Control4 Integration

Tech Note 101

www.screeninnovations.com | 512.832.6939 | Doc.#110-101B | V. 1.5 | 8 Sept 2021

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Introduction

This Control4 Integration Tech Note 101 Integration Guide was developed for you, our integration partner, and your clients. We have provided this simple guide to assist in the design and integration of a Screen Innovations® shade/screen system and provide best practices which help yield the best possible performance from deployments.

Control, your way; at Screen Innovations, we provide complete control of all your shade and screen products via both wireless and wired technologies.

Screen Innovations has developed the most innovative shade/screen system available to the CEDIA® market. Our revolutionary Shade Builder tools, ultra-high-quality interior and exterior motorized shades, and the most extensive control and power options in the industry. We built our shade/screen products to a world class level and are the absolute best you can buy.

Engineered in Austin, Texas, all our products are engineered and manufactured in the USA. We have some exclusive partnerships with world class raw parts suppliers such as Somfy®, the world leader in motors. These partnerships— combined with our innovations and patent pending technologies— mean not only do our shade and screen products look amazing in your client's home, but, more importantly, "they just work."

This Screen Innovations Tech Note will help with integration to a Control4 system. Step-by-step details and screen shots are provided to enable rapid deployments and testing.

For the latest information on our products please visit our website at http://www.ScreenInnovations.com or call our technical support and sales teams for additional help and information at 512.832.6939.

How To Use This Tech Note

QR Codes – Scan this image on your phone or tablet to receive the latest version of the corresponding document.

Zigbee – This logo indicates the product uses Zigbee 3.0 Mesh RF protocol.

Radio Technology Somfy® (RTS) – This logo indicates the product uses one-way Radio Frequency commands for control of the shade/screen.

485 – This logo indicates the product uses an RS-485 network to allow full two-way control and status of the motor(s). SDN is a proprietary term Somfy uses to describe 485 networks.

Common Control Nomenclature

The control system and user interface(s) are generally connected to the local area network and our shade/screens from one of the following networking topologies.

One-Way Radio Frequency

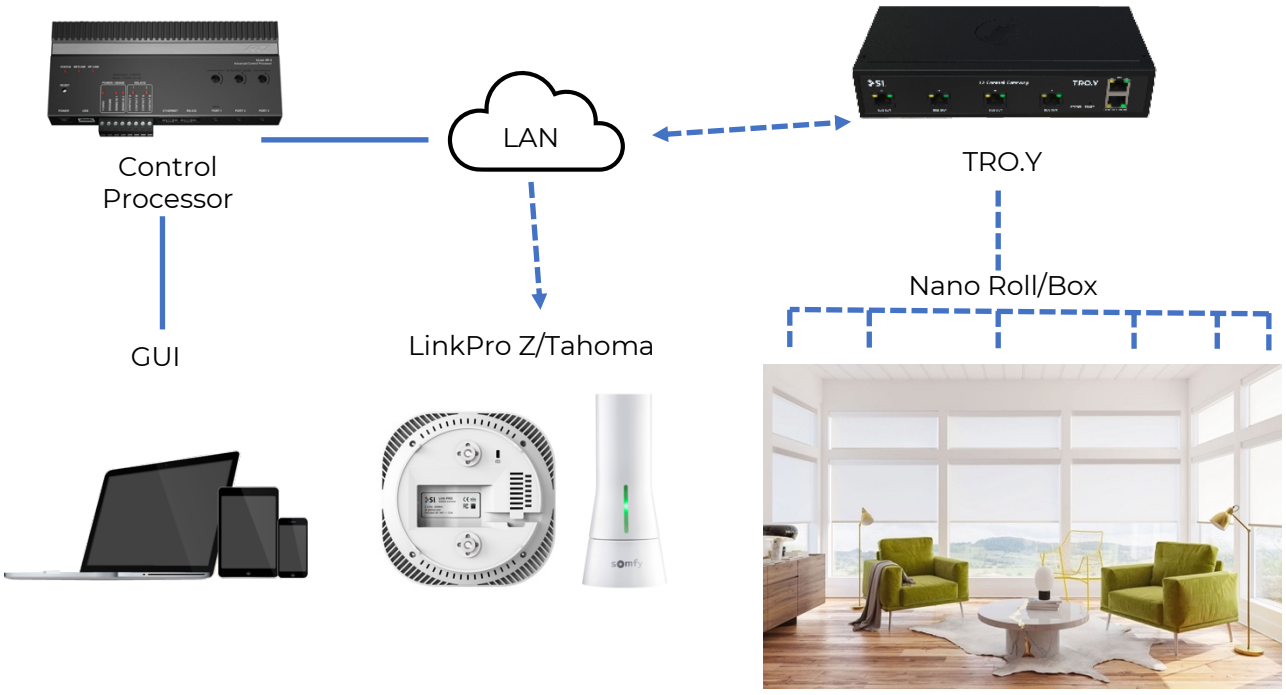
Control signals are routed to a series of WIFI to RTS bridges such as the myLink.
Each RTS to WIFI gateway can control up to sixteen RTS channels. Each channel can have an unlimited number of shades/screens associated with it.
Each project can have up to ten RTS to WIFI gateways.

Two-way RS-485

When two-way control is required, control signals are routed to the Screen Innovations IP gateway over the local area network using Internet Protocol and PoE.
These systems are partitioned into isolated bus segments. Each segment can support up to 255 devices (shades, screens, and other node devices).

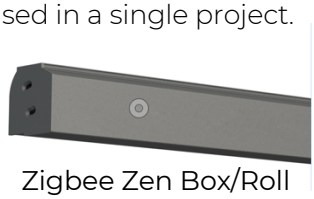
Zigbee 3.0 Mesh

Control signals are routed to the LinkProZ. Each mesh controller can control up to 74 Zigbee 3.0 nodes.



Screen Innovations Shade/Screen System Control Options

All connectivity types are not typically used in a single project.



Zigbee Zen Box/Roll

SI Apps

LinkPro Z

RTS Nano Box/Roll

TRO.Y

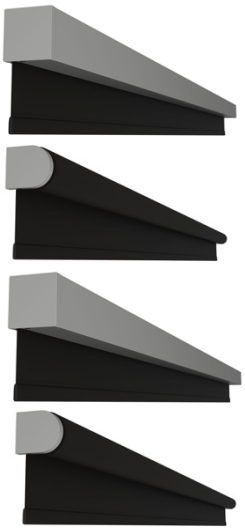
RTS to SDN

DecoFlex
Digital Keypad

Network

- Control4
- Crestron
- ELAN
- Lutron
- RTI
- Savant
- URC

Janus Power Panel



SDN Nano Box/Roll

Zigbee 3.0 & RTS via TaHoma Deployment

Zigbee 3.0/RTS via LinkPro Z Drivers

- Brilliant
- Control4
- Crestron
- Crestron Home | OS 3
- ELAN
- RTI
- Savant
- URC

Before Integrating with Zigbee

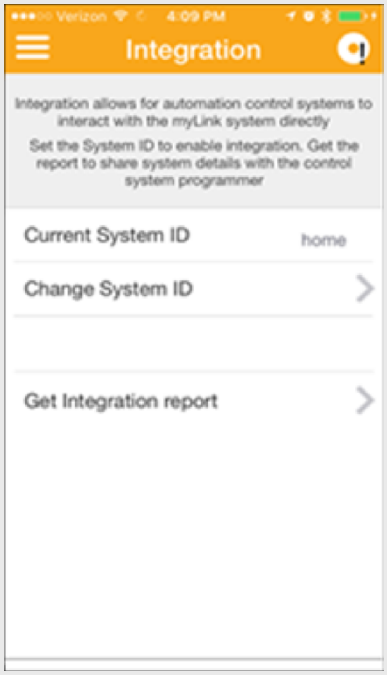
A fully operational SI Zigbee system is required with all shade and screen limits set (including the MY position if desired).

The Link Pro Z system must be fully operational and programmed using the Somfy TaHoma app.

The app must be used to assign shade's ID for identification within Control4 Composer Pro.

Any changes to number of motors, scenes, or smart plugs in the system will require update in system configuration in Composer Pro.

Compatible with ***Control4 processors running OS 2.6 and higher.***



Compatible with LinkPro Z and TaHoma with firmware 4.06 and higher, this driver set enables control of both RTS and ZigBee 3.0 screens and shades connected to a Link Pro Z or TaHoma from Control4.

The driver set includes two drivers: one gateway driver and one driver for screens/shades. The project may include as many gateways as needed, typically only one gateway for 74 Zigbee nodes is needed.

The project may contain one instance of the blind driver for each shade needing control. Select which gateway a shade driver is connected to using a property of the shade driver itself.

Integration With Zigbee via LinkPro Z

Download TaHoma App from Apple App Store or Google Play.

- Situo Remote on Your Phone
- Scalable
- Scenes and schedules
- Easy to program
- Local and remote access
- Easily add users

- Over the air firmware updates
- Integration Support
- Demo mode
- English, Spanish, and French
- Requires fully operation Zigbee installation w/ limits set

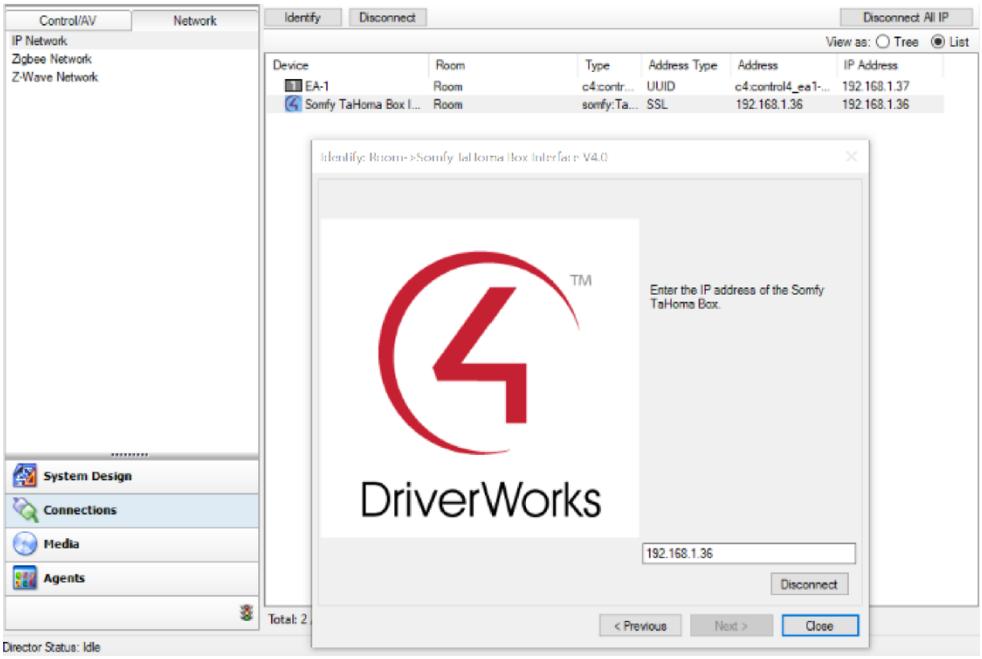
Step Process – Integration with Zigbee LinkPro Z

