

Control⁴

INTEGRATION FOR SDN

TABLE OF CONTENTS

I.	OVERVIEW -----	3
	INTRODUCTION	
	REFERENCED DOCUMENTS & SOFTWARE	
II.	SOMFY CONNECT UAI PLUS INTEGRATION -----	4
	SYSTEM REQUIREMENTS	
	UAI PLUS CONNECTIONS & LEDs	
	SYSTEM CONFIGURATION FOR SDN	
	ADDING UAI PLUS INTERFACE DEVICE TO PROJECT	
	SETTING UAI PLUS INTERFACE TELNET CREDENTIALS	
	REQUESTING UAI PLUS INTERFACE SDN GROUPS	
	ADDING UAI PLUS BLIND DEVICE TO PROJECT	
	CALIBRATING SDN BLINDS AND GROUPS	
III.	DIRECT SERIAL INTEGRATION -----	11
	SYSTEM REQUIREMENTS	
	SYSTEM CONFIGURATION & CONNECTION TO SDN	
	ADDING SDN RS485 DEVICE TO PROJECT	
	ADDING CONTROL4 BLIND GROUP DEVICE TO PROJECT	
IV.	DRY CONTACT INTEGRATION -----	14
	SYSTEM REQUIREMENTS	
	SYSTEM CONFIGURATION FOR SDN	
	ADDING BLIND RELAY DEVICE TO PROJECT	
	APPENDIX -----	16
	A. AVAILABLE COMMANDS & ACTIONS	

I. OVERVIEW

INTRODUCTION

The Somfy Organization strength has been demonstrated with 50 years of experience in motorization. Leading the shading industry with innovation and modernization solutions for homes and commercial buildings. Offering the widest range of strong, quiet motors and controls for all types of applications and technologies.

Who is this Guide for?

This guide is aimed at providing support and guidance to Control4 System Integrators, achieving complete automation of Somfy Digital Network™ (SDN) motors and controls.

What does this Guide contain?

The sections of this guide contain walkthroughs and various methods of controlling SDN motors using the appropriate control device as the bridge between the AV System and the Somfy system of choice.

This guide discusses common methods of integration with Control4.

For advanced technical support contact:

Somfy Technical Support at 1-800-227-6639

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How to use this Guide?

This guide is designed as a reference manual. Use the table of contents to find the integration method, then follow along in the instruction.

REFERENCED DOCUMENTS & SOFTWARE

Visit www.somfypro.com for the following Programming Guides:

- Somfy Connect™ UAI Plus
- SDN Motor Configuration Software
- SDN Keypad Configuration Software

Visit www.somfypro.com/services-support/software for the following Software:

- SDN Motor Configuration Software
- SDN Keypad Configuration Software

II. SOMFY CONNECT UAI PLUS INTEGRATION

The Somfy Connect™ UAI Plus is designed to control residential and commercial SDN motors through IP and RS232 serial communication.

Details of this controller and commissioning instruction is further referenced in the [Somfy Connect™ UAI Plus Programming Guide](#).

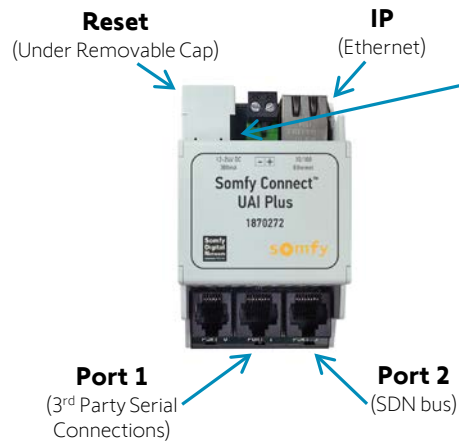
SYSTEM REQUIREMENTS

- PC running Windows 10 or higher
- Somfy Connect™ UAI Plus with latest firmware
- UAI Plus Integration Report
- Control4® Composer Software 2.6 or newer
- Control4® Somfy UAI Plus Interface Driver
- Control4® Somfy UAI Plus Blind Driver



UAI PLUS CONNECTIONS & LEDS

RS232/RS485 WIRING PINOUT			
Pin #	Color	Function	
		UAI Plus	Third-Party
1	Orange White	SDN RS485 (+)	-
2	Orange	SDN RS485 (-)	-
3	Green White	RS232 RS	RS232 TX
4	Blue	24V DC	-
5	Blue White	24V DC	-
6	Green	RS232 TX	RS232 RX
7	Brown White	SDN RS485 GND	GND
8	Brown	SDN RS485 GND	-



LED BEHAVIOR:

- FAST BLINK
START UP
- SLOW BLINK
ONLINE
- GREEN
DHCP ACTIVE
- AMBER
STATIC IP ACTIVE

SYSTEM CONFIGURATION FOR SDN

A fully operational SDN system is required prior to Control4 programming.

- Confirm with Shade Commissioning Agent that the Somfy Connect UAI Plus firmware is up to date and SDDP is enabled in the UAI Plus Ethernet Settings
- An Integration Report must be provided by the Shade Commissioning Agent which will include all network, telnet and system parameters

	A	B	C	D	E
1	UAI+IP Address	192.168.0.32			
2	MAC Address	00.1B.C5.00.08.79			
3	UAI+ Firmware Version	02.01.42			
4	Telnet Users	Telnet 1	Telnet 2	Telnet 3	Telnet 4
5	Telnet Passwords	Password 1	Password 2	Password 3	Password 4
6					
7					
8	Motors	LABEL	Group 1	Group 2	Group 3
9	20023C	BLACKOUT	ALL	Master Suite	
10	1303F0	LIVING ROOM	ALL	Living Room	
11	0A06B8	PATIO	ALL	Exterior	
12	4000EA	SHEER	ALL	Master Suite	
13	0667B4	KITCHEN	ALL	Kitchen	
14					
15					
16	GROUPS	INVERTED	NAME		
17	010100	FFFEFE	ALL		
18	010101	FEFEFE	Kitchen		
19	010102	FD FEFE	Living Room		
20	010103	FC FEFE	Master Suite		
21	010104	FB FEFE	Exterior		

ADDING UAI PLUS INTERFACE DEVICE TO PROJECT

If integrating with multiple Somfy Connect UAI Plus devices, ensure each unit is installed on a separate Somfy Digital Network.

