, use EBO WorkStation to force their values so they will be retained through the update.
41617	RSTP	Persistence of Setting object properties is inconsistent following Erase database operation. All properties except RSTP enable/disable should return to default on Erase database, but they sometimes retain their previously configured values.	Check and configure Settings object properties after doing an Erase database command.
37654	RU	Local temperature unit selection made by the room occupant at the room units, gets reset to the Display object Temperature unit property value when the Heating Cooling Status property is changed by a program.	None

Defect ID	Function	Description	Workaround/Solution
41574	RU	After a cold start the Room Unit High and Low limit properties revert to their default values of 40 C and 0C .	Bind these properties to Analog Value objects that are configured for Coldstart retain or drive them from a program.
41637	RU	Updating the firmware on an RP-C with a touch LCD display Room Unit attached results in the RU having a solid red display at the end of the process.	Downloading the Room Unit Display object corrects the issue. Problem should not be noticed if the recommended Download All is done after a firmware upgrade.
42536	RU *	RU: The hamburger icon disappears when Allow menu page is set to Off	na
43137	RU *	Internal testing revealed an intermittent problem when monitoring the System Status property of SmartX Sensor devices when monitored in the Watch Window of EBO Workstation. The System Status could appear as "Invalid".	No known workaround.
43549	RU *	If the SmartX Sensor properties are Downloaded from Workstation, the Temperature Setpoint property value will be set to the last value contained in the proxy object in the Server or the default proxy value. This value will replace the value set in the SmartX Sensor display.	na
42491	RU *	RU: Clicking on the scene icons gives the instance of the icon, not the set trigger number	Please see Appendix A for a workaround.
43495	Trend Logs *	When using a SmartX IP Controller Trend Log to monitor DALI Light objects, Trend Log records are not created if: The Logging type property of the Trend Log is Change of value, and The DALI Light is offline.	Set the Logging type property of the Trend Log to Interval.

Defect ID	Function	Description	Workaround/Solution
35232	WorkStation	In a multi-server environment, the list of available MPC firmware is not specific to any one server, this can cause download failures	Import, assign and download firmware logged on either on top server OR directly on the child server. Don't mix and switch between servers for different operations.
40935	WorkStation	List of firmware packages is empty if Firmware folder is selected in System Tree	Use Control Panel

6. Important Engineering Information

Important engineering information with regard to the EcoStruxure Building Operation IP Controller (MP-C/V, IP-IO, and RP-C) is listed below.

6.1 SmartX IP Series (MP-C/V, IP-IO, and RP-C) Factory Firmware

When first powering up a new SmartX IP Series Controller it is imperative to verify that the controller has the latest firmware build loaded for the EcoStruxure Building Operation build being used. Please see section 8.1 for details on applying the latest firmware.

6.2 SmartX IP Series (MP-C/V, IP-IO, and RP-C) BACnet

When a user imports an SmartX IP Series Controller with Value or Output objects, they may observe a warning in the import dialog (in addition to the yellow progress bar):
2018-06-07 11:18:30 WARNING: Property "RelinquishDefault" in object "~/BACnet Interface/IP Network/DeviceName/Application/ObjectName" was configured RetainLevel, but target version does not allow that.

This warning does not indicate a failure and may be safely ignored.

6.3 Connected Room Solution – Light & Blind

The Lights and Blinds connected to the CRS modules should be tested for compatibility / verified with CRS.

6.4 Connected Room Solution – DALI Module

If moving a DALI module that has been configured from one RP-C to another RP-C, upon discovering new lights on the second RP-C will have unpredictable results, use discover all.

6.5 Connected Room Solution – DALI discovery

Before attempting to discover DALI lights it is important to ensure that the CRS module (LV or HV) has been powered up for at least five minutes to allow the system to stabilise.

Failure to observe this requirement will result in the discovery taking ~15 minutes for two lights and hours for a full network.

