

# **TRO.Y**

## Installation Instructions



DOC.#400142





Once you finish the install, please go to <https://support.screeninnovations.com/accessories/troy/>, or scan the QR code for the programming manual or other resources.

Thank you for purchasing an SI product. If you have any questions or need any assistance with your TRO.Y, we would love to help you.

**Technical Support:** 512.832.6939

**Hours of Support:** 7:30am - 5pm CST

[screeninnovations.com](https://screeninnovations.com)

[screensupport@screeninnovations.com](mailto:screensupport@screeninnovations.com)

[shadesupport@screeninnovations.com](mailto:shadesupport@screeninnovations.com)



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# INTRODUCTION - TRO.Y

TRO.Y is an IP Control gateway that allows 3rd party integration with 485 shades via PoE and RS232. Also TRO.Y allows advanced control options for all shade types including RTS and Zigbee via its TLS encrypted link. Compatible wireless controllers include LinkProZ and TaHoma. Another feature allows TRO.Y to use handheld remotes and keypads to control any shade types using super groups.

## Features

- Embedded commissioning software
- 485 programming
- Powered via PoE
- 4 segmented 485 bus line
- Single integration point for third-party automation systems over IP or RS232
- Compatible with SDN 2.0 (485)
- Works with Somfy Synergy™ API
- Advanced Lutron compatibility
- Din Rail mounting capability

# INITIAL CONSIDERATIONS

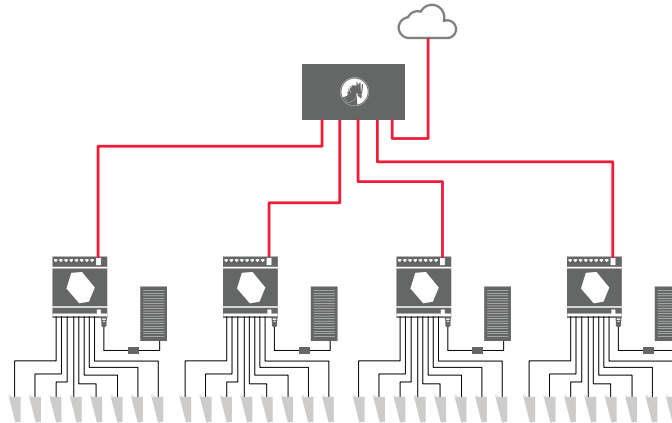
Thank you for your purchase of TRO.Y.

This is designed to be installed indoors, Rack or Din mounted. Should be mounted in close proximity to the Janus units not exceeding 200' for each port(refer to pg. 9 for more info.).

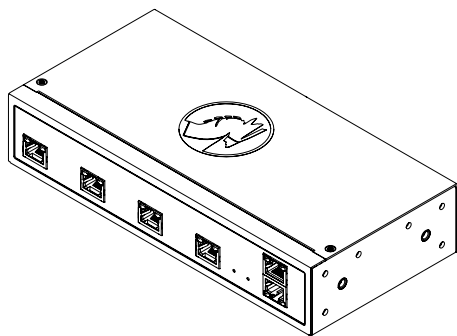
TRO.Y has 4 485 ports, in order to segment and improve 485 bus. When deploying the shades where ever possible its a best practise to divide the shades into 4 segments. This will improve performance and lower latency on commands.

## For example:

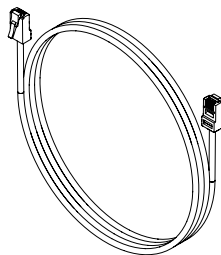
With 32 shades, and 4 Janus units, the preferred method of wiring is 1 Janus per port or 8 shades per port.



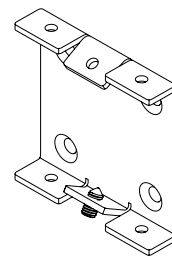
# PARTS IN THE BOX



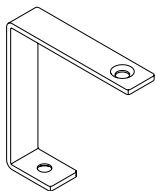
Troy



(1) CAT5e



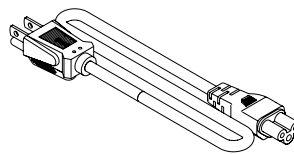
Universal DIN Rail Bracket (2)



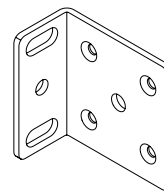
Rack Mount Fascia



(1) 48v Passive PoE  
Injector - Brick

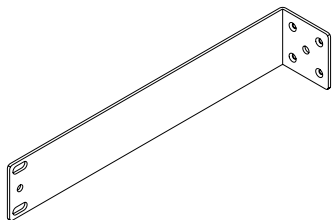


(1) Injector Power  
Cable

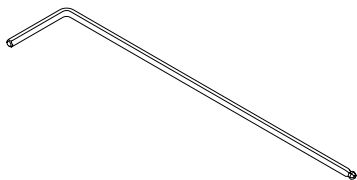


Universal Rack Ears (2)

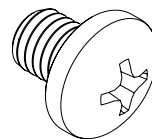




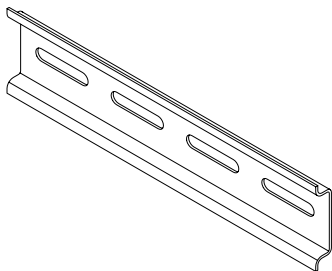
Long Rack Ear



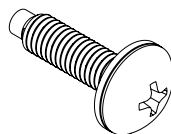
1.5 mm Hex Tool



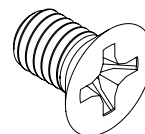
DIN Rail Screws (2)



Universal DIN Rail



Rack Mount Screws (4)