Follow a method of connecting individual Blind devices to the corresponding UAI Plus Interface device in the Control & Audio Video Connections. Control4 OS updates may require reconnecting these devices.

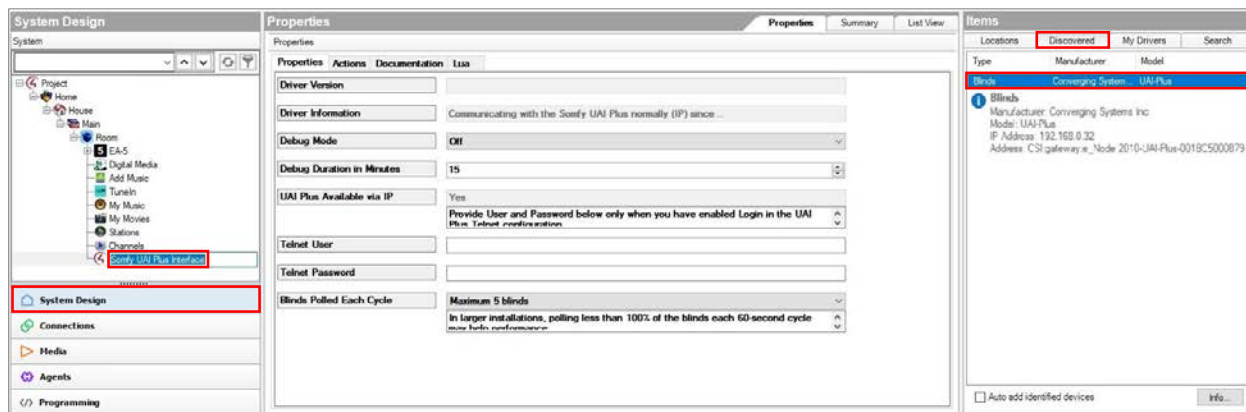
There are three methods to add the Somfy Connect UAI Plus Interface device to Project:

- via IP with SDDP Discovery Enabled
- via IP Searching the Composer Driver Database
 - via RS232 Serial Connection

OPTION A – Adding the UAI Plus Interface Device via IP with SDDP Discovery Enabled:

Reference the Somfy UAI Plus driver set details located in the device Documentation tab.

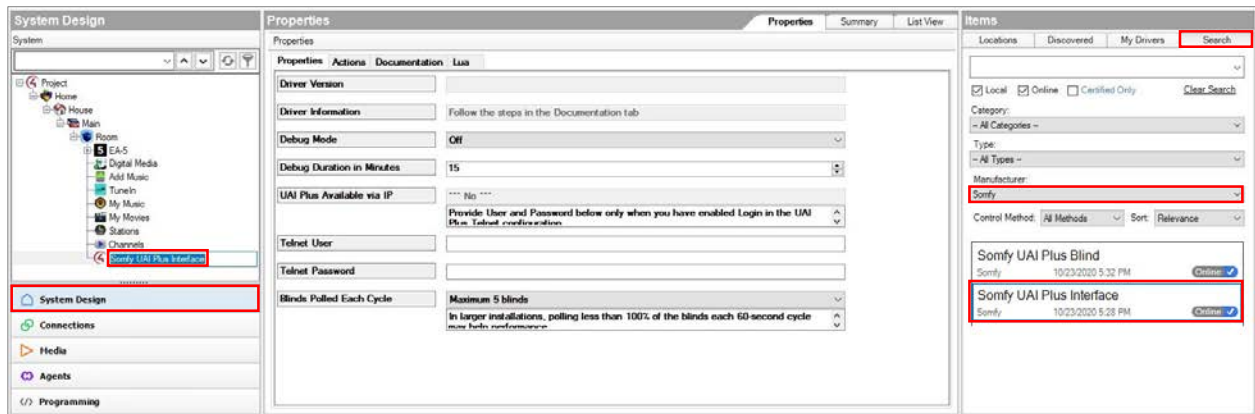
- 1) In the Composer System Design view, Project tree, select a Room in which a device is to be added
- 2) Go to the Items pane, select the Discovered tab
- 3) Locate the UAI Plus device, double or right click to Add to Project automatically connecting the IP address
- 4) Rename the device to the associated location or room
- 5) Go to device Properties tab
- 6) Verify the device Driver Information status displays “Communicating with the Somfy UAI Plus normally (IP)...”



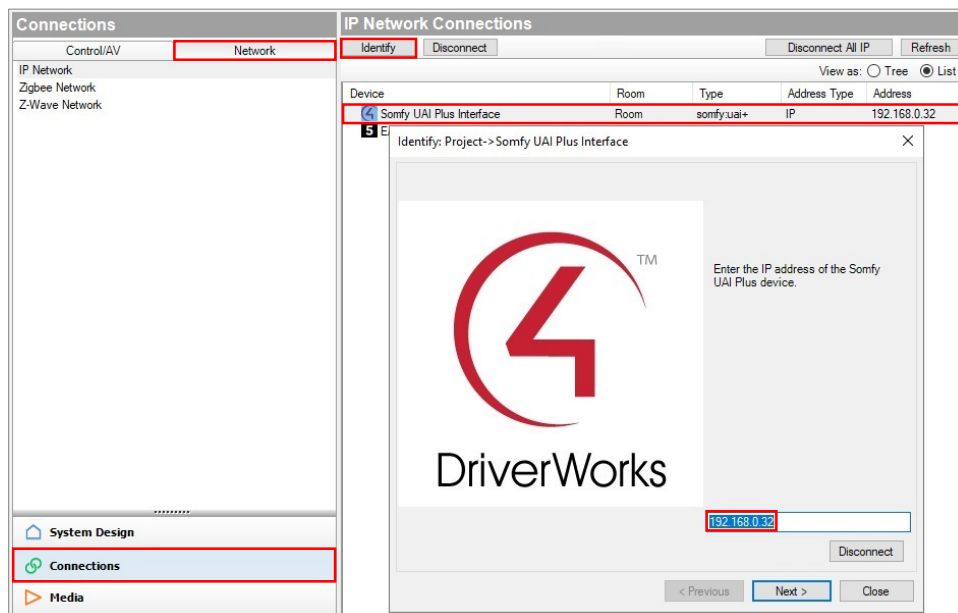
OPTION B – Adding the UAI Plus Interface Device via IP Searching the Composer Driver Database:

Reference the UAI Plus Integration Report for the IP address. Ensure using a static IP or MAC-based address reservation.