1. Open Composer Pro and connect to the appropriate Control4 processor.

2. Select the room from the “System Design” tab where the TaHoma or LinkPro Z will physically reside.

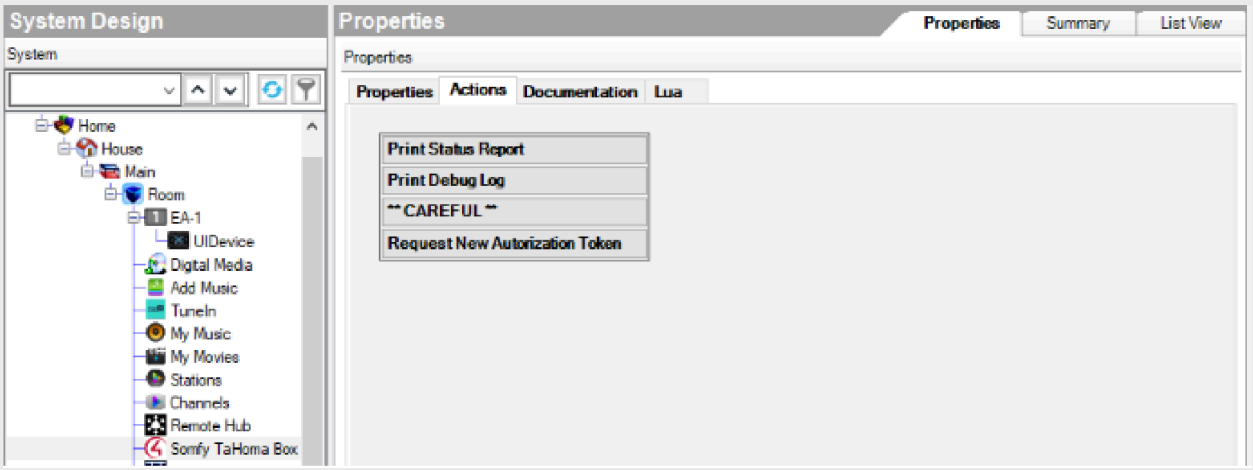
3. Select and double-click the Somfy TaHoma device from the “Discovered” tab of the “Items” column. This will add the device to the currently selected room. Rename the driver added to the selected room, as needed.
   This requires SDDP to be enabled in the TaHoma App.

4. With the new driver still selected, navigate to the “Connections” section, then click on the “Network” tab at the top of the column.
   Select the TaHoma driver and assign the correct IP Address for that device.



5. On the TaHoma mobile application open “Settings,” “Third Party Integration,” then “Control 4.” Click “Enable/Refresh” integrations to create the system integration token.

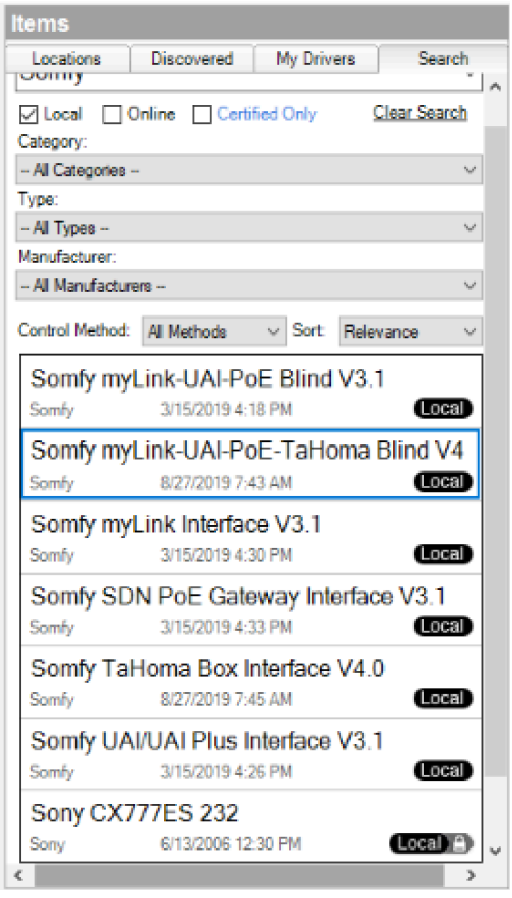
6. Return to the TaHoma driver under “System Design” in “Composer Pro” and open the actions tab. Press the “Request New Authorization Token” to finalize the bridge’s connection to the Control 4 system.



7. Navigate back to the “Items” column and select the “Search” tab; enter “Somfy” into the search bar and submit.

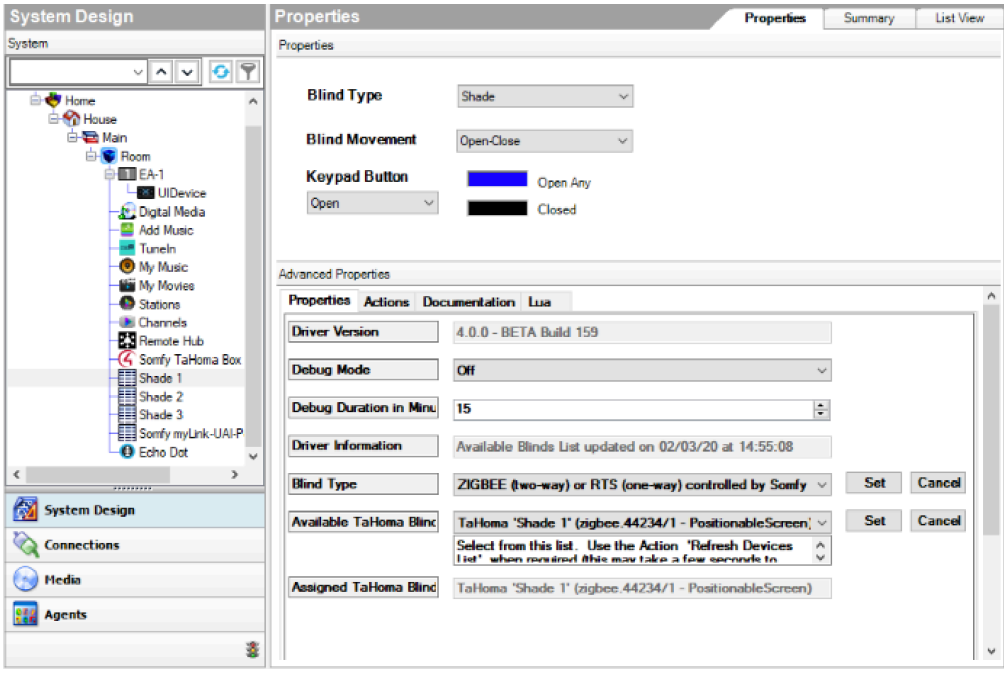
   Select and double-click the “Somfy myLink-UAI- PoE-TaHoma Blind V4” driver from the list.

   This will add the driver to the currently selected room. Rename the driver and change the location, as needed.

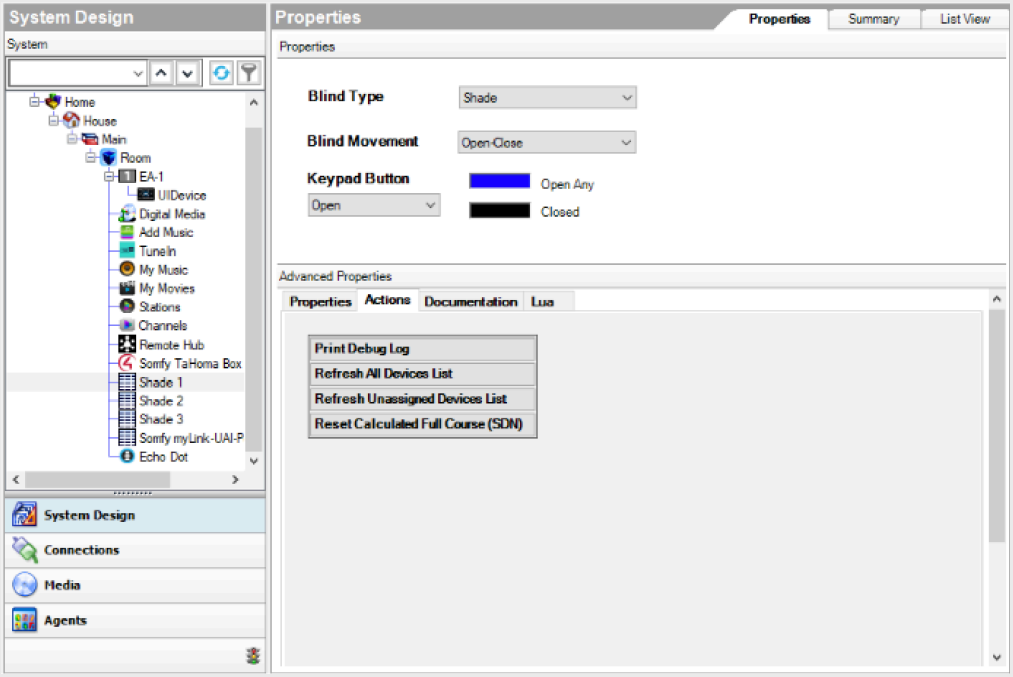


8. Select the newly added shade driver from the “System Design” column, then set the “Blind Type” value to “Zigbee” and choose the desired device or group from the “Available TaHoma Blinds” section under “Properties.”

   Click on the “Set” buttons to finalize the selections.



   a. If the shades do not appear automatically at this stage, switch to the actions tab under the blind driver and click “Refresh All Devices List.”



9. Double-click on the newly added shade in the “System Design” column to open the Control Panel for this device. From here, test the functions of the shade.

10. Finally, go to the “File” button at the top-left corner of the application and select “Refresh Navigators” from the Drop-down menu.

“SPECIAL UP DOWN STOP” CONNECTION

As of 2.10.4 (and, likely, earlier releases of Control4 OS), an issue with the Control4 blind proxy could generate unexpected (phantom) blind movements in installations with a number of blinds when the “toggle” keypad connection is used.

To circumvent this, a “Special Up Down Stop” connection is provided for the blind driver and may be used instead of the “toggle” connection but only if phantom blind movements are noticed in the installation. This connection has is more limited than the “toggle” connection as it cannot set the keypad button LED color and it does not cause a “stop” command to be issued if the button is pressed and held.

It is expected that the proxy issue will be corrected in a future release of Control4 OS.