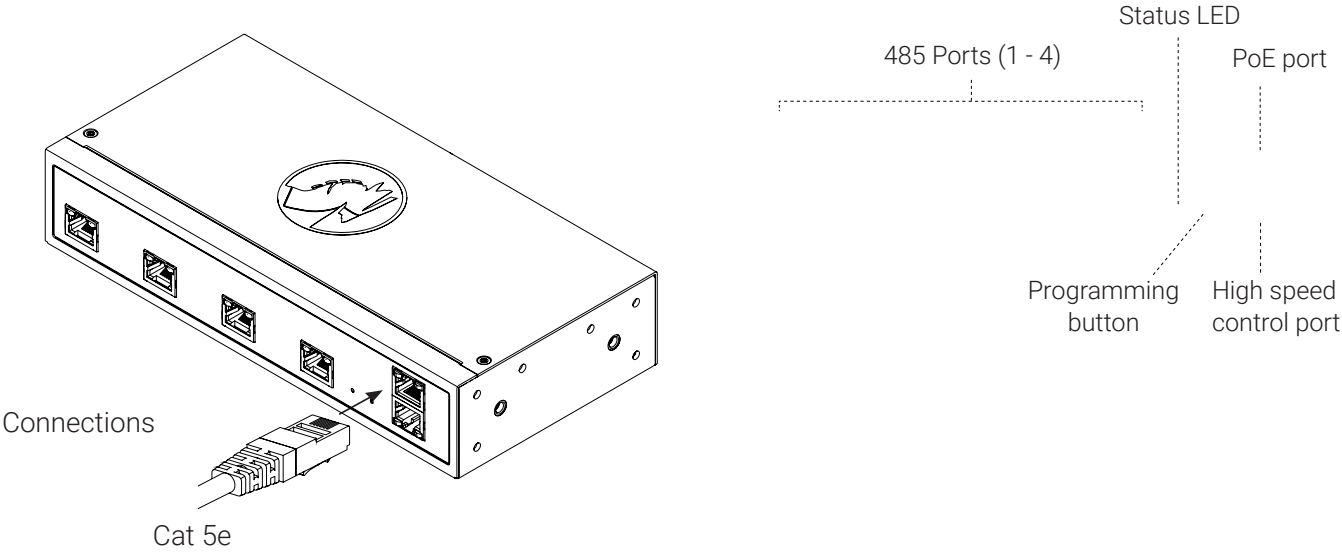


Universal Mounting  
Screws (10)

# INSTALLATION - CONNECTIONS

## Connecting Power

TRO.Y uses PoE for Power: Connect to PoE switch or included power injector.  
(PoE 802.3 - compatible with all versions of PoE AT/BT)



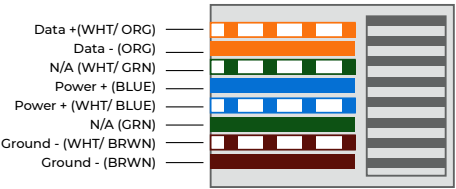
# INSTALLATION - CONNECTIONS

## Connecting TRO.Y

TRO.Y offers the ability to connect up to 4 segments utilizing the 485 ports, using CAT5e/6 cable. For the highest level of performance, each segment should not contain more than 64 shades (for a total of 256 shades). If you have a system that contains more than 256 shades, we recommend adding an additional TRO.Y.

### 485 ports 1 through 4

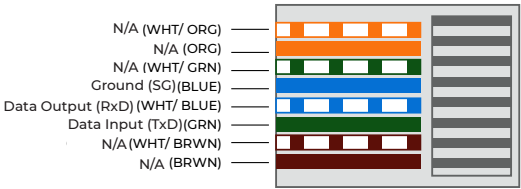
SDN (485) connection



Upto 200' max. CAT 5e or better

### High speed control port

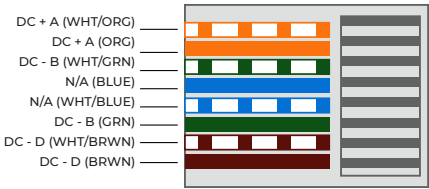
232 connection EIA-561 (DCE)



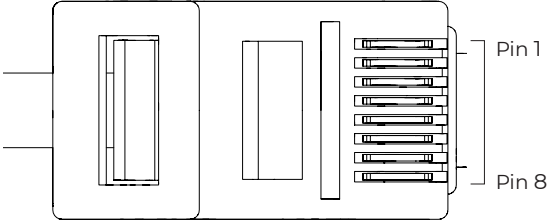
Upto 120' max. CAT 5e or better

### PoE

802.3 connection



Upto 328' max. CAT 5e or better



### High speed control port settings:

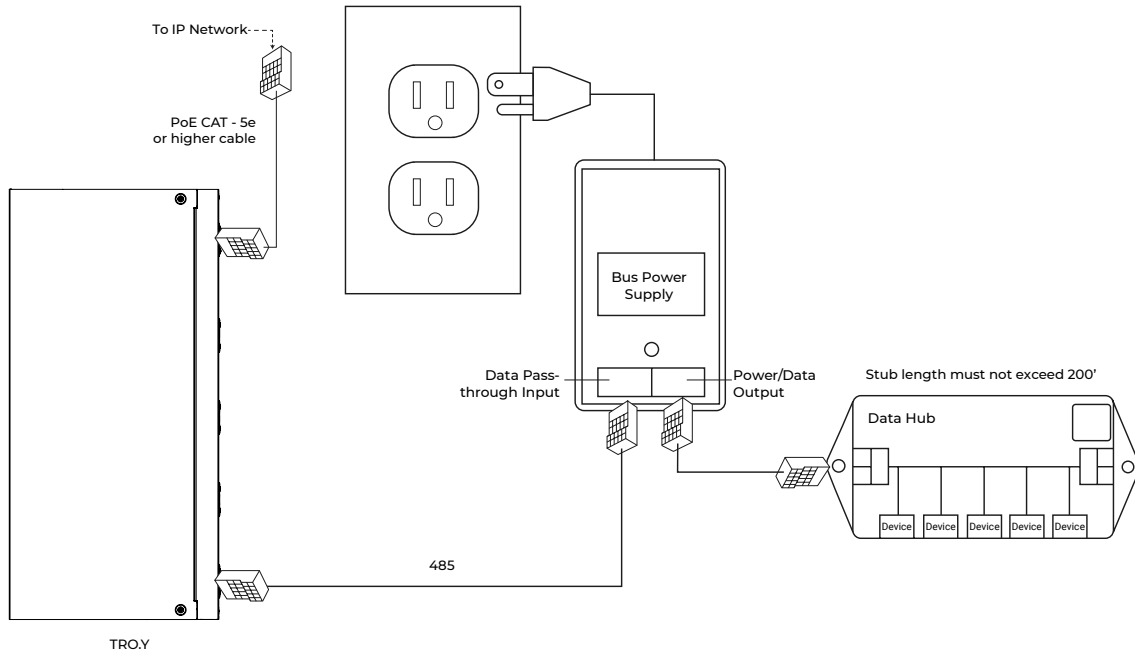
BAUD rate - 4800 - 56k  
Control bits - 8  
Parity - None  
Stop bits - 1

Note: The colors above are from 568B, the serial port data output (WHT/ BLUE) is the transmit (**TX**) from TRO.Y. The serial port data input (GRN) is the receive (**RX**) from TRO.Y. The labels from above are from EIA561.