- 1) In the Composer System Design view, Project tree, select a Room in which a device is to be added
- 2) Go to the Items pane, select the Search tab
- 3) In the Manufacturer dropdown list, select Somfy
- 4) Locate the Somfy UAI Plus Interface driver, double or right click the driver to Add to Project
- 5) Rename the device to the associated location or room



- 6) Navigate to the Connections view, Network tab
- 7) In the IP Network Connections pane, select the Somfy UAI Plus Interface in the device list
- 8) Double-click the Somfy UAI Plus Interface device or click Identify
- 9) Enter the IP address of the Somfy Connect UAI Plus, then click Close

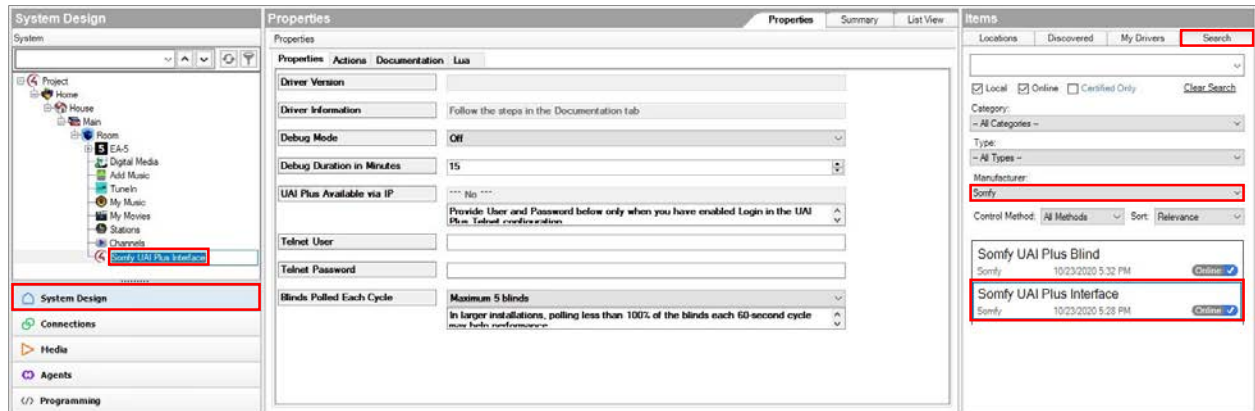


- 10) Return to the System Design view, device Properties tab
- 11) Verify the device Driver Information status displays "Communicating with the Somfy UAI Plus normally (IP)..."

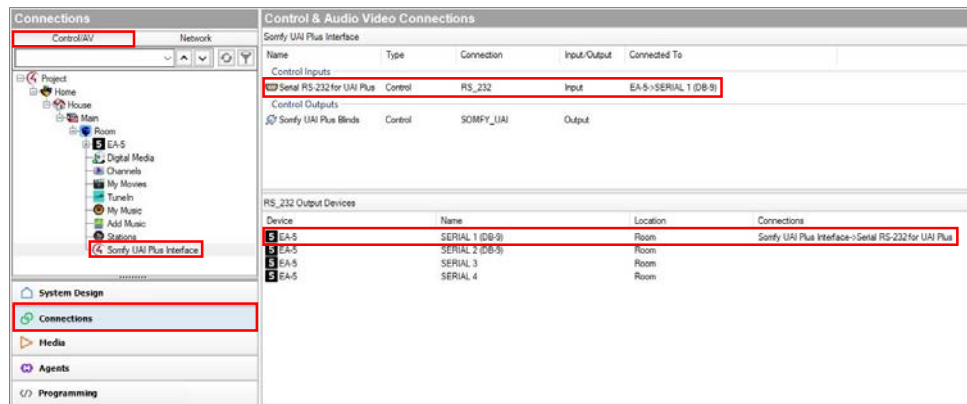
OPTION C – Adding the UAI Plus Interface Device via RS232 Serial Connection:

Ensure the proper serial communication pinout and connection to the Somfy Connect UAI Plus Port 1.

- 1) In the Composer System Design view, Items pane, select the Search tab
- 2) In the Manufacturer dropdown list, select Somfy
- 3) Locate the Somfy UAI Plus Interface driver, double or right click the driver to Add to Project
- 4) Rename the device to the associated location or room



- 5) Navigate to the Connections view, Control/AV tab, Control & Audio Video Connections pane
- 6) Drag & drop the Serial RS-232 for UAI Plus Control Input into the appropriate RS_232 Output Device below

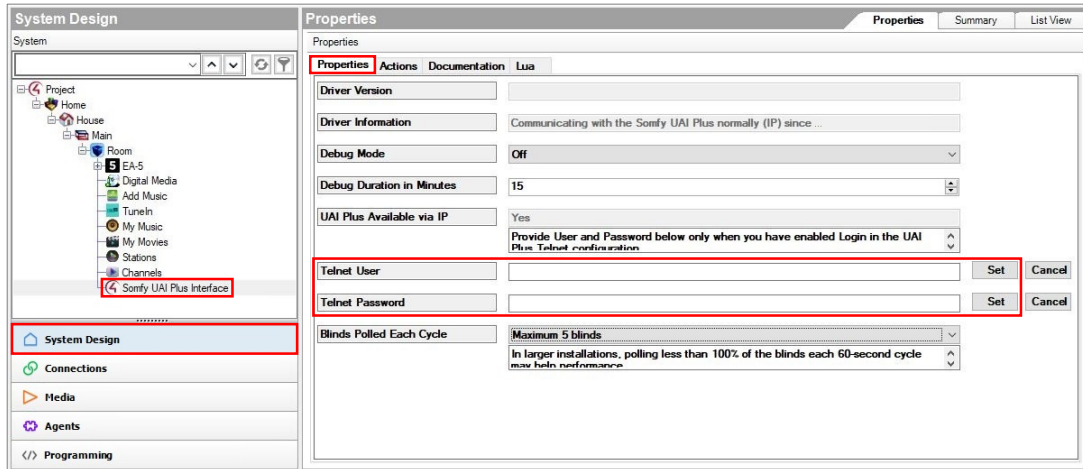


- 7) Return to the System Design view, device Properties tab
- 8) Verify the device Driver Information status displays "Communicating with the Somfy UAI Plus normally (Serial)..."