485

485 via IP Gateway Drivers

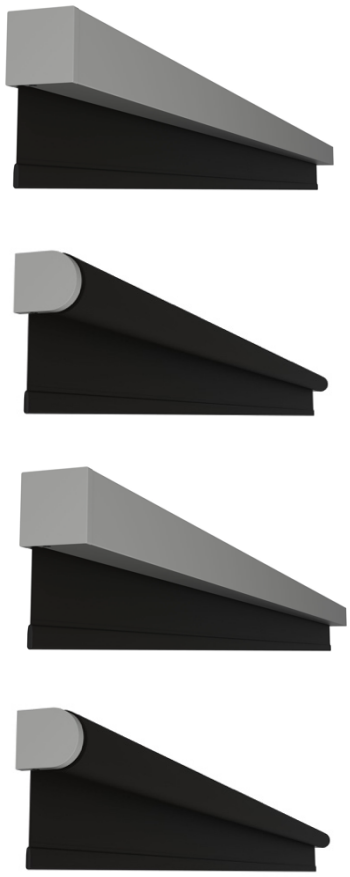
- Control4
- Crestron
- Crestron Home | OS 3
- ELAN
- Lutron
- RTI
- Savant
- URC

Before Integrating with 485

Requires a fully operational SI 485 system with all shade limits set (including the MY position if desired) and a fully commissioned TRO.Y.

TRO.Y

Janus Power Panel



SDN Nano
Box/Roll

485 via IP Gateway (TRO.Y)

Scan this QR code for accessing the extensive TRO.Y programming guide.

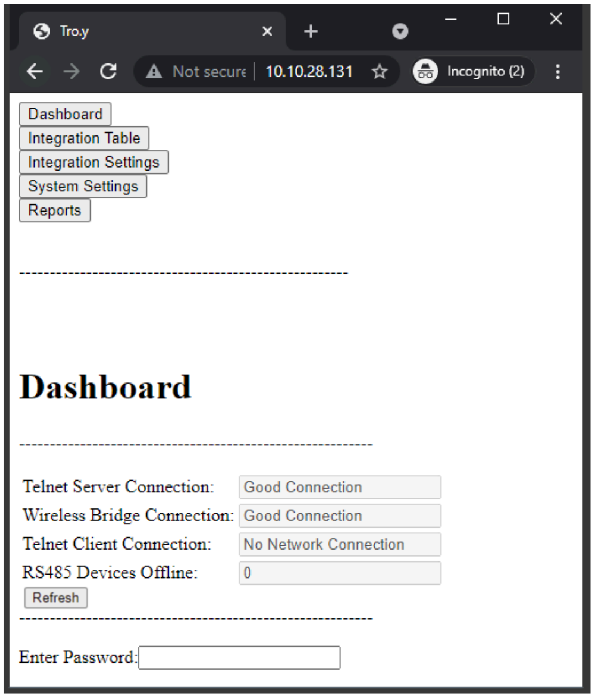
To locate the TRO.Y on your network, see pages 4–5 in the TRO.Y programming manual.

Open a browser and connect with the IP address of the TRO.Y and navigate to the “Integration Settings” button.

Enable Telnet server interface and enter TCP port username and password (default port is 23) for identification within Control4 Composer Pro.

Compatible with Control4 processors running OS 2.6 and higher, integration requires the Control4 Screen Innovations TRO.Y gateway, group, blind drivers, and requires SDDP to be enabled.

See driver details for more information.



Integration with 485 via IP Gateway (TRO.Y)

The TRO.Y 485 Gateway allows for commissioning and integrating a Somfy Digital Network™ (485) over Internet Protocol (IP).

Embedded motor commissioning software streamlines the 485 system configuration.

The TRO.Y 485 Gateway is also compatible with the Somfy Synergy™ API, and drivers from all popular home automation and control systems.

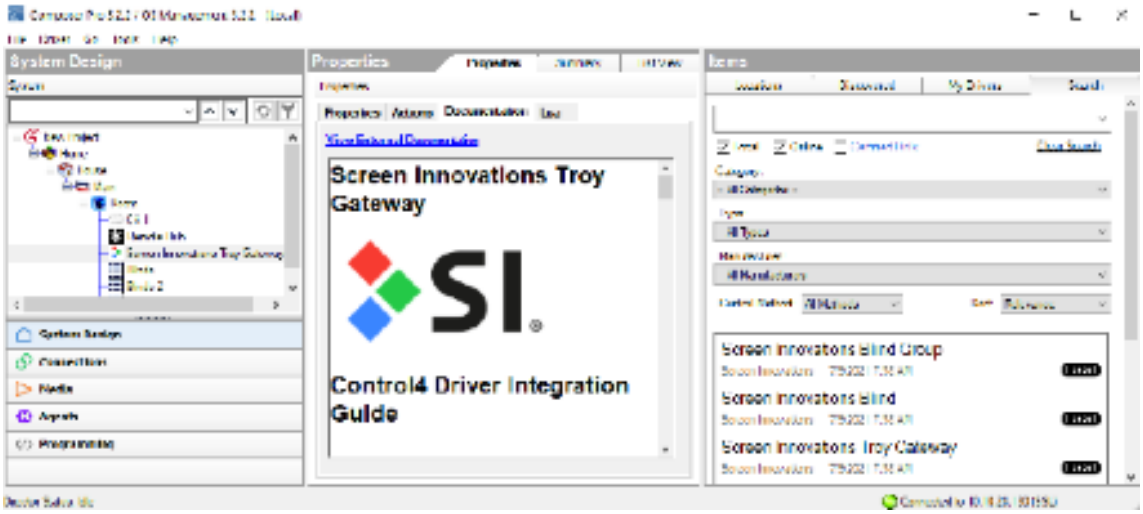
Step Process - Integration with 485 via IP Gateway (TRO.Y)

Installation

Three driver files are included in the release package:

- screeninnovation_troy_gateway.c4z
- screeninnovation_blind.c4z
- screeninnovation_blind_group.c4z

Copy these files from the zip package to your Control4 driver location (by default, this is Documents\Control4\Drivers). Open the Composer and choose the “Search” tab from the “Items” pane.



Add one instance of the Screen Innovations TRO.Y Gateway driver for each TRO.Y in the project, and one instance of the blind or blind group driver for each device for integration into Control4.

1. Copy the .c4z files from the zip package to your Control4 driver folder location (e.g., My Documents\Control4\Drivers) and then open Composer.

2. Add one instance of the Screen Innovations TRO.Y Gateway driver to the project.

3. Enter the gateway username and password using the driver properties.

4. Define the IP address of the gateway driver in the “Connections -> Network” pane.

5. Add as many instances of the “Blind and Blind Group” drivers to your project as needed to control.
    a. Choose the blind for each driver to control using the Blind Name property.
    b. If available, enter the blind’s travel time or use the Measure Travel Time action to automatically measure the travel time of the blind.

6. Refresh Navigators.

TRO.Y Gateway Configuration

The gateway driver provides all communication with the Screen Innovations system. Only one instance of this is required in the project for each TRO.Y. It is responsible for discovering all blinds attached to the gateway and communicating this to the companion blind/group drivers. This allows the Control4 installer to easily access the system by simply associating a discovered blind (from the gateway) with an instance of a blind driver; no manual entry of names/serial numbers is required.

Properties

Driver Version – Reports the current version of the driver.

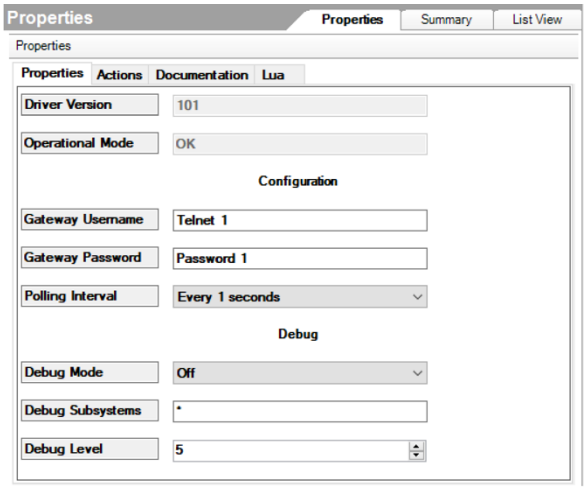
Operational Mode – Reports the current operational mode of the driver.

Gateway Username – Enter the username used to connect to the TRO.Y gateway device.

Gateway Password – Enter the password used to connect to the TRO.Y gateway device.

Polling Interval – Choose how often the driver should poll a device in the system. The driver maintains a connection to the gateway and receives asynchronous notifications from the blinds, so polling is only needed during initial startup and as a safety mechanism to ensure the system stays in sync. A shorter period results in faster initial synchronization.

Debug – For support use



Actions

Discover Devices – Interrogate the TRO.Y gateway to discover any devices that have not been identified on the Control4 system. This happens automatically at start-up but can be useful if the Screen Innovations system has been modified during runtime.

Blinds/Blind Group Configuration

The Screen Innovations Blind and Blind Group drivers include all the expected controls, variables, and events from the Control4 Blind proxy, including configurable level bindings.

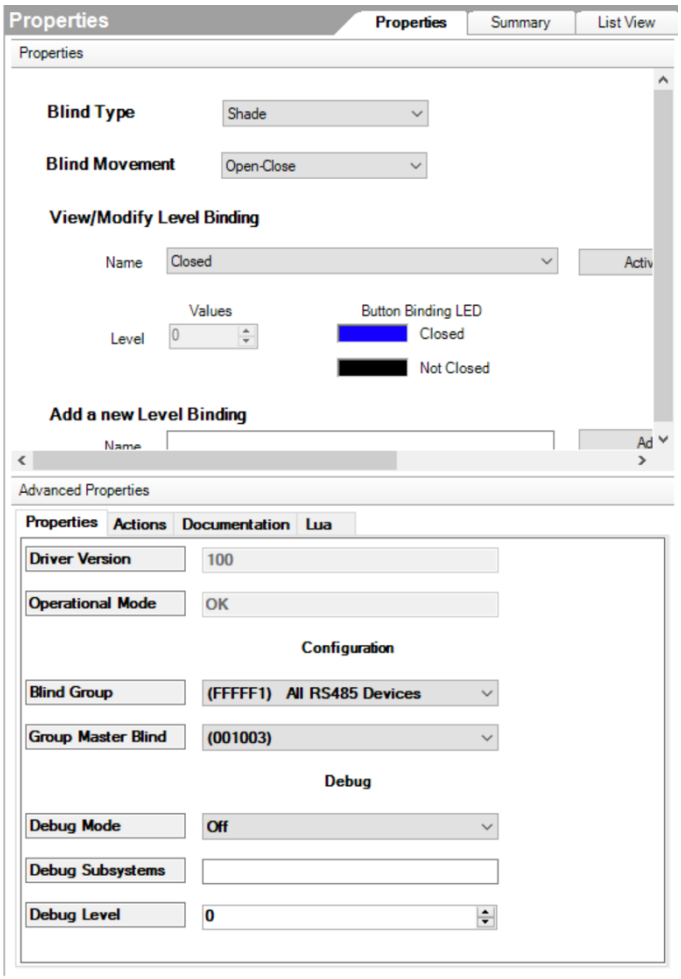
For blind devices which support feedback, control the level of the blind with a slider or use the open/close/stop/toggle buttons available.

For blinds which do not support feedback, only the open/close/stop buttons will be available from the Control4 UI, with no level shown.

The Control4 interface is automatically configured by the driver according to the blind selected in the driver properties (this contains all necessary configuration information retrieved automatically from the gateway).