# INSTALLATION - CONNECTIONS

## Connecting BUS Devices without Janus

All 4 ports can be used to connect 485 devices, however no Bus power is provided by TRO.Y.



# INSTALLATION - CONNECTIONS

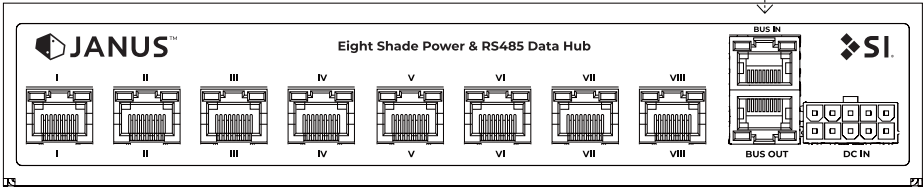
## Connecting IP Control

PoE Connection provides 3rd party IP control, wireless control and connection to other TRO.Y s.

IP Control



Note: Connect TRO.Y ports 1- 4 to BUS IN on Janus.



UTP Face

# INSTALLATION - LED OPERATION

LED information table

Port	Left LED OFF (Yellow)	Left LED ON (Yellow)	Left LED blinking	Right LED OFF (Green)	Right LED ON (Green)	Right LED Flashing (Green)
Bus Out I	Bus Idle (bus connected)	End of Bus Line (not connected)	N/A	N/A	N/A	With Bus data activity
Bus Out II	Bus Idle (bus connected)	End of Bus Line (not connected)	N/A	N/A	N/A	With Bus data activity
Bus Out III	Bus Idle(bus connected)	End of Bus Line (not connected)	N/A	N/A	N/A	With Bus data activity
Bus Out IV	Bus Idle (bus connected)	End of Bus Line (not connected)	N/A	N/A	N/A	With Bus data activity
Control Port	N/A	N/A	N/A	N/A	When enabled	With Data activity
PoE port	No Ethernet link	Ethernet Link	Ethernet Data Activity	10 Mbps	100 Mbps	N/A

Status LED OFF  
No power/Reboot

Status LED ON  
Power(Red)

# INSTALLATION - BUTTON OPERATION

## BUTTON FUNCTIONALITY:

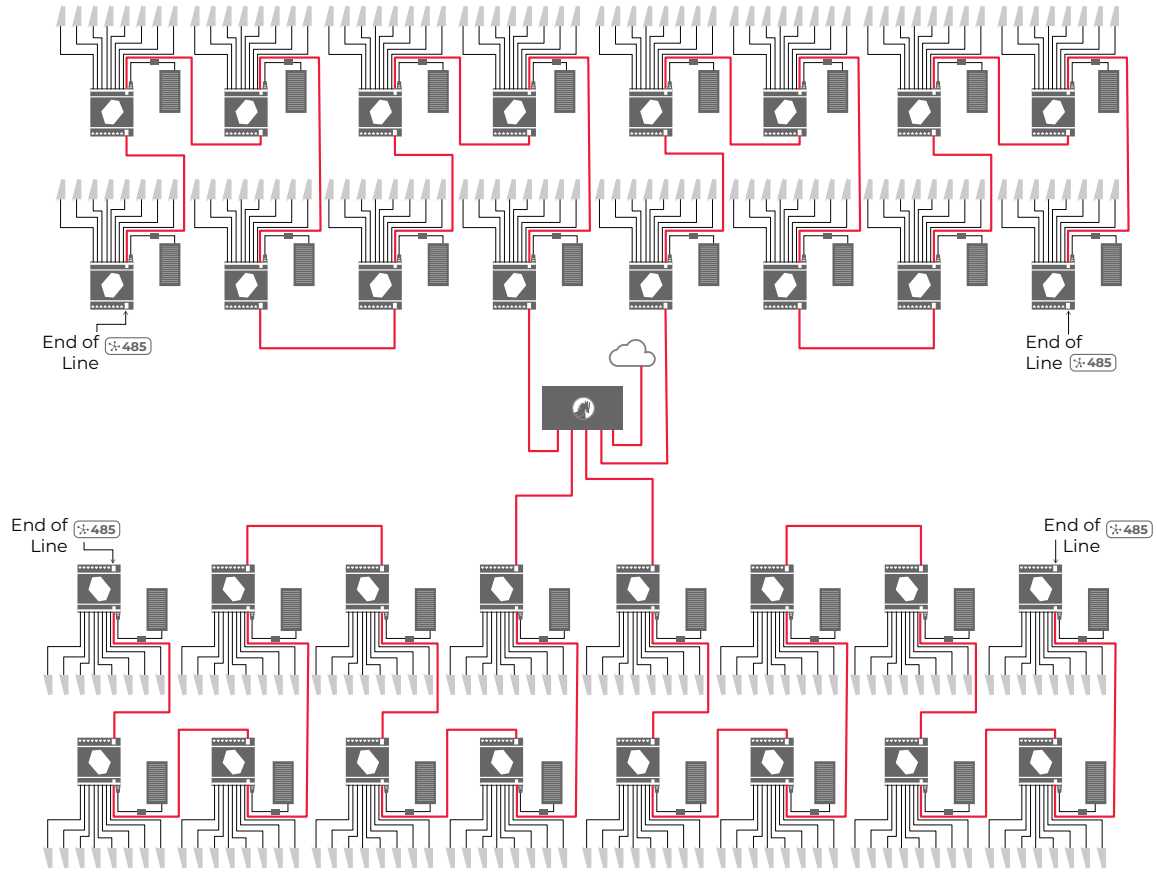
**Note:** Use a thin tool like a paper clip.