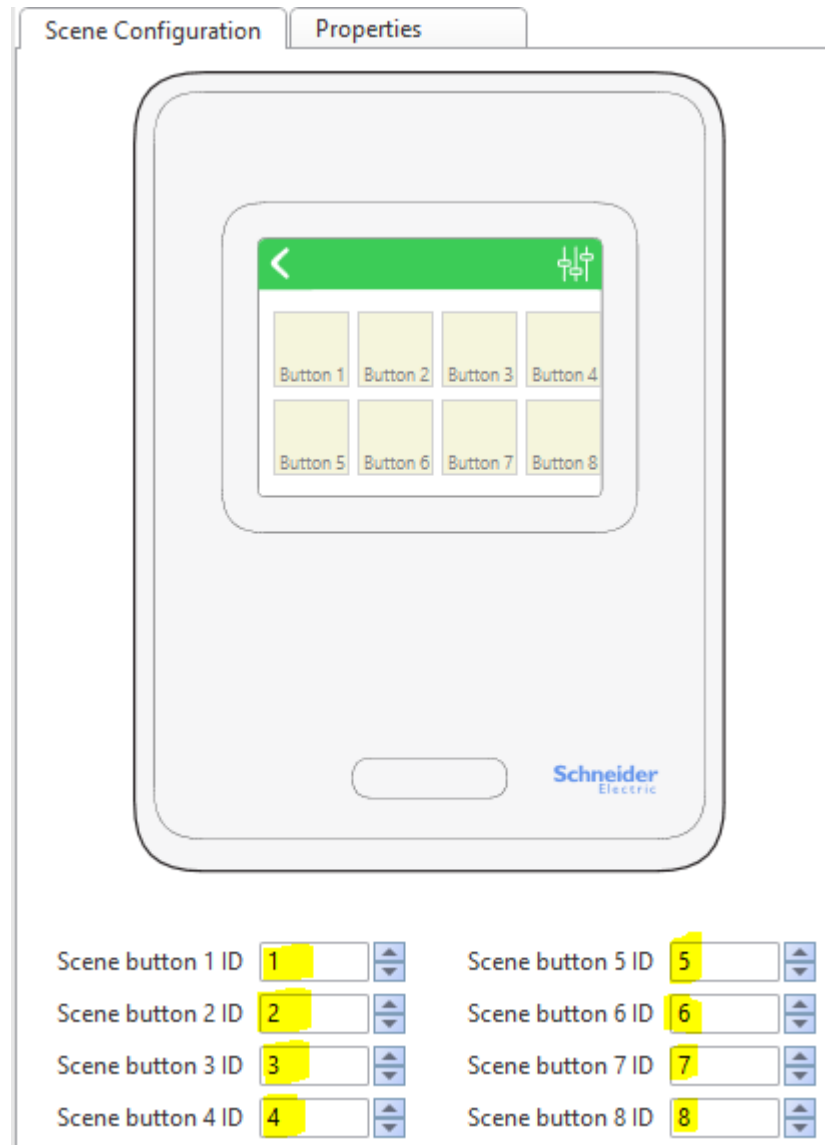
7. APPENDIX A – Known Issues

Known issues in the SmartX IP Controller Series Release v3.01.00 are listed below.

Room Unit – Scene ID

Defect #42491 - Clicking on the scene icons gives the instance of the icon, not the set trigger number.

The workaround for this defect is to simply only use only 1 to 8 for the Scene button ID 1 to 8, as highlighted below.



The image shows a software interface for configuring scene buttons. At the top, there are two tabs: "Scene Configuration" and "Properties". Below the tabs is a large rounded rectangle representing a device screen. Inside this screen is a smaller rounded rectangle representing a user interface with a green header bar containing a back arrow and a scene icon. Below the header bar is a 2x4 grid of buttons labeled "Button 1" through "Button 8". Below the device screen, there are two columns of dropdown menus. The first column contains "Scene button 1 ID" through "Scene button 4 ID", and the second column contains "Scene button 5 ID" through "Scene button 8 ID". The numbers 1 through 8 are highlighted in yellow in the dropdown menus.

Scene button 1 ID	1	▲▼	Scene button 5 ID	5	▲▼
Scene button 2 ID	2	▲▼	Scene button 6 ID	6	▲▼
Scene button 3 ID	3	▲▼	Scene button 7 ID	7	▲▼
Scene button 4 ID	4	▲▼	Scene button 8 ID	8	▲▼

8. APPENDIX B – SmartX IP Controller Upgrade Procedures

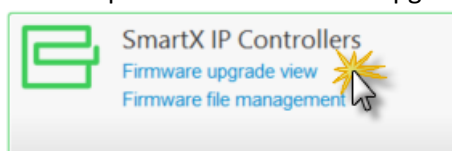
8.1 Upgrading Controller Firmware

Warning: If upgrading from a MPX controller that is currently at v1.00.xx.xxxx the upgrade might fail the first time, if it does wait until the controller has restarted and repeat the upgrade a second time, i.e. step 6 & 7 below.