The only manual setup required is to measure (or enter) the blind travel time; this is required so that the animation on the Control4 UI can approximate blind movement.

On larger systems, and with certain types of blind, the measurement process may be inaccurate to the nature of how the blind reports its position. In this case, it is possible to enter a value (in seconds) into the driver property.



Properties

Driver Version – Reports the current version of the driver.

Operational Mode – Reports the current operational mode of the driver.

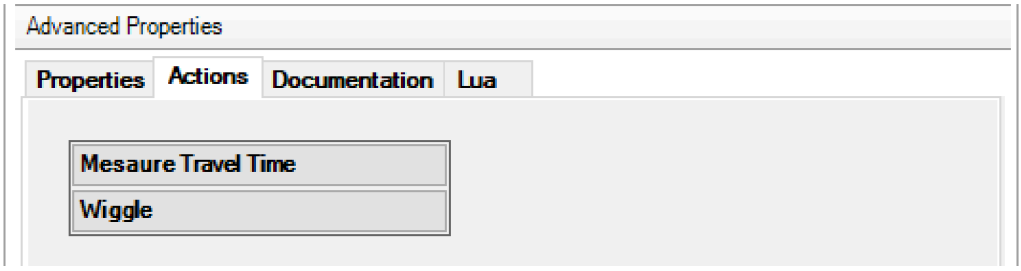
Blind Name / Group – Select the blind or group that this driver should control.

Group Master Blind – For the blind group driver only, select the blind device that should be used for the feedback displayed to the UI. If no feedback is desired, select "None (No Feedback)."

Travel Time (seconds) – Enter the time it takes for the blind to travel from fully open to fully closed, which is used to update the display smoothly for devices with feedback. The driver can measure this automatically using the "Measure Travel Time" action.

Debug – For support use only.

Actions



Measure Travel Time – Automatically opens and then fully closes the controlled blind, while measuring the time this takes. The resultant time will be set to the "Travel Time (seconds)" property.

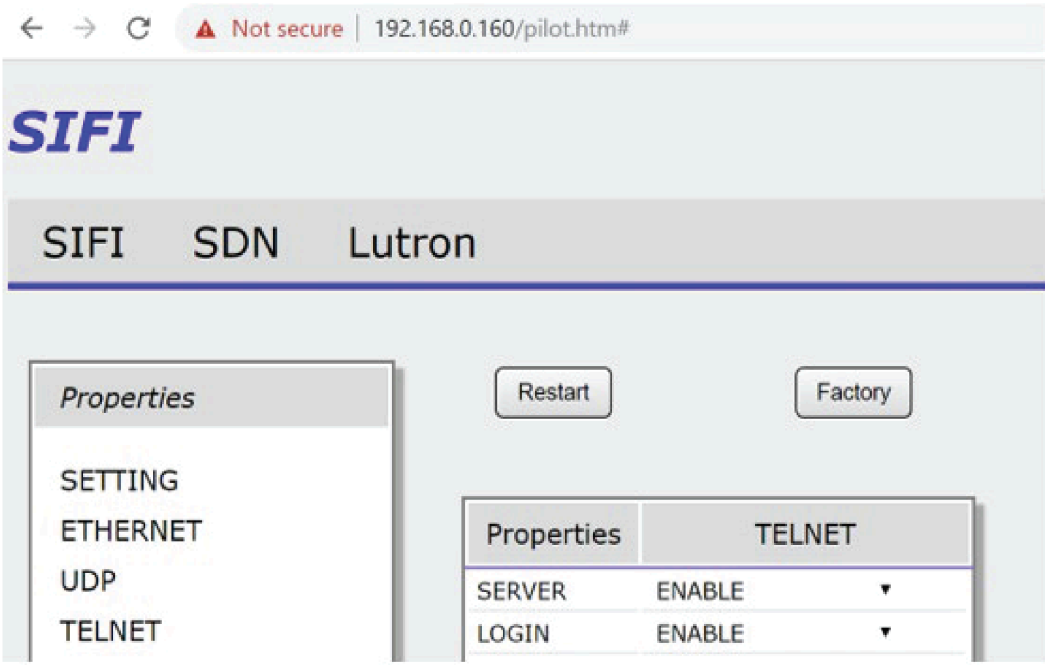
Wiggle – Move the controlled blind slightly up and down in succession. Can be useful for identifying or confirming the controlled blind.

Troubleshooting

Known Issues
When changing the controlled blind of a driver from one that supports level feedback to one that does not (or vice-versa), refresh the navigators to update the controls available on the iOS app.

Note: As mentioned in the "Before Integrating with 485" section of this document, and before any attempts to integrate TRO.Y, the 485 system will need to be completely setup including the Telnet Username and password Information.

485 via IP Gateway (SIFI / UAI+)



Open a browser and connect with the IP address of your SI.FI / UAI+ and navigate to the "TELNET" tab. This telnet username and password is required for identification within Control4 Composer Pro.

Compatible with Control4 processors running OS 2.6 and higher Integration requires both the Control4 myLink driver and blinds driver SDDP enabled. See driver details for more information.

Integration with 485 via IP Gateway (SIFI / UAI+)

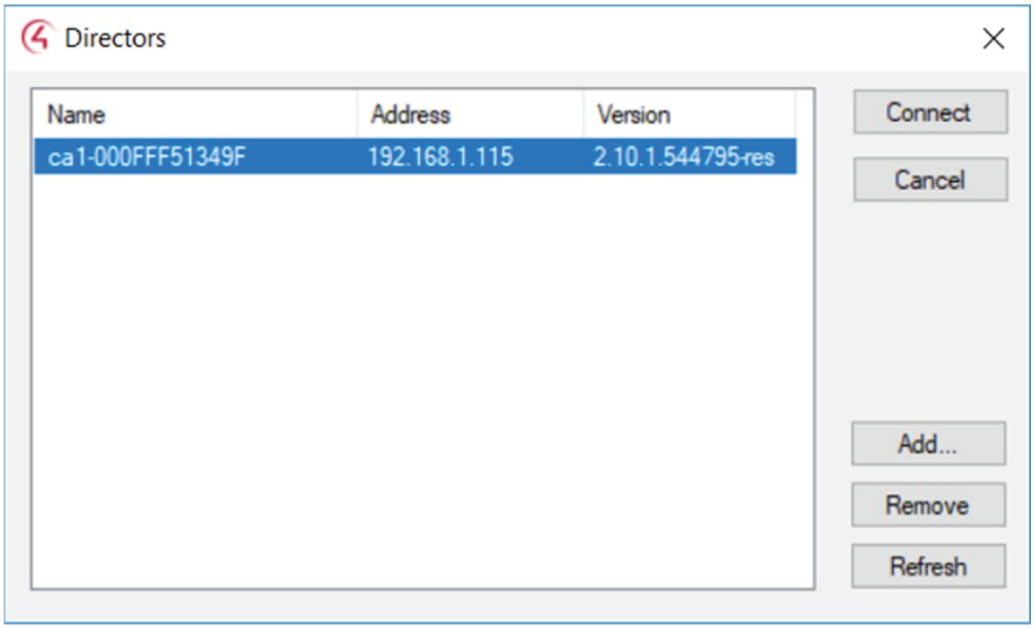
The SI.FI / UAI+ 485 Gateway allows for commissioning and integrating a Somfy Digital Network™ (485) over Internet Protocol (IP).

Embedded motor commissioning software streamlines 485 system configuration.

The SI.FI / UAI+ 485 Gateway is also compatible with the Somfy Synergy™ API and drivers from all popular home automation and control systems.

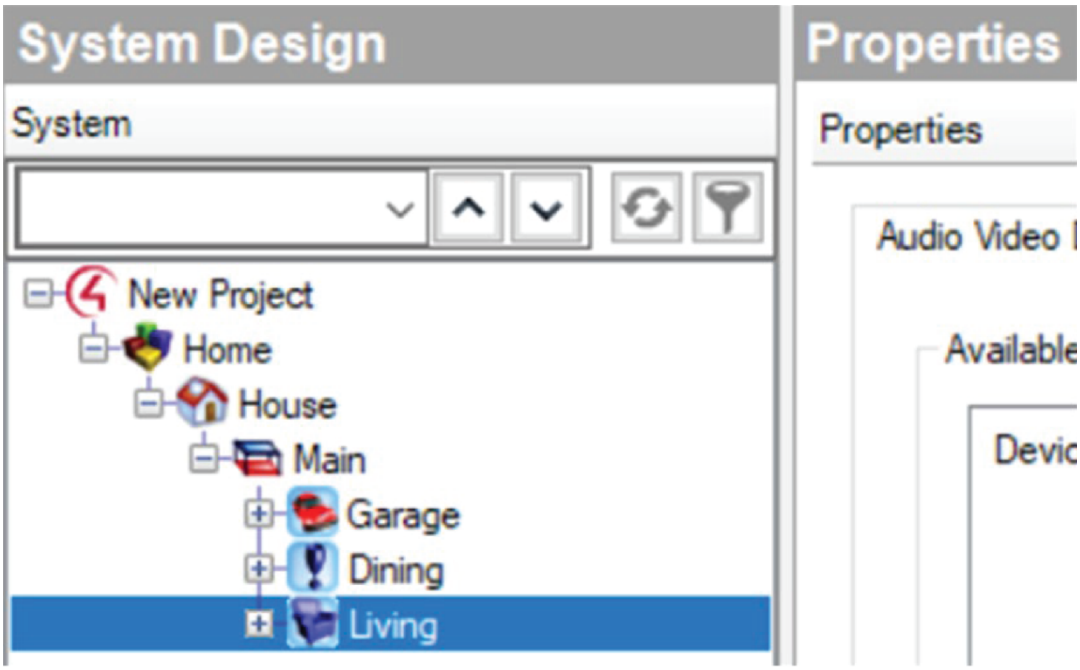
Step Process – Integration with 485 via IP Gateway (SIFI / UAI+)