Button Press - Disables security for 5 min.  
(Use for password recovery)

Button Hold (3 sec) - Hardware Reset  
Button Hold (10 sec) - Software Reset

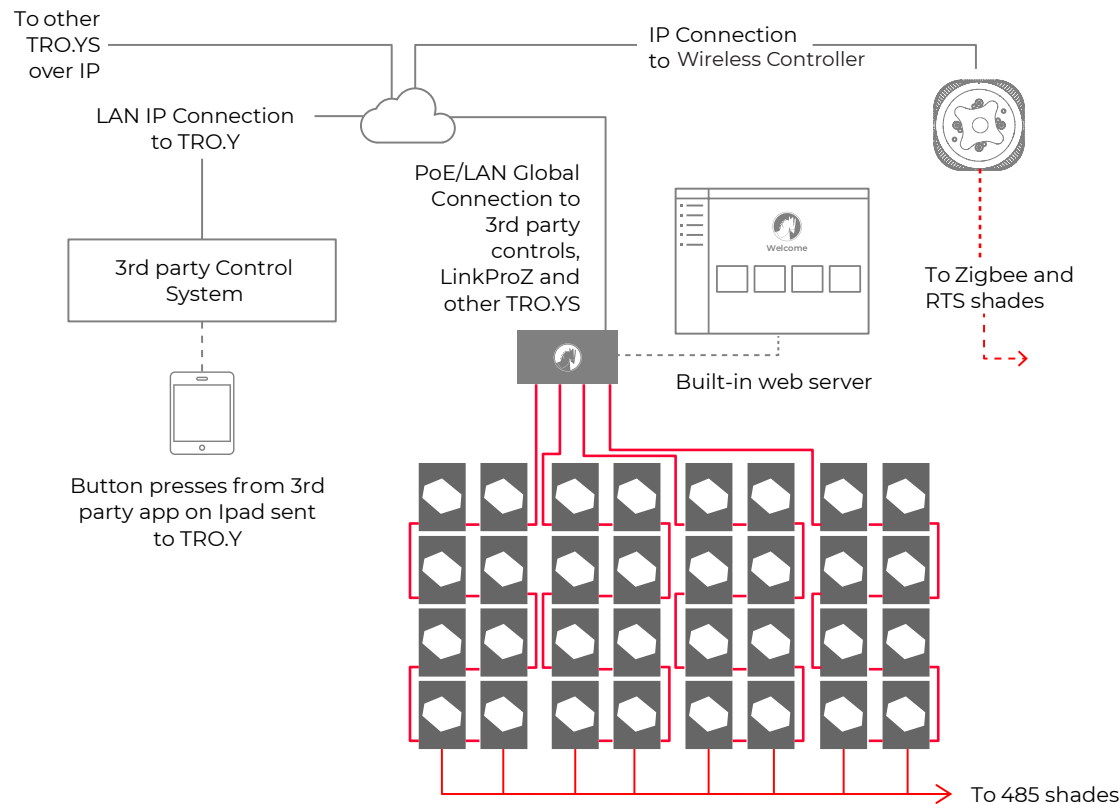
**Note:** All LEDs will turn off once you reach the software reset.

# 256 SHADE SYSTEMS





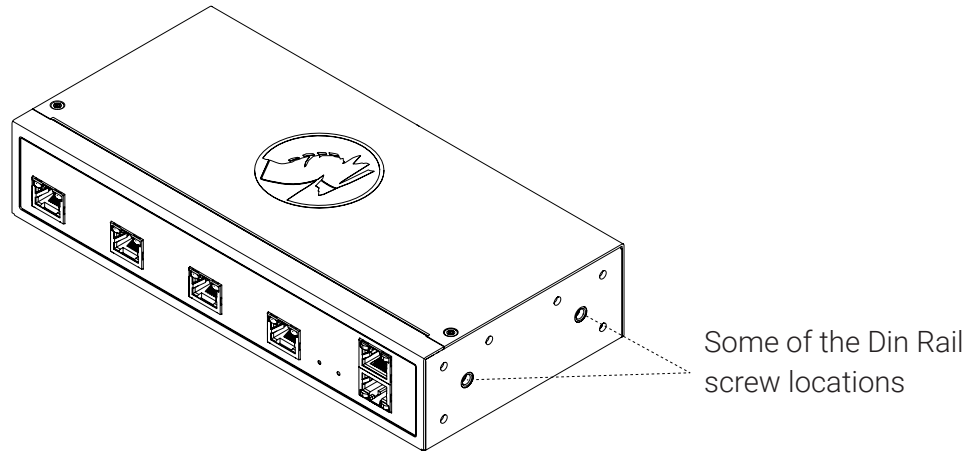
# TRO.Y TOPOLOGY EXAMPLE



# RACK MOUNTING

## Screw Hole Locations

TRO.Y can be mounted in various ways using these 10 screw hole locations.

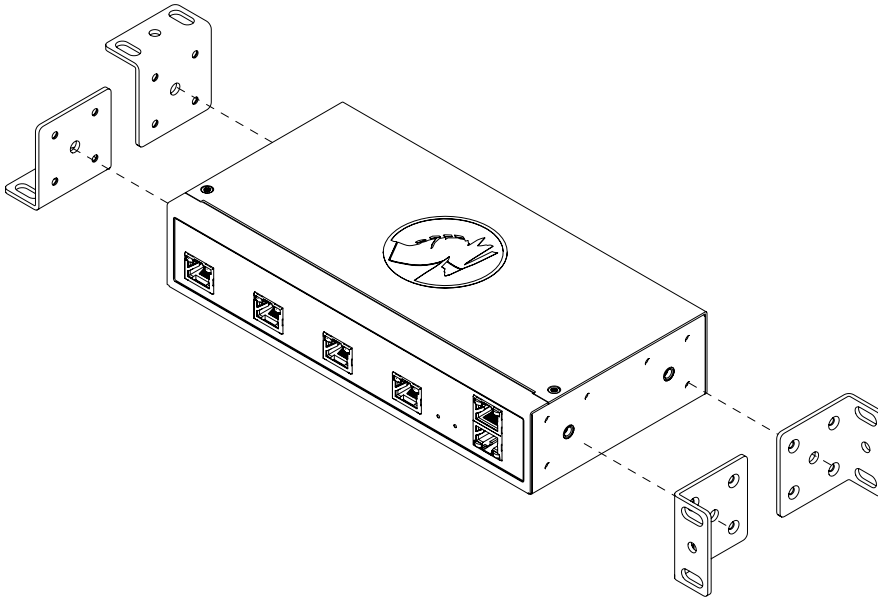


Janus and TRO.Y share all the same mounting features and accessories. There are infinite ways to install them together or seperately.