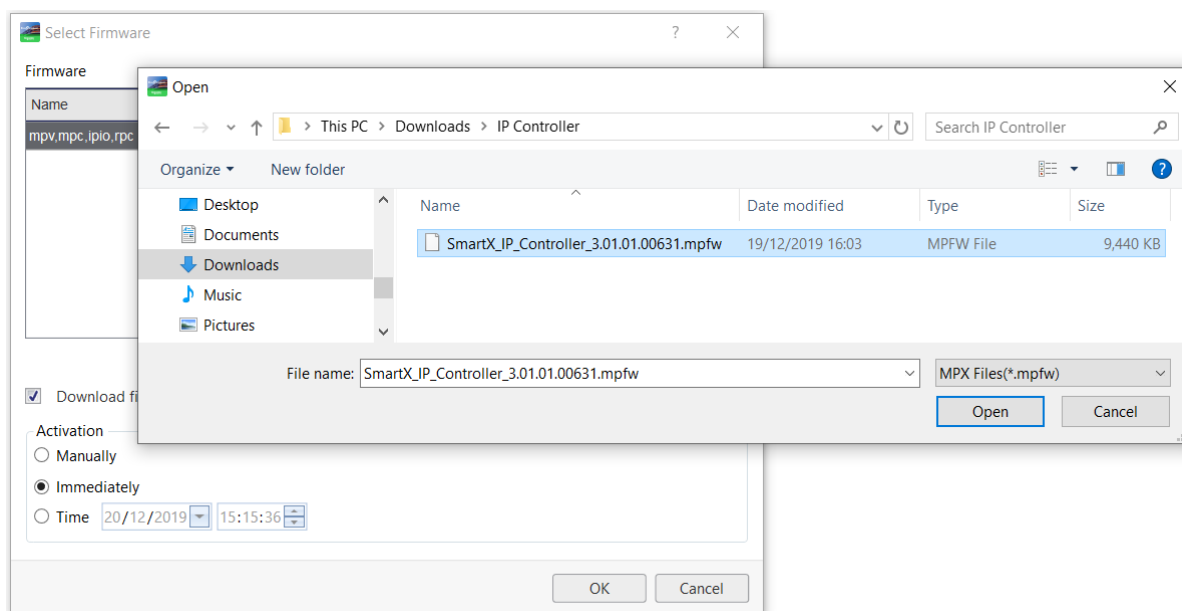
Warning: We have seen that the IP Settings of the RP-C can be lost after the upgrade of EBO, therefore please make a note of the IP Network settings before upgrading the database.

Note: Ensure EBO is upgraded first to build v3.1.1.312 before proceeding to upgrade the firmware.

- 1) First check that the communication settings have not changed by viewing the property “Changes pending” in the RP-C IP Network Settings folder, if True correct them.
- 2) From control panel select Firmware upgrade view:




- 3) From the list of SmartX IP devices select the devices to upgrade.
- 4) From the device menu select *Upgrade firmware* → *Select device firmware*
- 5) If this is the first upgrade, use the Browse button to locate the firmware package file **SmartX_IP_Controller_3.01.01.00631.mpfw** and load it.