1. Open Composer Pro and connect to the appropriate Control4 Controller.

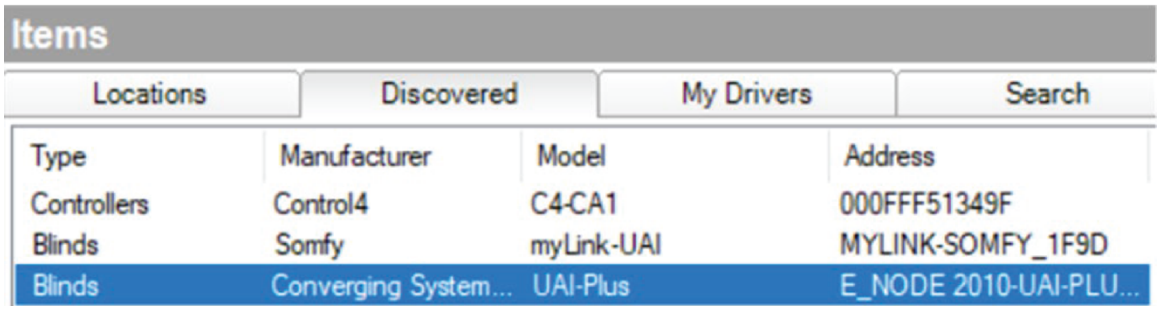


2. Select the room from the “System Design” column that the UAI+ will physically reside.

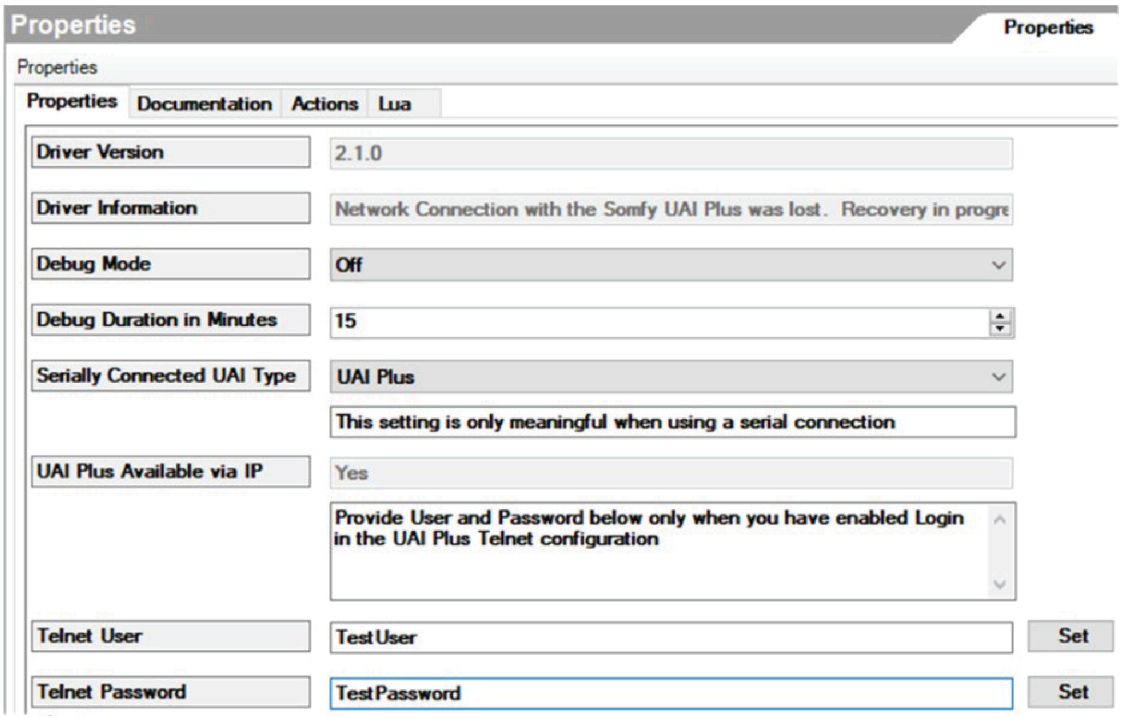
3. Select and double-click the Somfy UAI-Plus device from the “Discovered” tab of the “Items” column.



This will add the device to the currently selected room. Rename the driver added to the selected room, as needed.



4. Select the converging systems UAI+ Driver and enter the “Telnet User” and “Telnet Password” in the Properties column and then click on the “SET” button to finalize.



5. With the new driver selected, navigate to the “Connections” section of the “System Design” column, then click on the “Network” tab at the top of the column.

   Select the Somfy UAI/UAI Plus Driver and assign the correct IP Address for that device.

6. With the new driver still selected, navigate back to the “System Design” section.

   At the top of the “Properties” column, select the “Actions” tab and click on the “Print Status Report” button.

   Navigate to the “Lua” tab and review the “Lua Output” message:
   Controller IP address: [IP Address entered in Step #5] Communicating: true

7. Navigate back to the “Items” column and select the “Search” tab, enter “Somfy” into the search bar and submit.

   Select and double-click the “Somfy myLink-UAI Blind V2.1” driver from the list. This will add the driver to the recently added Somfy device.

Rename the driver added to the selected room as needed.

8. Select the newly added room driver from the “System Design” column, then set the “Blind Type” value to “485” and choose the desired device from the “Available Blinds” section in the “Advanced Properties” section of the “Properties” column.

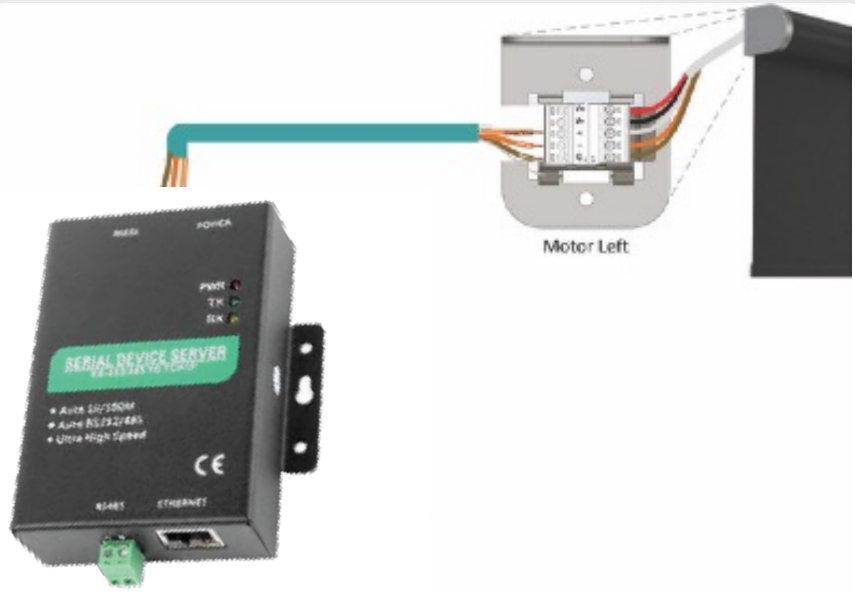
   Click on the “SET” buttons to finalize the selections.

9. Double-click on the newly added Connect UAI+ device in the “System Design” column to open the Control Panel for this device. From here you can test the functions of the Connect UAI+ Device.

10. Finally, go to the “File” button at the top-left corner of the application and select “Refresh Navigators” from the drop-down menu.

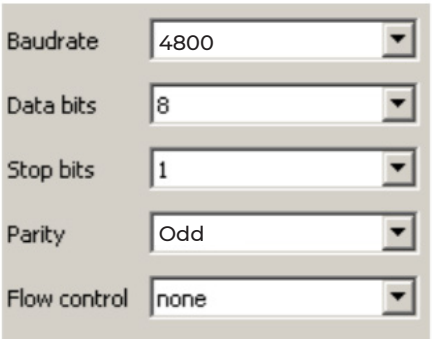
    Note: As mentioned in the “Before Integrating with 485” section of this document, and before any attempts to Integrate the Connect UAI+ products, the 485 system will need to be completely setup including the Telnet Username and Password Information.

Controlling a 485 Shade or Screen without an IP Controlled Gateway and with Serial Converter (such as Sainsmart NCSI)?



Controlling a 485 shade without an IP controlled gateway is possible but requires more expertise and service to simplify programming and lessen maintenance.
Ensure the 485 screen or shade is fully commissioned with all limits set before beginning any direct control. It is not necessary to have a permanently installed 485 gateway, but all limits with an IP Gateway or a hard-wired limit setting tool, Decoset, or USB to 485 Programming Kit must be set.

NCSI Terminal Block		SI Screen / ShadeTerminal Block
Not connected	485 Ground* (Optional)	G
B	485 -	-
A	485 +	+



Next, download the free 485 String Calculator to generate the HEX control strings to allow for all controls and status feedback. This software is free and available at the URL below.

https://files.screeninnovations.com/Downloads/Software/ccsetup_1.4.msi.zip

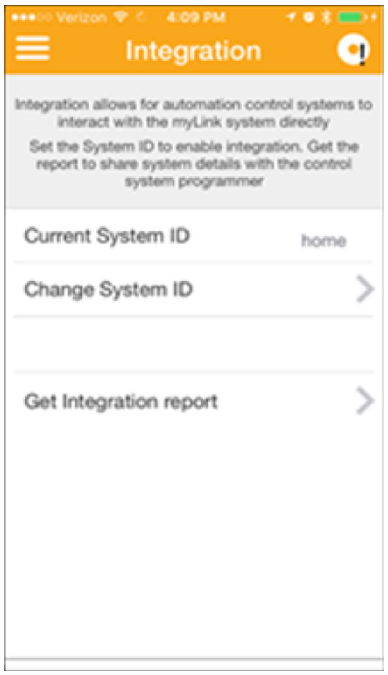
RTS via myLink Deployment (Archived)

RTS via MyLink Drivers

- Amazon Alexa
- Control4
- Crestron
- ELAN
- IFTTT
- RTI
- Savant
- URC

Before Integrating with RTS

A fully operational SI RTS system is required with all shade/screen limits set (including the MY position if desired) and at least one SI RTS transmitter.



The myLink system must be fully operational and programmed with all desired RTS channels using the Somfy myLink app.

The app must be used to assign a system ID for identification within Control4 Composer Pro.

Any changes to number of channels, scenes or myLinks in the system will require update in system configuration in Composer Pro.

Compatible with Control4 processors running OS 2.6 and higher.

Compatible with Link Pros, myLinks, and legacy myLinks running firmware 4.06 and higher.

Integration requires both the Control4 myLink driver and blinds driver. See driver details.