# RACK MOUNTING

## Using Universal Rack Ear

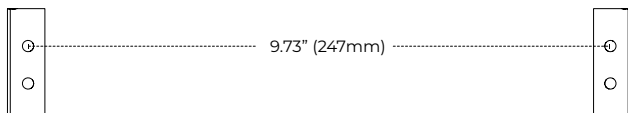
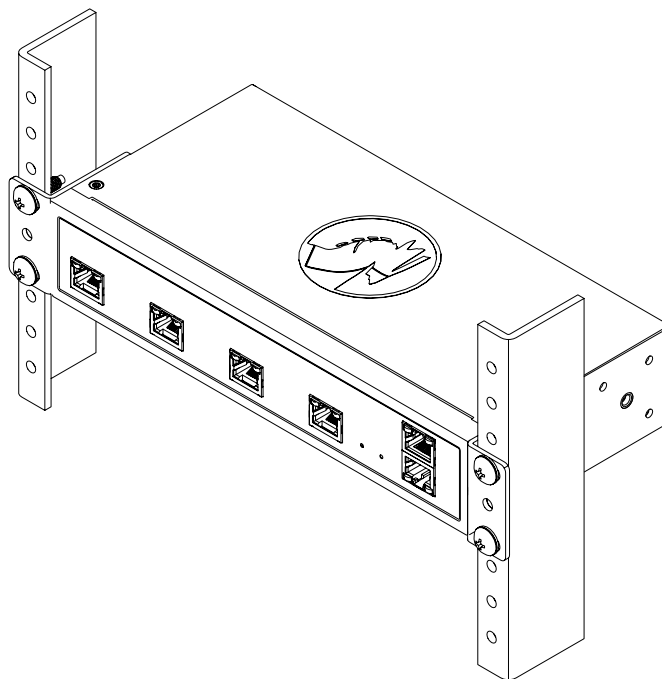
The symmetrical hole pattern of the TRO.Y Universal Rack Ear allows these multi-functional Brackets to be mounted on either side of TRO.Y in any orientation. This makes it possible to mount TRO.Y to virtually any surface in multiple positions.



# RACK MOUNTING

## 1. Half Rack

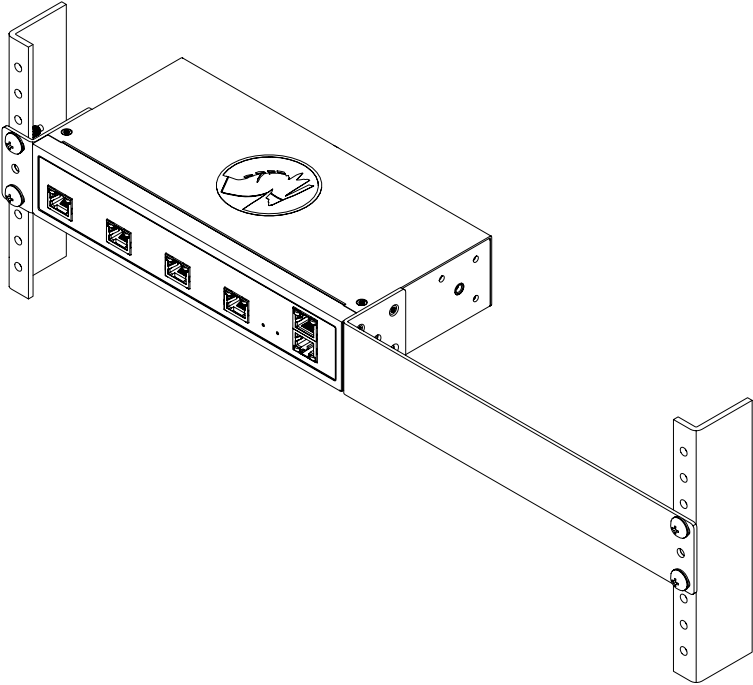
TRO.Y can be mounted in a standard half rack using 2 Universal Rack Ears.