SETTING UAI PLUS INTERFACE TELNET CREDENTIALS

Reference the UAI Plus Integration Report for the Telnet Credentials.

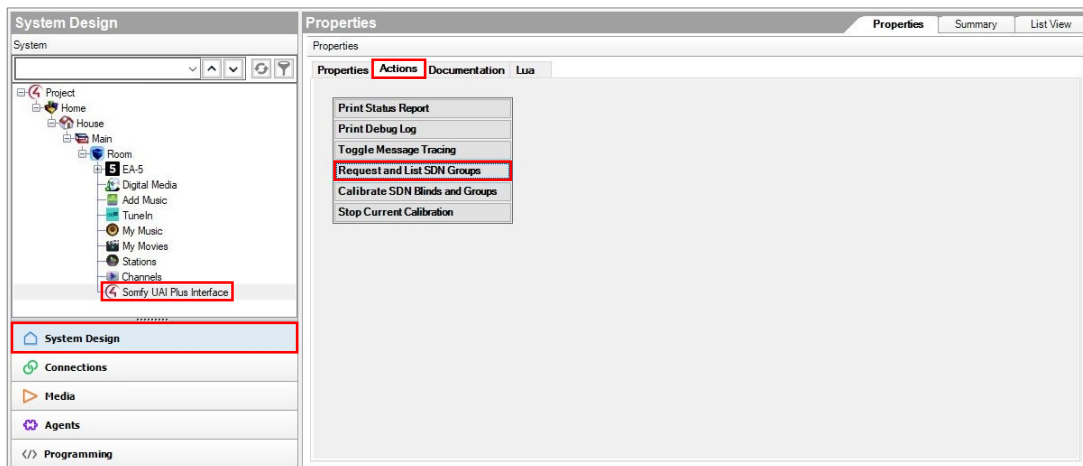
- 1) Navigate to the System Design view, device Properties tab
- 2) Enter the Telnet User, then click Set
- 3) Enter the Telnet Password, then click Set



REQUESTING UAI PLUS INTERFACE SDN GROUPS

Before adding new or modifying existing SDN Blinds or Blind Groups, always use the "Request and List SDN Groups" action to properly update all tables, similar to Refresh Navigators in Composer. Refresh time may vary per system size.

- In the System Design view, device Actions tab, click Request and List SDN Groups



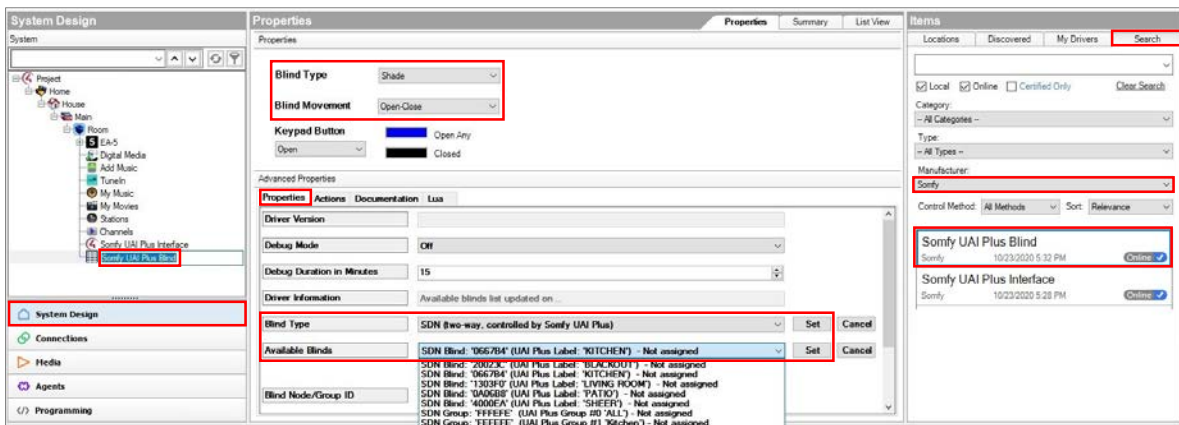
ADDING UAI PLUS BLIND DEVICE TO PROJECT

Reference the Somfy UAI Plus driver set details located in the device Documentation tab. When adding an SDN Blind or Blind Group, only use the Somfy UAI Plus Blind driver. Do not use the generic Control4 Blind Group.

- 1) In the System Design view, Project tree, select a Room in which a device is to be added
- 2) Go to the Items pane, select the Search tab
- 3) In the Manufacturer dropdown list, select Somfy
- 4) Locate the Somfy UAI Plus Blind driver, double or right click the driver to Add to Project
- 5) Rename the device to the associated location, name or group of blinds
- 6) Select the appropriate Blind Type for the product in the dropdown
- 7) Select the appropriate Blind Movement for the product in the dropdown
- 8) In the Advanced Properties tab, select the Blind Type in the dropdown, then click Set
- 9) In the Available Blinds dropdown, select the SDN Blind or SDN Blind Group, then click Set

Reference the UAI Plus Integration Report when assigning SDN Blinds or Groups.

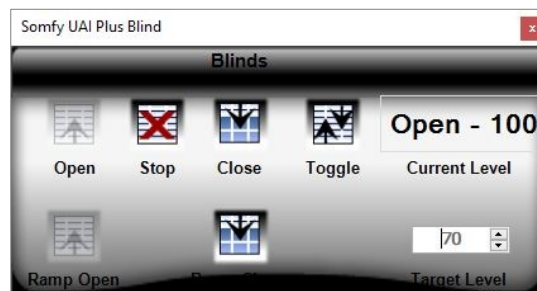
Select the blind or group by the corresponding motor node ID, inverted group address or name label.