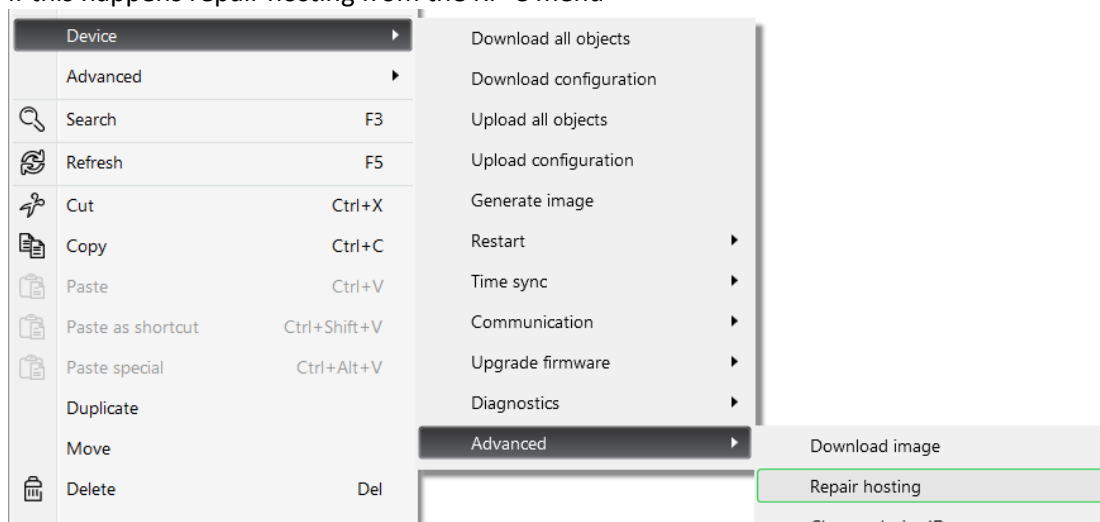
- 6) Select the firmware file, check the '*Immediately*' radio button and the download and upgrade will start.

7) Wait for the download and activation to complete as below:

Name	Firmware revision	Inactive firmware revision	Upgrade status	Upgrade progress	Firmware activation time
 Device_100004_RPC	▲ 3.01.01.00530	0.00.00.00000	Operational	100 %	01/01/1970 00:00:00

8) When complete, the firmware revision should be as indicated in the table found in section 2 above.

9) It possible the RP-C will lose its hosting information (as indicated by the yellow icon above), if this happens repair hosting from the RP-C menu



10) Now select each SmartX IP Series Controller in the system tree one at a time and perform a 'Download all objects'. Note for the MP-V this does not download the flow balance data object. .

Warning: Until the 'Download all' is performed any connected SmartX sensors or CRS modules will NOT upgrade!

Note: the upgrade process will take many minutes and will perform firmware downloads to the connected SmartX Room Units, CRS modules one at a time, typically around 15 minutes for the RP-C and 3 CRS modules. Do not interrupt the controllers or the network during this time.

11) Once the SmartX sensors have upgraded their firmware it is necessary to restore their optional properties, please see the section 8.3.1 below for details.

12) Confirm the plant is being controlled as expected.

8.2 Upgrading CRS Module Firmware

The firmware for the CRS modules is contained within the RP-C firmware package. Online CRS modules will be updated automatically once the RP-C firmware has been applied.

To view the upgrade status/progress, select the Room Bus folder and add properties as below:

Name	Modbus address	Model name	Firmware version	Firmware upgrade	Uptime
Sensor expansion module	4	RP-C-EXT-MS-BLE	0.5.7.118	Normal	83 s
Light module, DALI with power	3	RP-C-EXT-DALI-1-PD	0.5.7.118	Normal	302 s
Blind module, high voltage p...	2	RP-C-EXT-BL-4-HV-PD	0.5.5.105	100	0 s

8.3 Upgrading SmartX Sensor Firmware

The SmartX Sensor firmware is upgraded automatically as needed after the host controller firmware is upgraded. There is new SmartX Sensor firmware for this release as shown below. It can be verified in the properties of the Room unit device as shown below or on in the Device Report.