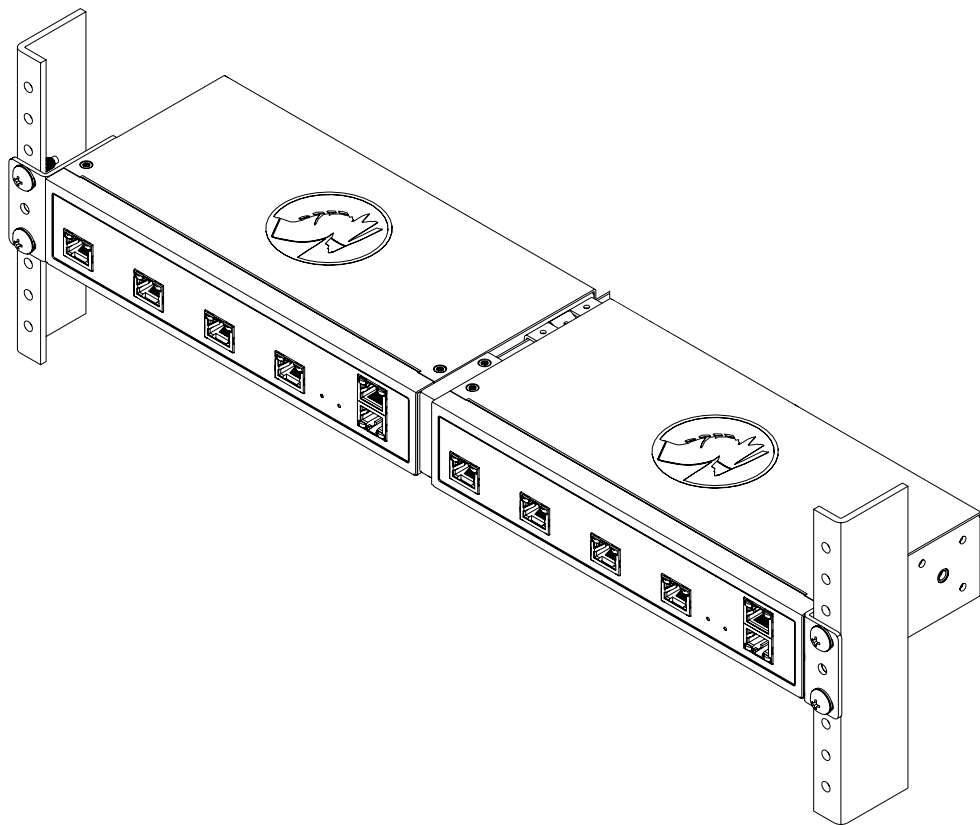


**Note: Half Rack hole spacing must be 9.73"(247mm)**

**2a. Full Rack (Single TRO.Y Unit)**

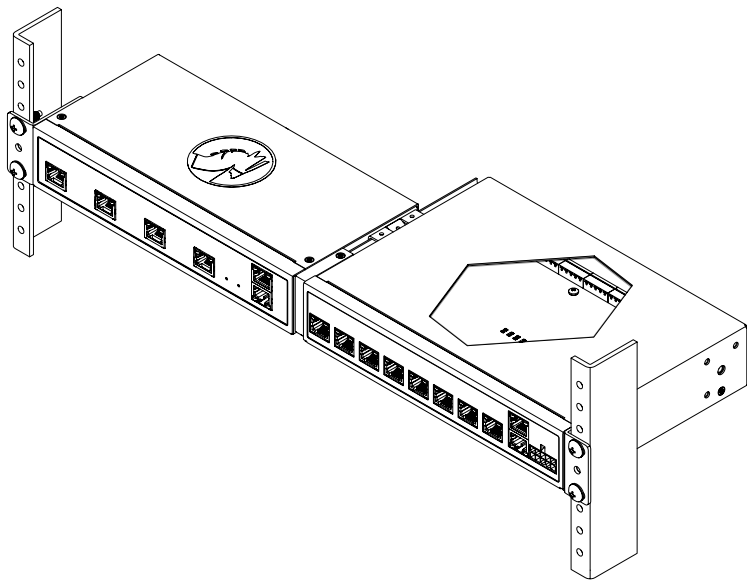
A single TRO.Y unit can be mounted in a standard 19" rack using one Universal Rack Ear and one Long Rack Ear.





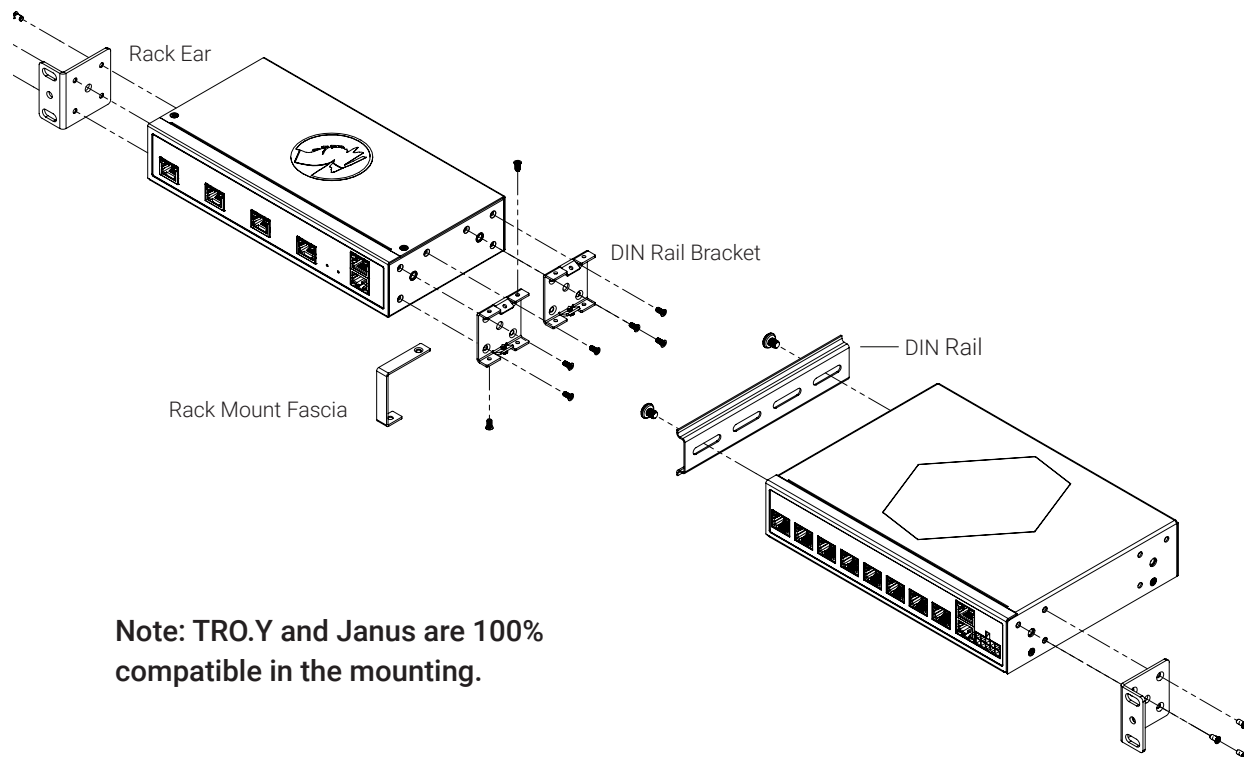
## 2b. Mounting with TRO.Y Full Rack

Two TRO.Y/ Janus units can be coupled together and mounted in a standard 19" rack. Follow the steps on the following spread for installation.



**Note:** When combining a TRO.Y and Janus use the DIN rail included with Janus.

- a. Using two (2) of the included DIN Rail Screws, install the DIN Rail onto the first TRO.Y unit.
- b. Using three (3) Rack Ear Screws each (included), install the two DIN Rail Brackets on the opposite side of the second TRO.Y unit.
- c. While holding both TRO.Y units, slide the DIN Rail through both DIN rail Brackets. Then, tighten both set screws using the provided 1.5mm hex tool.
- d. Slide the Rack Mount Fascia over the exposed DIN Rail bracket on the desired front face of the combined unit. Fasten the fascia down with two Rack Ear Screws (on the top and bottom).
- e. Finally, fasten one Rack Ear to each TRO.Y unit using three (3) Rack Ear Screws each.