If a blind or group is not listed, use the "Refresh All Devices" action to update the Available Blinds list. Refresh time may vary per system size.

- a) Go to the device Actions tab, click Refresh All Devices List, then repeat step 9
 - OR
 - b) Manually enter motor node ID or inverted group address in the Blind Node/Group ID field, then click Set
- 10) Double-click the Blind or Blind Group SDN device to test each button operation

See Appendix A of this guide for a list of Somfy UAI Plus Blind device specific commands and actions.



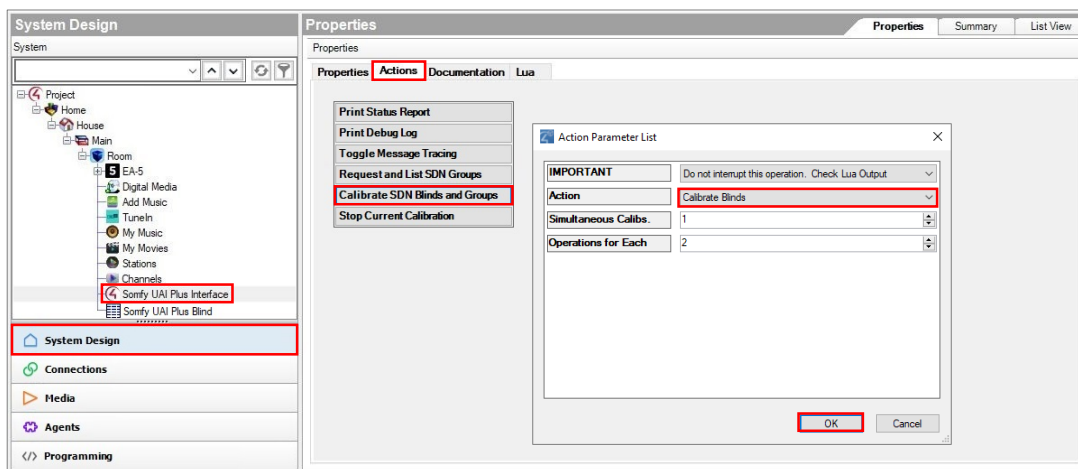
CALIBRATING SDN BLINDS AND GROUPS

After adding new or modifying existing SDN Blinds or Blind Groups, always use the "Calibrate SDN Blinds and Groups" action to calculate the full course of each SDN (two-way) Blind. The Calculated Full Course value is calculated automatically when blinds are moved and is averaged over time.

- 1) In the System Design view, Somfy UAI Plus Interface device Actions tab, click Calibrate SDN Blinds and Groups
- 2) In the Action Parameter List window, Action dropdown, select Calibrate Blinds
- 3) Click OK to calibrate all SDN Blinds
- 4) To calibrate SDN Groups, repeat Step 2, selecting Calibrate Groups
- 5) Click OK to calibrate all SDN Groups

It is recommended to not interrupt this operation. To stop this action, click Stop Current Calibration. Ensure the calibration process completes.

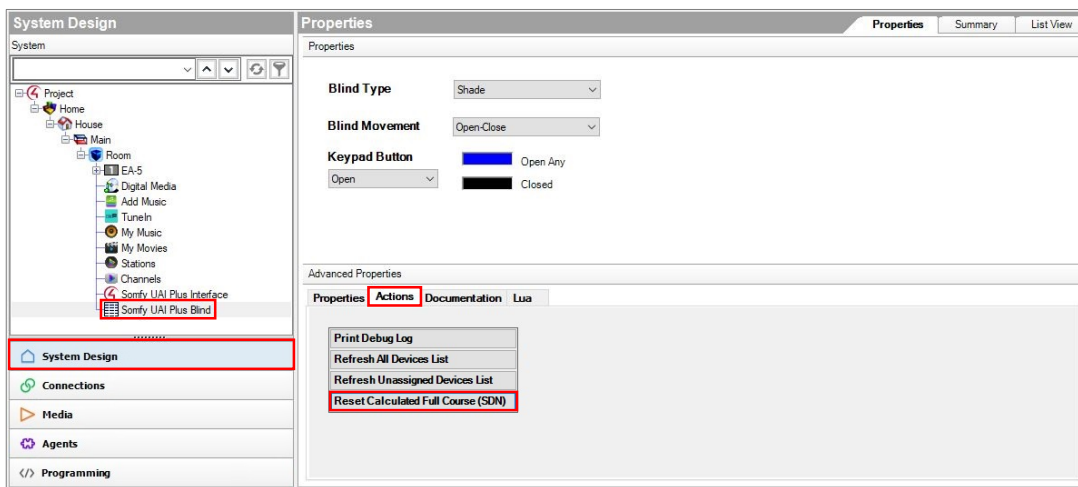
Reference the Somfy UAI Plus driver set details located in the device Documentation tab.



Should the Calculated Full Course value become invalid, use the 'Reset Calculated Full Course' action to reset.

This action is available for SDN (two-way) blinds only.

- 1) In the System Design view, device Actions tab, click Reset Calculated Full Course (SDN)
- 2) Operate the individual blind the full course multiple times
- 3) Return to the device Advanced Properties tab
- 4) Verify the Calculated Full Course displays the new course duration



III. DIRECT SERIAL INTEGRATION

Previous to the release of the Somfy Connect™ UAI Plus, Control4 integration was accomplished using serial communication via a Control4 Controller serial port connecting directly to the Somfy Digital Network.

This method of integration will allow control of Somfy SDN motors.
A Control4 Blind Group driver must be used when operating a group of SDN motors.