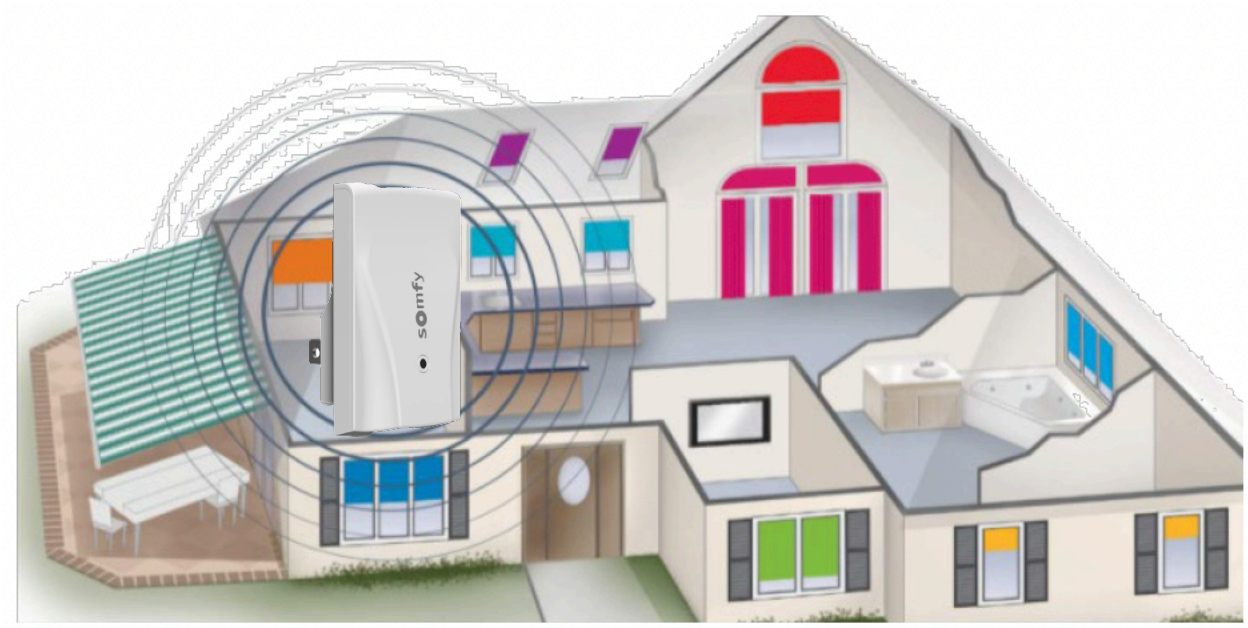
Integration with RTS

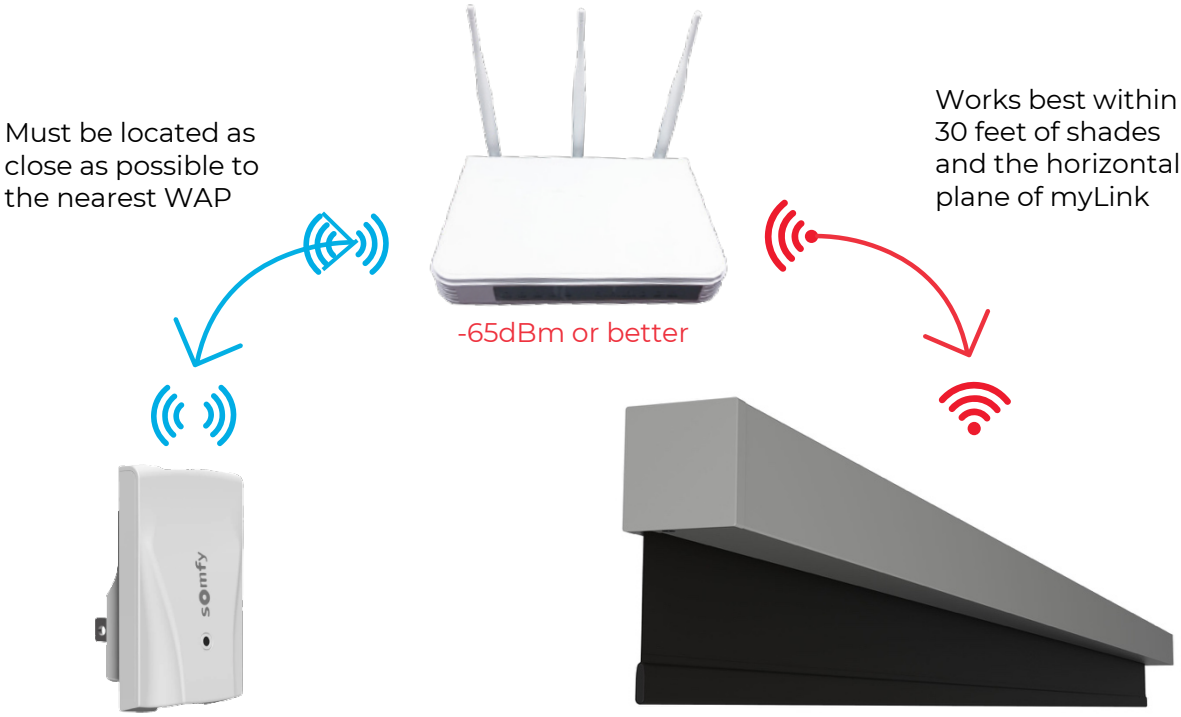
Download myLink App from Apple App Store or Google Play.

- Telis Remote on Your Phone
- Scalable
- Scenes and schedules
- Easy to program
- Local and remote access
- Easily add users

- Over-the-air firmware updates
- Integration support
- Demo mode
- English, Spanish, and French
- DOES NOT set limits or “copy and paste” new transmitters
- Requires fully operational RTS installation with limits set and at least one programmed RTS transmitter.

WIFI and RTS Device Range



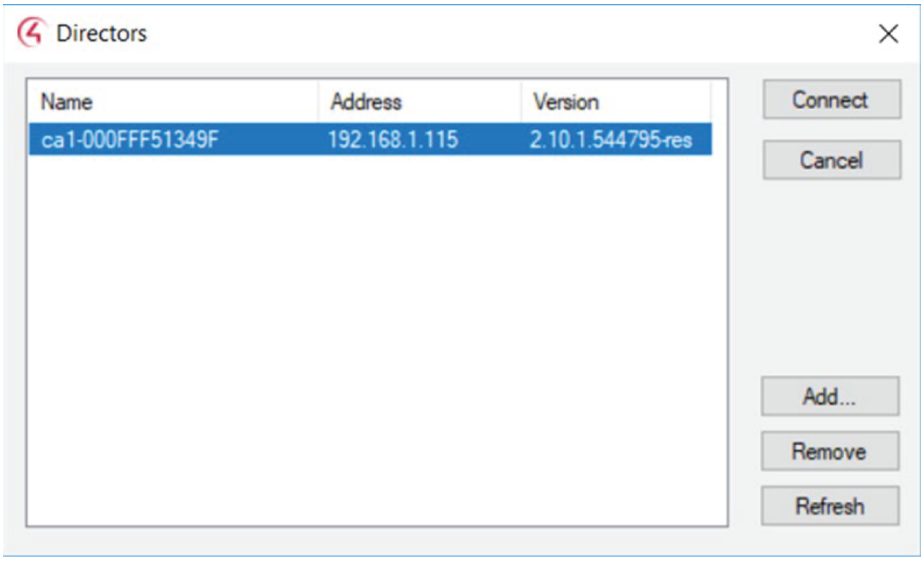


Step Process – Integration with RTS via MyLink

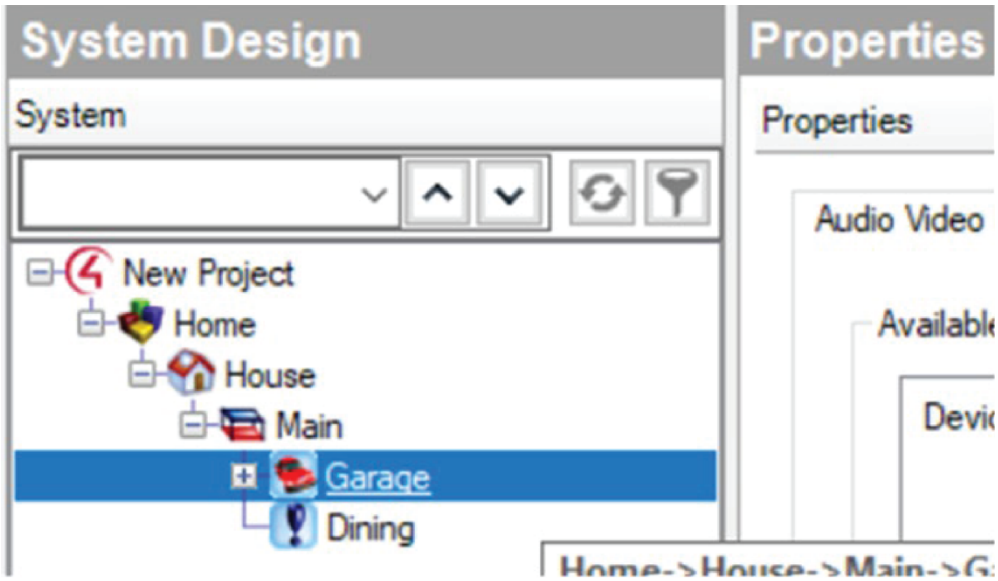
Ten steps to Integrate myLink with Control4

Before you begin, please download the latest drivers from our site;
https://www.screeninnovations.com/accessories/linkpro-z/

1. Open Composer Pro and connect to the appropriate Control4 Controller.

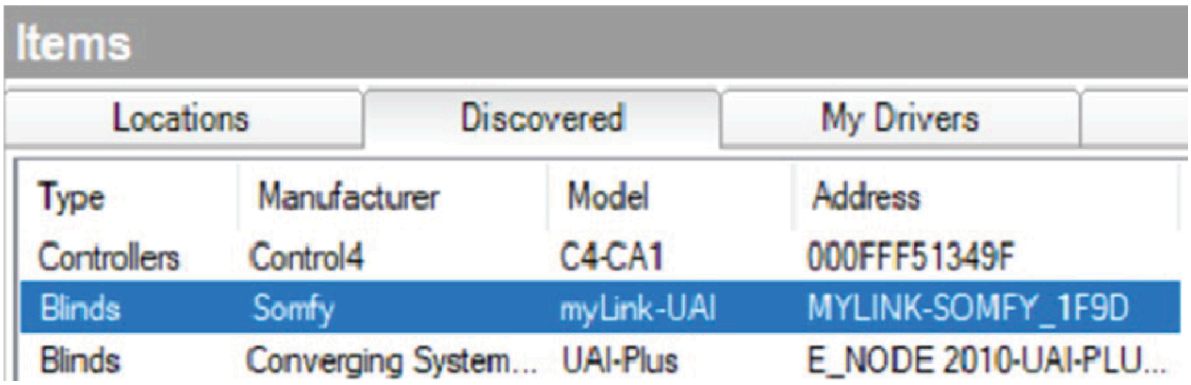


2. Select the room from the “System Design” column where the myLink will physically reside.



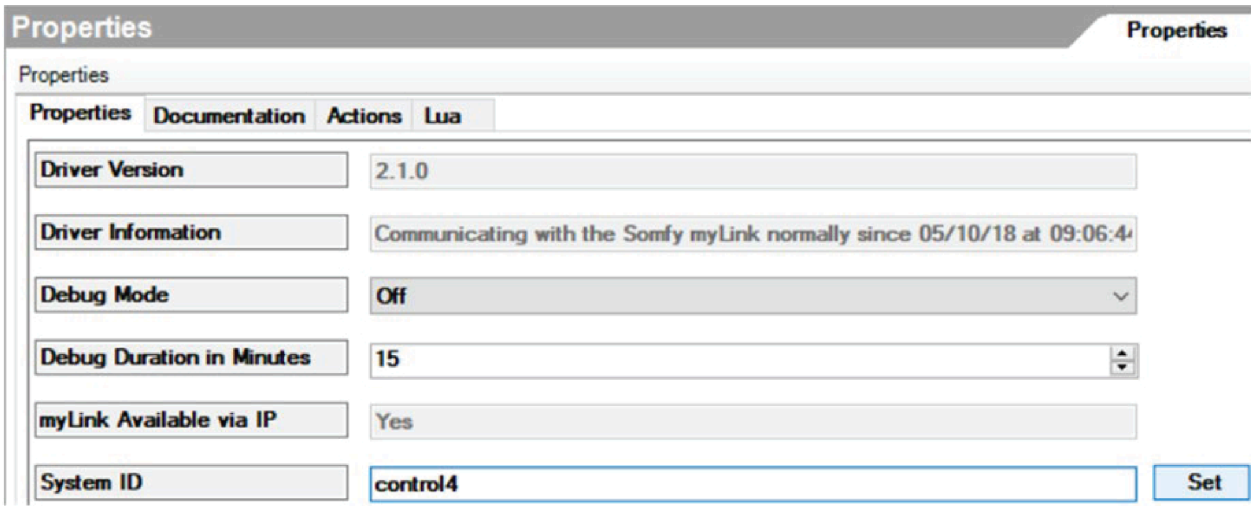
3. Select and double-click the Somfy myLink device from the “Discovered” tab of the “Items” column. This will add the device to the currently selected room.