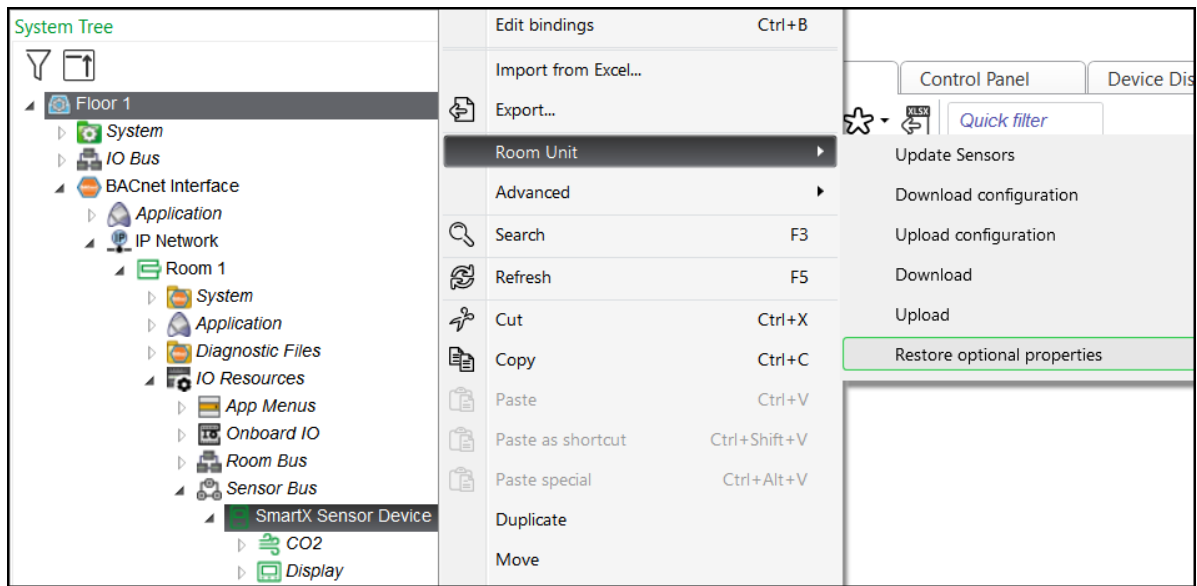
Status Information

System status	Non operational
Address	1
Base model	SXWSBTHCXSEX
Cover model	SXWSCBXSELXX
Firmware revision	BOOT_REV0.03.04
Application software version	APP_REV1.02.05
Serial number	05302017XXX
Commissioning tool enable	Off
Eco mode	Off

WARNING: SmartX IP controllers updates the SmartX Sensor firmware in the background after the upgrade process seems to be complete as viewed in the Firmware Upgrade Viewer. It can take several minutes per SmartX Sensor to transfer files and restart them. During this time, SmartX Sensor may appear offline and sensor data will be unavailable.

8.3.1 Restoring Optional properties to a SmartX Sensor Device

During the upgrade many of the new SmartX Sensor Device properties are removed from the SmartX Sensor device proxy. These properties can be returned to the SmartX Sensor device after the RP-C controller firmware has been updated, by using the Restore optional properties command. After the command is executed, select Download configuration from the same menu as shown below.



8.4 Verifying All Firmware Versions

If there is any question about what individual firmware versions are installed in a given controller, the version information in the firmware package metadata file can be verified against information in the controller’s device report.

Device Report:

```
Firmware and Uprev Info:
Version:
ActiveFWRev=3.01.01.00530
InactiveFWRev=0.00.00.00000

BootApplet Version: 3.01.00.00510

LBA Signature: Not Found

Main Board Firmware Version: 3.01.04778
RoomUnit Application File Version: 1.02.05
RoomUnit Bootloader File Version: 0.03.04
RP-C-EXT-DALI-1-PD Firmware File Version: 0.5.7.118
RP-C-EXT-BL-2-LV-PD Firmware File Version: 0.5.7.118
RP-C-EXT-BL-4-HV-PD Firmware File Version: 0.5.7.118
RP-C-EXT-MS-BLE Firmware File Version: 0.5.7.118
RP-C-EXT-0-10V-4-PD Firmware File Version: 0.5.7.118
RP-C-EXT-1-10V-4-PD Firmware File Version: 0.5.7.118

EFR32 Firmware Version: 3.01.00.00012
```

NOTE: The BootApplet version is only upgraded if the current boot BootApplet doesn’t exceed the minimum Boot Applet required to support the incoming firmware, consequently the BootApplet version might not match to what is shown in the package meta data file..

To see all the versions in a package, select the following in the *Firmware File Manager* list to view the Meta Data File:

Name	Firmware version	Script version	Function block version
mpv,mpc,ipio,rpc 2.00.01.00011	2.00.01.00011	2	3.0
mpv,mpc,ipio,rpc 2.00.01.00012	2.00.01.00012	2	3.0
mpv,mpc,ipio,rpc 2.00.01.00013	2.00.01.00013	2	3.0
rpc 2.00.00.00062			3.0

Open meta data file