**Note: TRO.Y and Janus are 100% compatible in the mounting.**

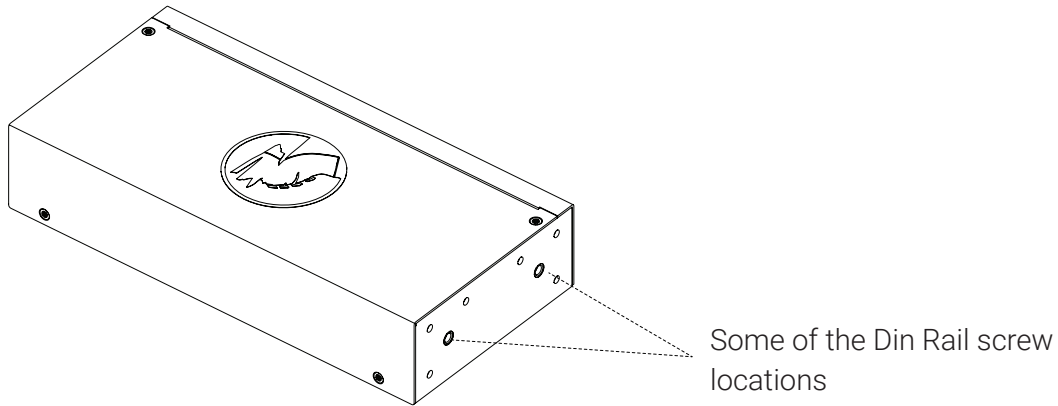


# DIN RAIL MOUNTING

## Screw Hole Locations

TRO.Y is available in both plenum and non-plenum options. If mounting in a plenum air space, ensure you have purchased one of the plenum rated TRO.Y kits.

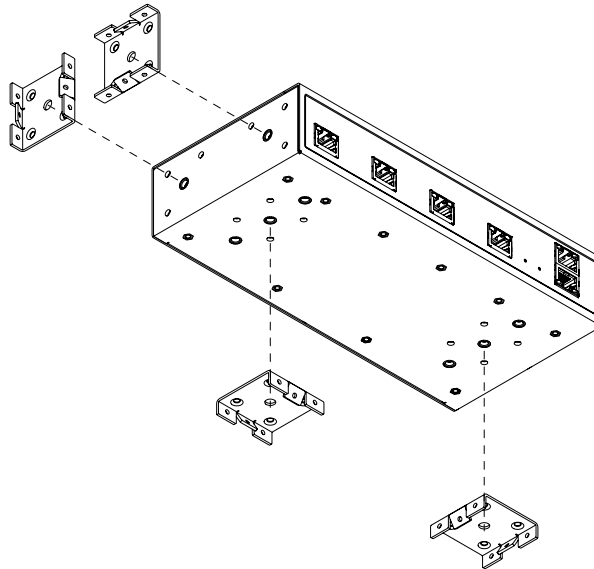
TRO.Y can be mounted in various ways using 10 screw hole locations.



# DIN RAIL MOUNTING

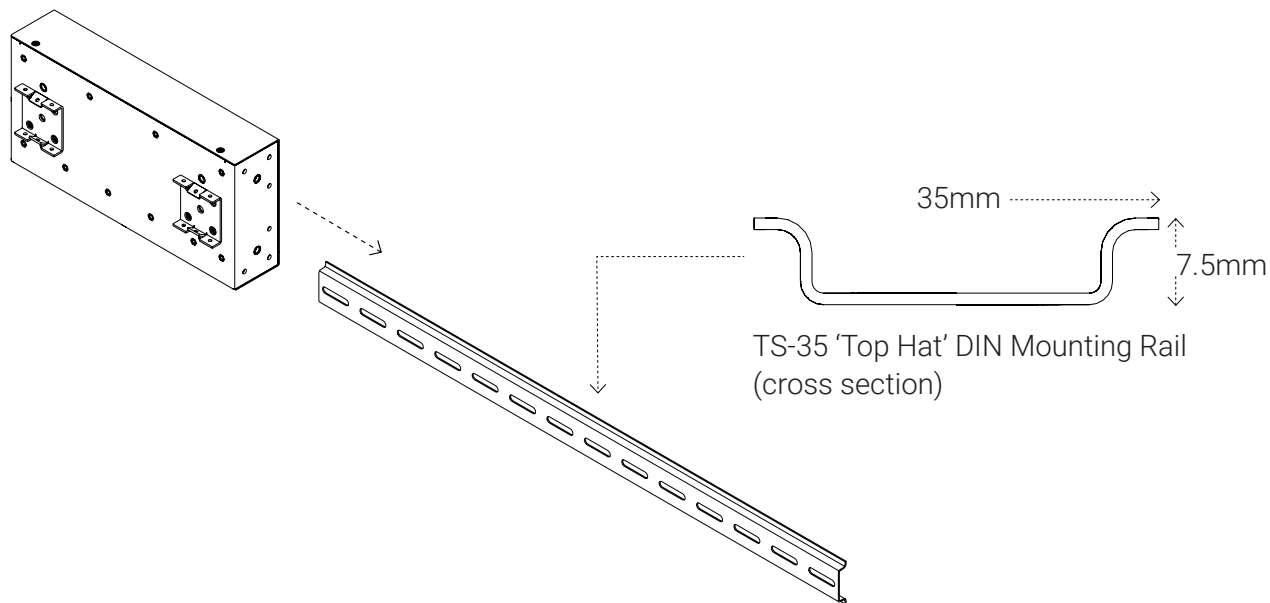
## Using Universal DIN Rail Bracket

Similar to the Universal Rack Ear, the TRO.Y Universal DIN Rail Bracket features a symmetrical hole pattern which provides 10 total mounting locations on TRO.Y. Each Universal DIN Rail Bracket has multiple threaded holes which accommodate set screws to lock the Brackets in place along the DIN Rail.



# DIN RAIL MOUNTING

Using the Universal DIN Rail Brackets TRO.Y can be mounted in a variety of orientations and locations. The Universal DIN Rail Brackets are designed for TS-35 'Top Hat' DIN Mounting Rail and can be mounted on the bottom or either side of TRO.Y.

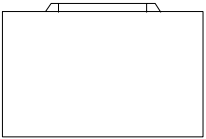


# STRUCTURED WIRING BOX MOUNTING

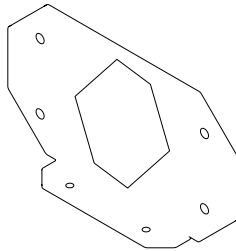
TRO.Y can be installed into nearly any structured wiring enclosure using either the Universal Rack Ears or Universal DIN Rail Brackets. Structured wiring enclosures are a convenient and professional way to manage wiring and mount supporting devices such as power supplies. You can use one of the Jopplin Kits to have a complete mounting solution for the enclosure.