   Rename the driver added to the selected room, as needed.



Requires SDDP to be enabled in the myLink App Integration with RTS Via LinkPro Z.

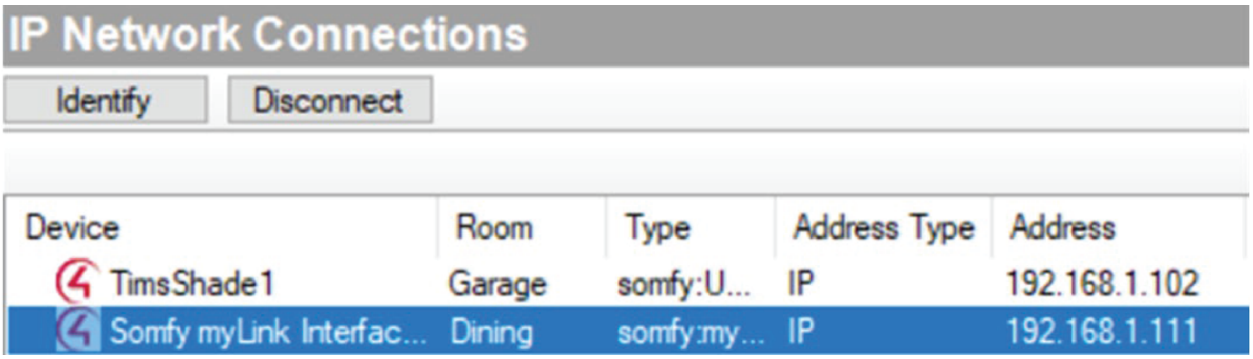
4. Select the myLink Driver and enter the “System ID” under the Properties menu of the Properties column and then click on the “SET” button to finalize.



5. With the new driver selected, navigate to the “Connections” section of the “System Design” column, then click the “Network” tab at the top of the column.

   Select the myLink driver and assign the correct IP address for that device.

   The myLink IP address can be found in the myLink Integration Report.



6. With the new driver still selected, navigate back to the “System Design” section of the “System Design.”

   At the top of the “Properties” column, select the “Actions” tab and click on the “Print Status Report” button.

   Navigate to the “Lua” tab and review the “Lua Output” messages. If communication is successful, you will see the following message:
   Controller IP address: [IP Address entered in Step #5] Communicating: true

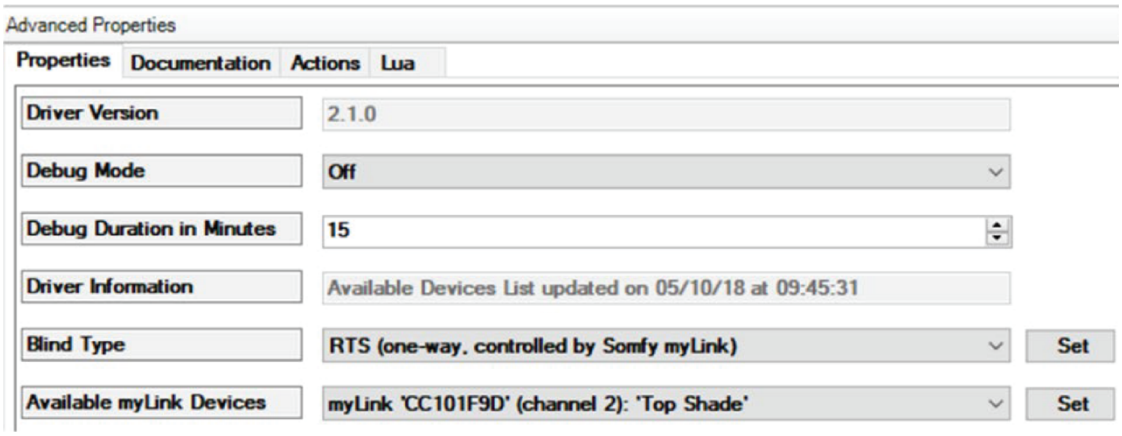
7. Navigate back to the “Items” column, select the “Search” tab, enter “Somfy” into the Search bar, and submit.

   Select and double-click the “Somfy myLink-UAI Blind V2.1” driver from the list. This will add the driver to the recently added Somfy Device.

   Rename the driver added to the selected room, as needed.

8. Select the newly added Room Driver from the “System Design” column, then set the “Blind Type” value to “RTS” and choose the desired Device from the “Available myLink Devices” section in the “Advanced Properties” section of the “Properties” column.

   Click on the “SET” buttons to finalize the selections.



9. Double-click on the newly added myLink device in the “System Design” column to open the Control Panel for this device. From here you can test the functions of the myLink device.

10. Finally, go to the “File” button at the top-left corner of the application and select “Refresh Navigators” from the drop-down menu.

Note: As mentioned in the “Before Integrating with RTS” section of this document, and before any attempts to Integrate myLink products, the RTS system will need to be completely setup— including the System ID and PIN— and paired to the RTS Devices that you want to control.

Integration FAQ

Should I choose 2.4GHz or 5GHz for myLink?

- Choose 2.4GHz if the home construction is concrete, or multi-floor, or stucco walls.
- Choose 5GHz if the home is a single floor, has no concrete or stucco walls, and if the project has a high noise floor at 2.4GHz or many other networks such as Zigbee or large 2.4 WiFi deployments. For more information on this please consult with the RTSDESIGN GUIDE available at www.screeninnovations.com

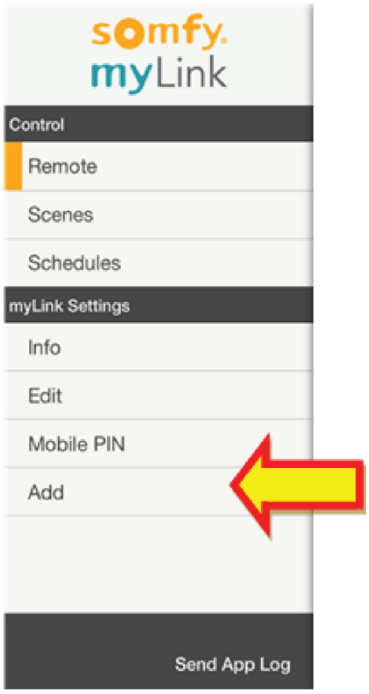
Which SI Shade/screen products can I control with Control4?

All SI Shade/screen products including Nano, Zen 2, can be controlled with Control4

Which ports are needed for myLink control on my network?

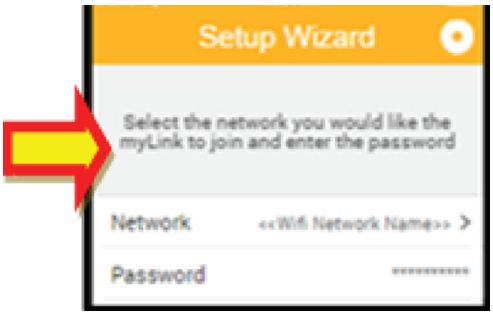
- 55050
- 44040
- 40045
- 20000
- 44100
- 44200
- 1902

How do I update a myLink Network Settings to match my Control4?



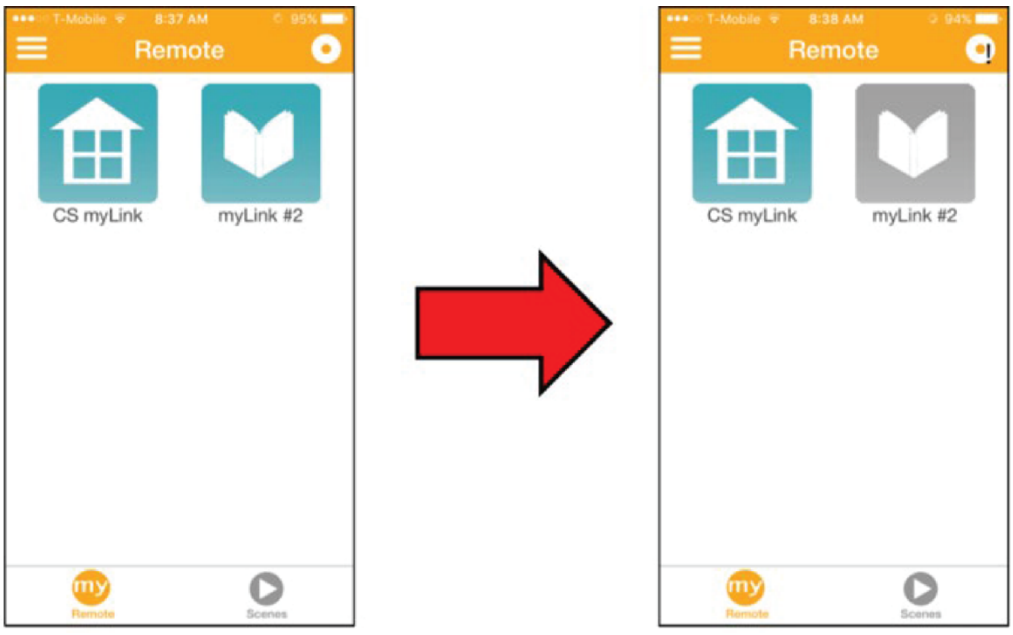
In the myLink App, open the Menu.

1. Select ADD under “myLink Settings.”
2. Follow the instructions shown on the device to connect to myLink.



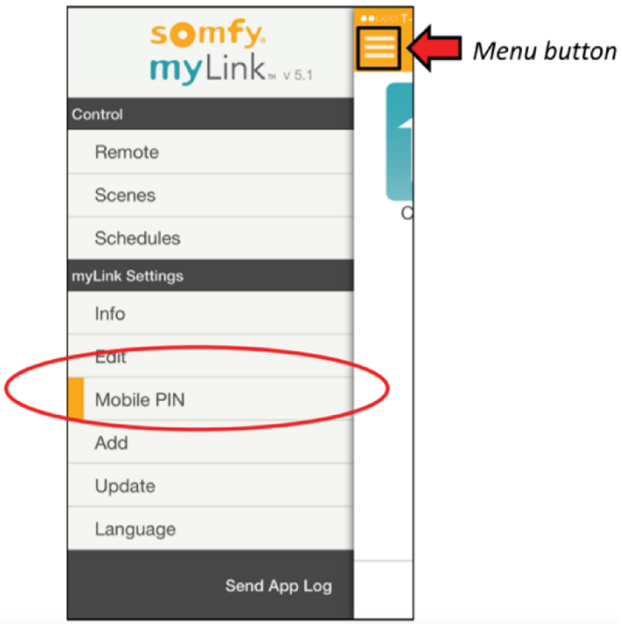
3. After selecting “Search for myLink,” select the network and current password for the network.
4. Once the auto configuration steps are finished, “Erase” or “Continue” will populate.
5. Select “Continue,” then the icon for current myLink device will appear.
6. Select “Next,” then all current channels will appear.
7. Finally select “Done” as all programming is still exists.