SYSTEM REQUIREMENTS

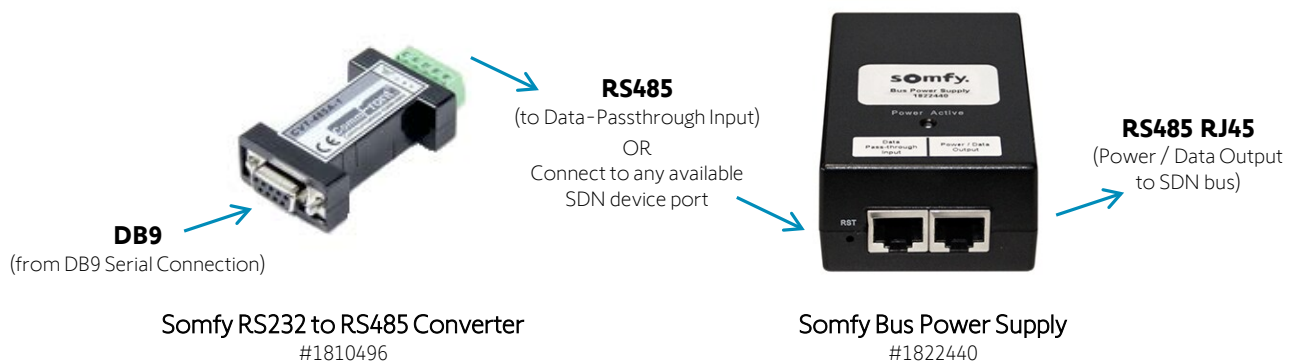
- PC running Windows 10 or higher
- RS232 to RS485 Converter #1810496
- Control4 Composer Software 2.6 or newer
- Somfy SDN 2.0 RS485 Driver
- Control4 Blind Group Driver



SYSTEM CONFIGURATION & CONNECTION TO SDN

*Prior to Control4 system programming, a fully operational SDN system is required.
Motor node ID and location documentation must be provided by the Shade Commissioning Agent.*

Depending on the model processor, connect to Serial Port 1 or 2 of EA-1, EA-3 and EA-5 Control4 Controllers.
EA-1 or EA-3 models require Control4 part #C4-CBL3.5-DB9B - 3.5mm to DB9 Serial Cable as well as an externally powered RS232 to RS485 Converter (supplied by others). EA-5 models with an available DB9 Serial Port require Somfy part #1810496 - RS232 to RS485 Converter or equivalent.



ADDING SDN RS485 DEVICE TO PROJECT

The Somfy 2.0 RS485 driver only supports single blind control and does not support Somfy configured groups. Use the Control4 Blind Group driver to control blind groups.

There are two methods to add the SDN RS485 device to Project:

- Automatically
- Manually

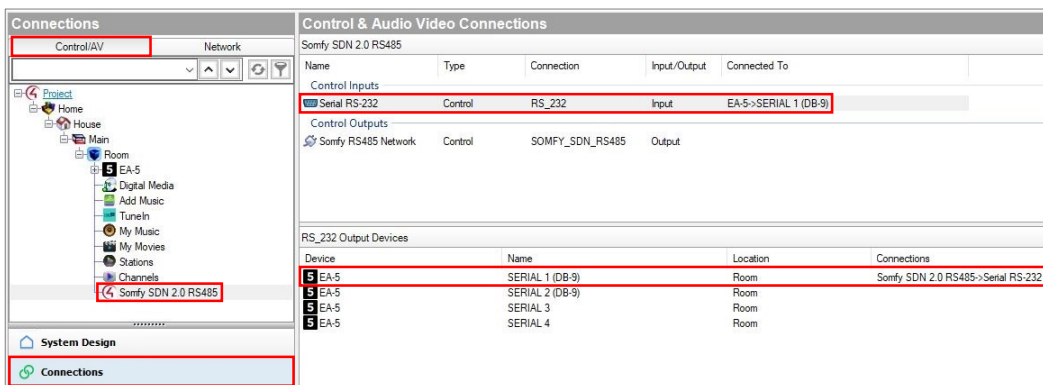
OPTION A – Adding SDN RS485 Device to Project Automatically:

Reference the Somfy SDN 2.0 RS485 driver set details located in the device Documentation tab.

- 1) In the System Design view, Project tree, select a Room in which a device is to be added
- 2) Go to the Items pane, select the Search tab
- 3) In the Manufacturer dropdown list, select Somfy
- 4) Locate the Somfy SDN 2.0 RS485 driver, double or right click the driver to Add to Project
- 5) Rename the device to the associated location or room.



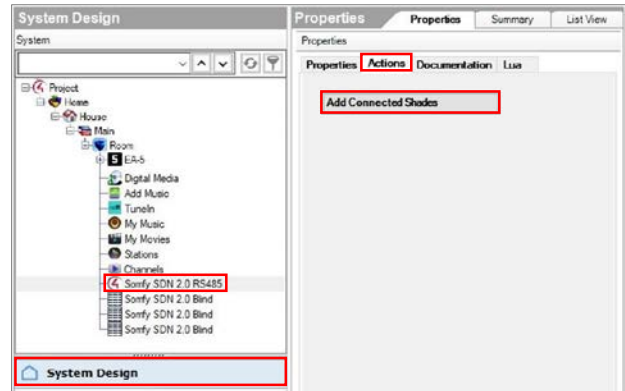
- 6) Navigate to the Connections view, Control/AV tab, Control & Audio Video Connections pane
- 7) Drag & drop the Serial RS-232 Control Input into the appropriate RS232 Output Device below



- 8) Return to the System Design view, device Properties tab, Status will update to "Serial Connected" and automatically retrieve each connected SDN motor
- 9) Rename each device to the associated location, name or group of blinds
- 10) Select the appropriate Blind Type and Blind Movement for each product in the dropdown

OPTION B – Adding SDN RS485 Blind Device to Project Manually:

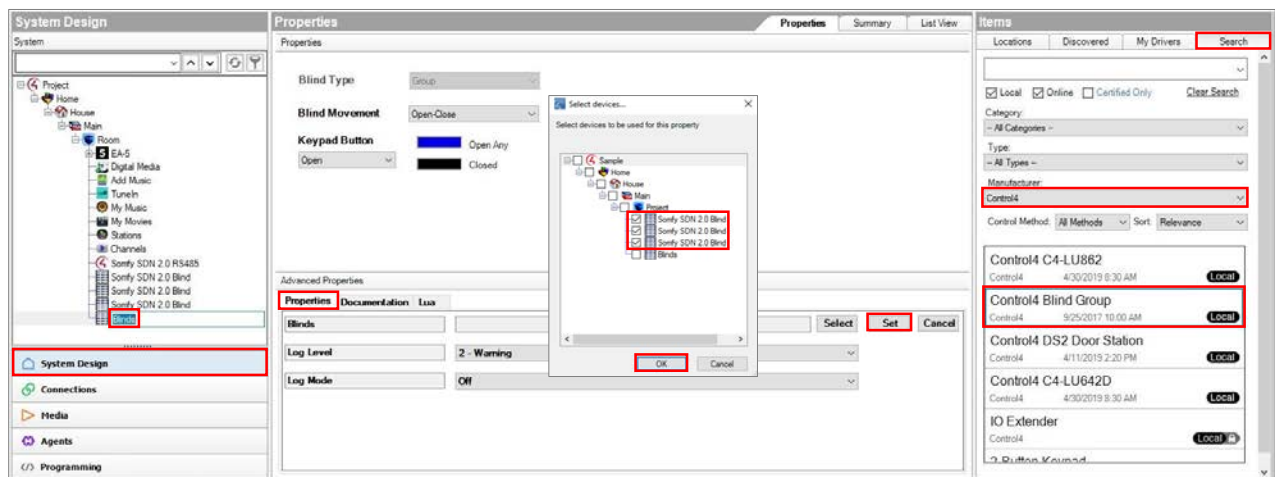
- 1) In the System Design view, Project tree, select the SDN 2.0 RS485 device in which a blind is to be added
- 2) In the device Actions tab, click Add Connected Shades
- 3) Rename the device to the associated location, name or group of blinds
- 4) Select the appropriate Blind Type for the product in the dropdown
- 5) Select the appropriate Blind Movement for the product in the dropdown



ADDING CONTROL4 BLIND GROUP DEVICE TO PROJECT

When using the Control4 Blind Group driver, motors will operate in a cascading effect.
To avoid this cascading effect, utilize the Somfy Connect UAI Plus and the associated Interface and Blind drivers

- 1) In the System Design view, Project tree, select a Room in which a device is to be added
- 2) Go to the Items pane, select the Search tab
- 3) In the Manufacturer dropdown list, select Control4
- 4) Locate the Control4 Blind Group driver, double or right click the driver to Add to Project
- 5) Rename the device to the associated location, name or group of blinds
- 6) In the Advanced Properties tab, click the Select button to add blinds to the Blind Group
- 7) Place a checkmark by each blind to be added, click OK then click Set



- 8) Select the appropriate Blind Movement for the products in the dropdown
- 9) Double-click the Blind or Blind Group device to test each button operation

See Appendix A of this guide for a list of Somfy SDN Blind and Control4 Blind Group commands and actions.



IV. DRY CONTACT INTEGRATION

The Somfy DecoFlex™ Digital Keypad for SDN is an intelligent control device providing a wired in-wall user interface for the Somfy Digital Network. The SDN keypad includes 8 dry contact inputs on the reverse, associated to a button on the front. Each dry contact input requires an available dry contact relay to perform the programmed action of controlling the SDN motors.

Details of this keypad and programming instruction is further referenced in the [SDN Keypad Configuration Software](#) Programming Guide.

SYSTEM REQUIREMENTS

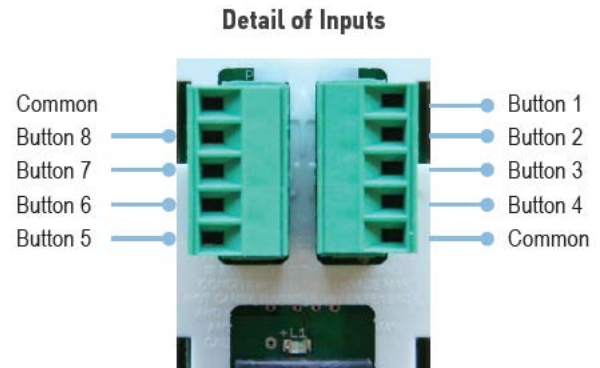
- PC running Windows 10 or higher
- Programmed SDN DecoFlex Digital Keypad
- Control4 Composer Software
- Control4 Driver: Single Relay Blind or 2/3 Relay Blinds (OS 2.9+)
- Control4 Normally Open Dry Contact Relay for each button



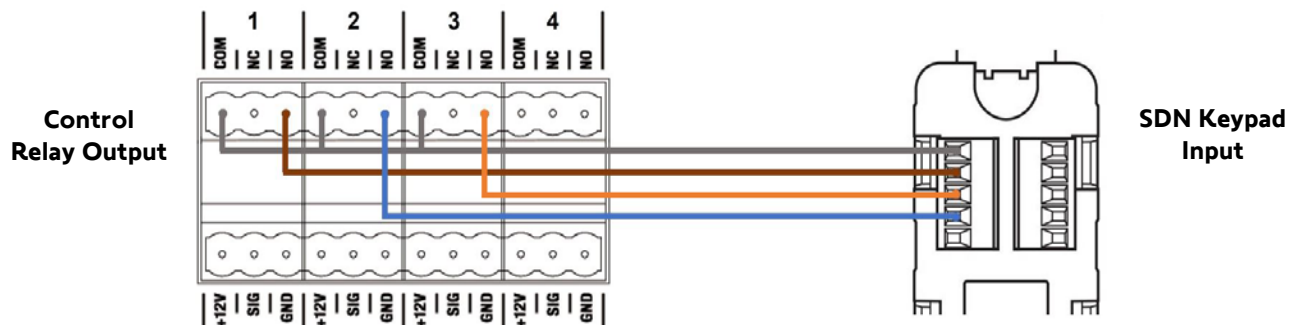
SYSTEM CONFIGURATION FOR SDN

Prior to Control4 system programming, a fully operational SDN system is required.

There are three options for dry contact integration, Single Relay, 2 Relay, or 3 Relay blind control. The Shade Commissioning Agent must program the SDN Keypad and motors as required.