Once the first LinkPro Z has been successfully added, repeat the process to add the rest of the LinkPro Zs.



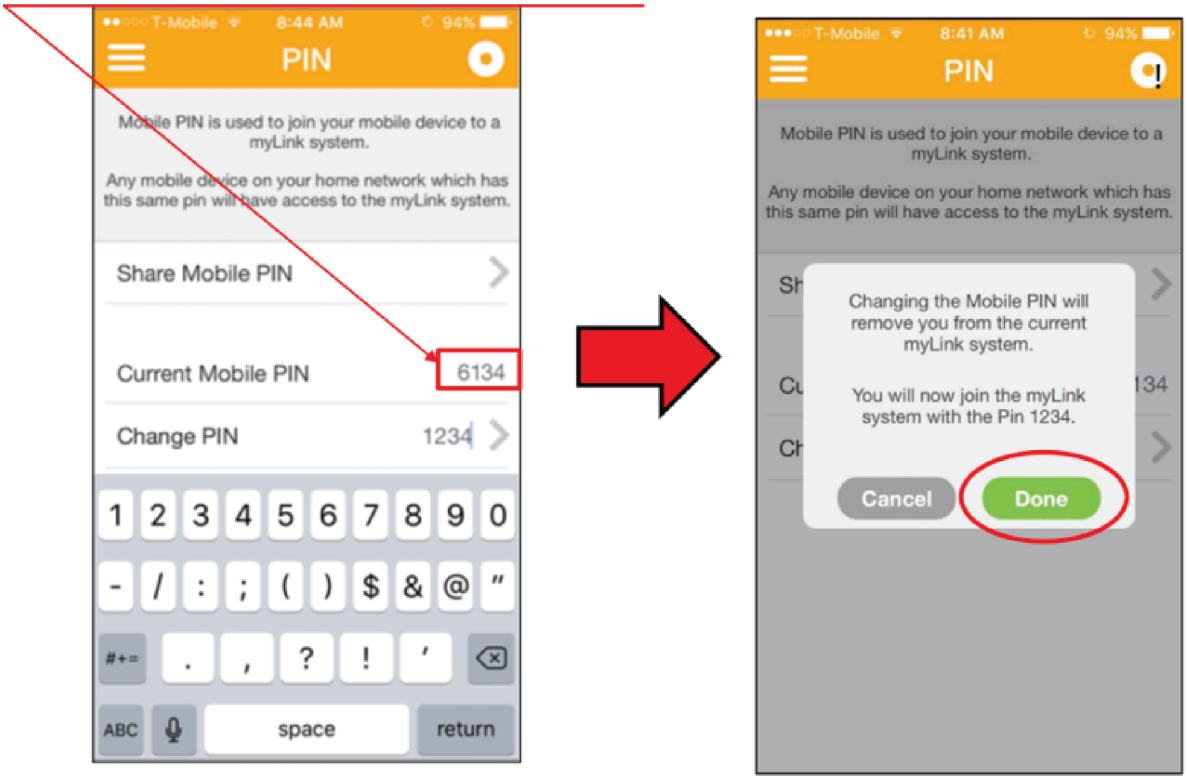
How can I delete a myLink from the myLink app?

1. Unplug myLink, and the Icon for it will go from blue to gray.
2. Click the menu button and select “Mobile PIN.”

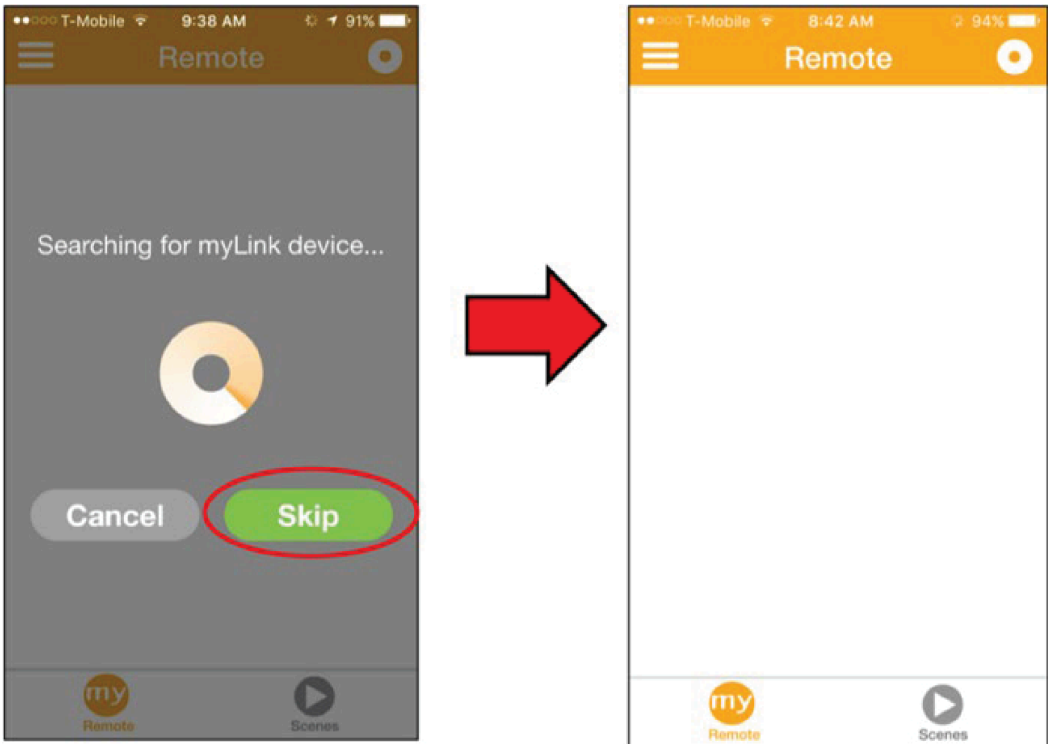


3. Under “Change PIN,” enter a random 4-digit number and select return. Then select “Done.”

NOTE YOUR CURRENT MOBILE PIN



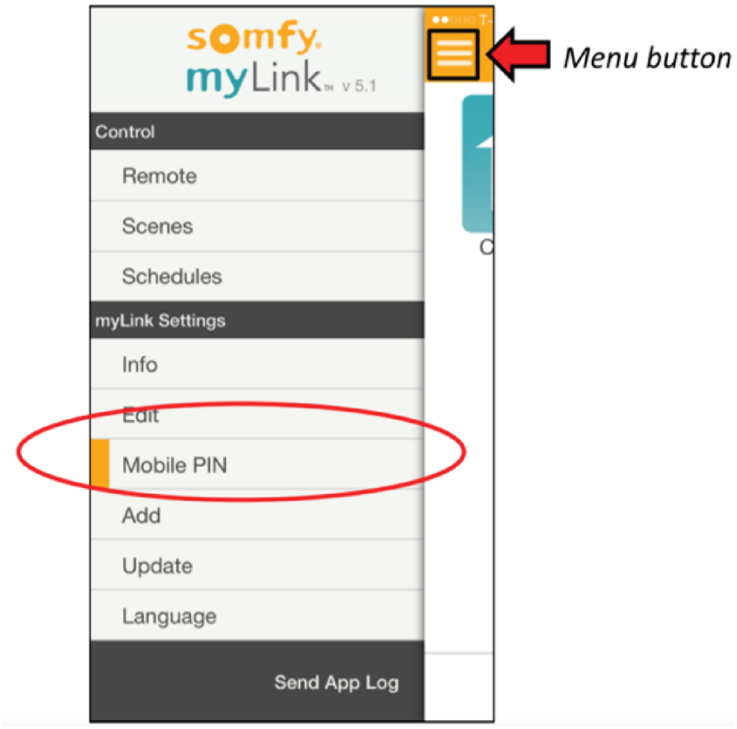
4. Select “Skip” then a blank page will appear.



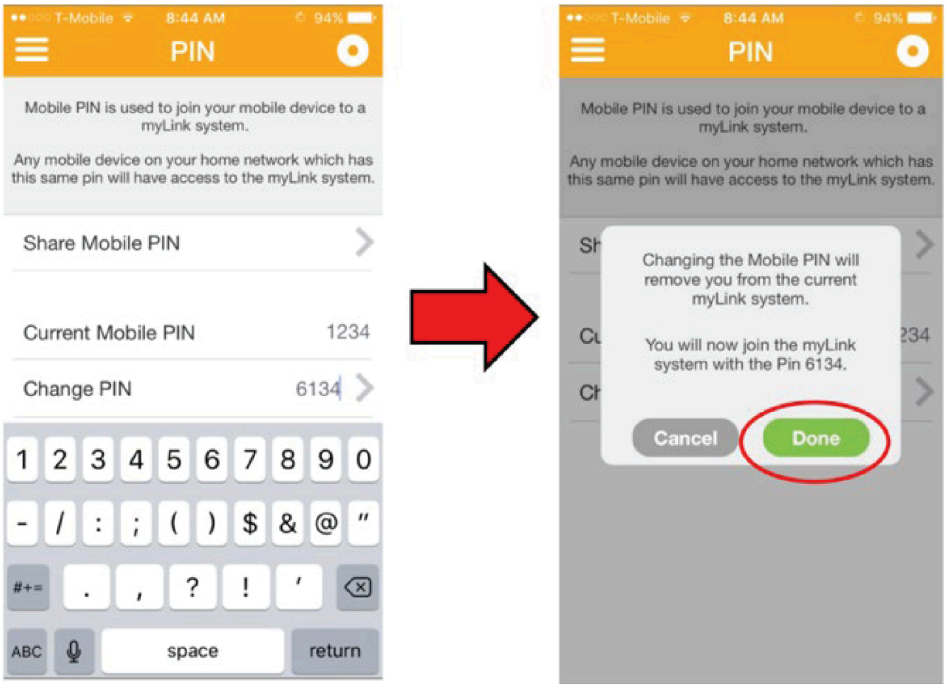
5. Click “Menu,” select “Mobile PIN.”

6. The current mobile pin is now the different number just entered Under “Change PIN.”

   Enter the previous 4-digit PIN, and then hit return.



7. Then select “Done,” “Skip,” then a blank Remote page will appear.



8. After selecting “Done,” only active myLink devices are listed.

Screen Innovations Integration Support

Can't find the answer to your design questions in this Tech Note? Our support team will help you with the problem you're having.

Call us at 512-832-6939.

Office Hours: Monday - Friday (8am - 6pm).

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