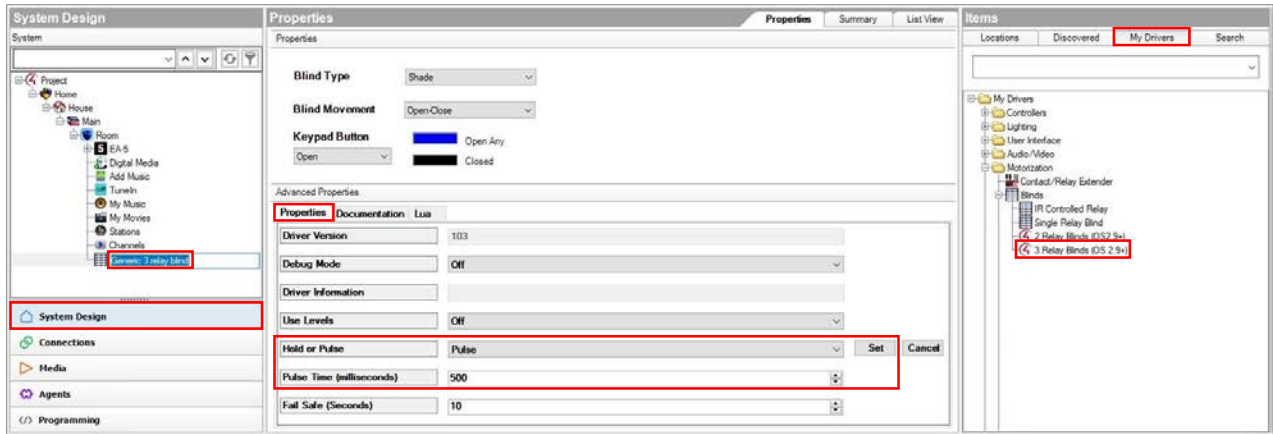
Below details the interconnection from a Control4 Controller (EA-5) relay outputs (normally open 1-3) to the dry contact inputs of the SDN Keypad (buttons 6-8 programmed for Up/Stop/Down respectively)



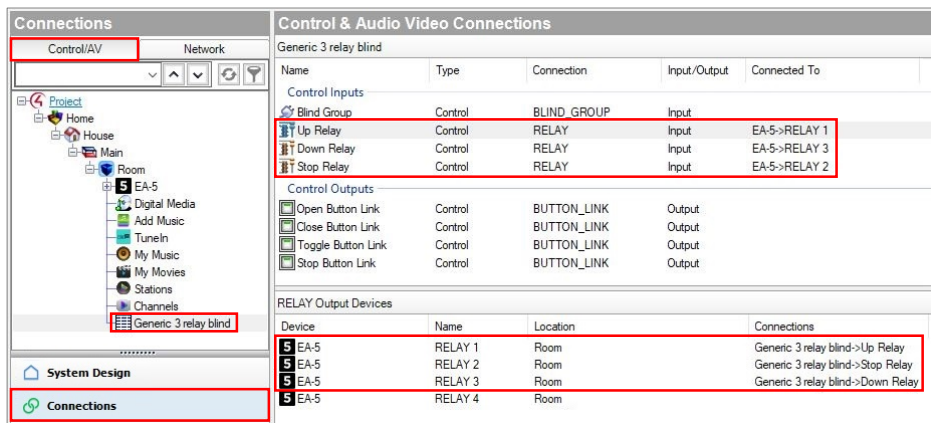
ADDING BLIND RELAY DEVICE TO PROJECT

- 1) In the System Design view, Project tree, select a Room in which a device is to be added
- 2) Go to the Items pane, select the My Drivers tab
- 3) In the Motorization, Blinds folder, double-click the required relay driver to add to project
- 4) Available relay options are Single Relay Blind, 2 Relay Blinds or 3 Relay Blinds. Example will be 3 Relay Blinds.
- 5) Rename the device to the associated location, name or group of blinds
- 6) In the Advanced Properties tab, change Hold or Pulse to Pulse, then click Set
- 7) The Pulse Time (milliseconds) will default to 500.

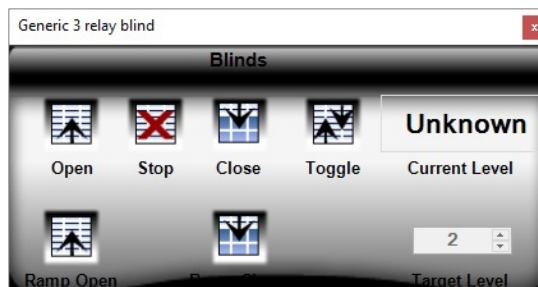
The Pulse Time (milliseconds) will default to 500.



- 8) Navigate to the Connections view, Control/AV tab, Control & Audio Video Connections pane
- 9) Drag & drop Up/Down/Stop Relay Control Inputs into the corresponding Relay Output Devices below



- 10) Return to the System Design view, double-click the device to test each button operation



APPENDIX

[APPENDIX A] AVAILABLE COMMANDS & ACTIONS

SOMFY UAI PLUS BLIND & GROUP	
Command	Action
Open	Moves blind to the fully open position
Close	Moves blind to the fully closed position
Toggle	Sequence controls blind close-stop-open
Stop	Stops blind when moving
Target level	Moves blind to a percent openness (0-100)
Set Blind Percent Closed	Moves blind to a percent closed position
Set Blind Percent Open	Moves blind to a percent open position
Move to Next IP	Moves blind to the next intermediate position down
Move to Previous IP	Moves blind to the next intermediate position up
Move to Specific IP	Moves blind to a specific intermediate position (1-16)

SOMFY SDN 2.0 RS485 BLIND	
Command	Action
Open	Moves blind to the fully open position
Close	Moves blind to the fully closed position
Toggle	Sequence controls blind close-stop-open
Stop	Stops blind when moving
Target level	Moves blind to a percent openness (0-100)

CONTROL4 BLIND GROUP	
Command	Action
Open	Moves blind to the fully open position
Close	Moves blind to the fully closed position
Toggle	Sequence controls blind close-stop-open
Stop	Stops blind when moving

SOMFY® is the leading global manufacturer of strong, quiet motors with electronic and app controls for interior window coverings and exterior solar protections. Over 270 million users worldwide enjoy the more than 170 million motors produced by Somfy. During the past 50 years, Somfy engineers have designed products for both the commercial and residential markets to motorize window coverings such as interior shades, wood blinds, draperies, awnings, rolling shutters, exterior solar screens and projection screens. Somfy motorization systems are easily integrated with security, HVAC and lighting systems providing total home or building automation.

FOR QUESTIONS OR ASSISTANCE PLEASE CONTACT TECHNICAL SUPPORT:

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