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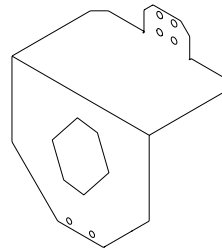
## Parts in the Jopplin XVI Bracket Kit



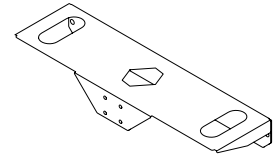
90 Degree Power  
Connectors (2)



TRO.Y Stack  
Mount Brackets  
and shovels(2)



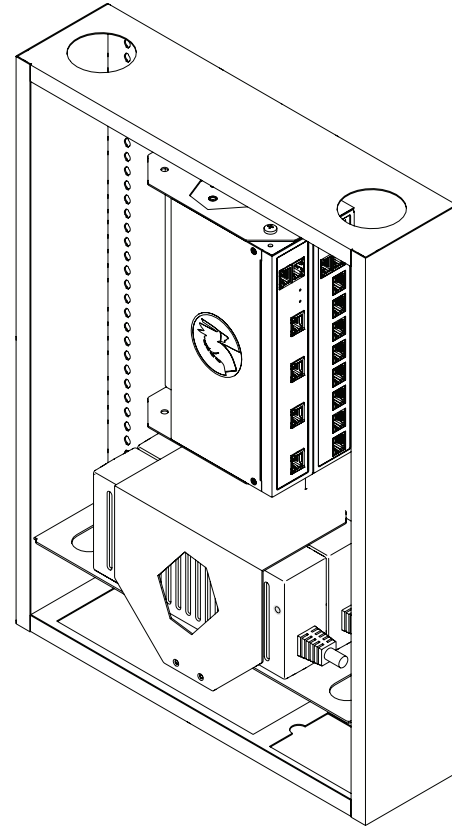
Power Supply  
Upper Bracket



Power Supply  
Lower Bracket

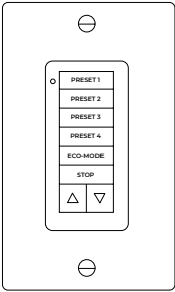
**Depending on which Jopplin Kit is selected:**

1. Connect up to 2/4 TRO.Y units or a combination of Janus and a TRO.Y unit into the Stack Mount Brackets and shovels.
2. Assemble top and bottom Power Supply Brackets and insert up to 2/4 Janus Power Supplies.
3. Route Power Supply cables from 2/4 Power Supplies up to the 2/4 Janus units installed into the Stack Mount.



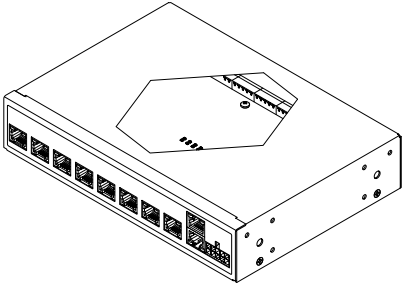
# ADDITIONAL ACCESSORIES

Sold Separately

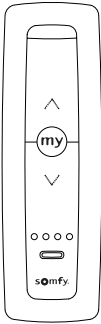


Decoflex Keypad

- 485 direct
- RTS via RTS 485 Reciever



Janus



Situo remotes

- Via wireless controller

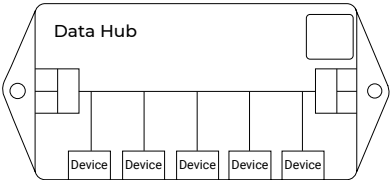


Telis remotes

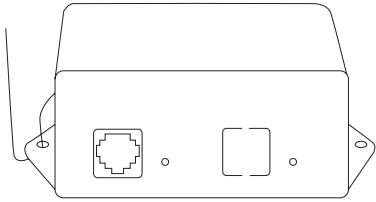
- Via wireless controller



Fontus



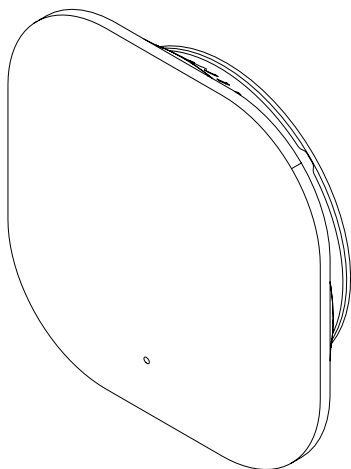
Data Hub



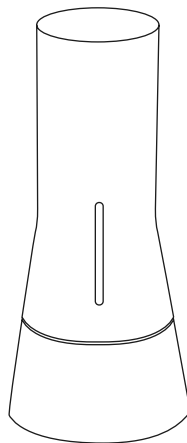
RTS - 485 Receiver

## ADDITIONAL ACCESSORIES

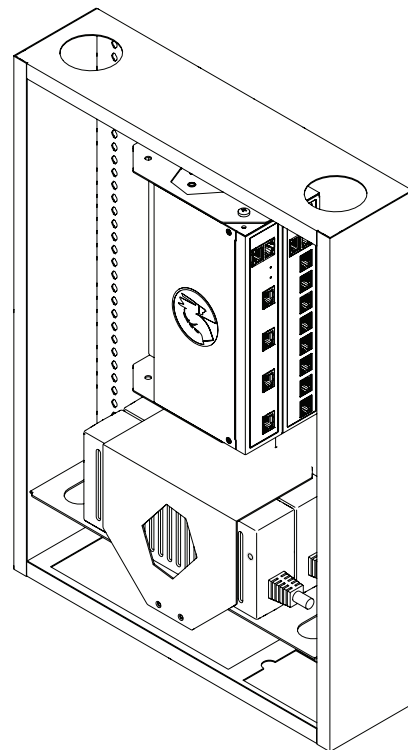
Sold Separately (contd.)



LinkPro Z Unit  
(Wireless Controller)



TaHoma  
(Wireless Controller)



Joplin XVI Bracket kit  
(For more info go to Pg 28-29)

# TROUBLESHOOTING - ETHERNET

Tech Support: 512.832.6939

Problem	Possible Cause	Action to Take
TRO.Y won't operate.	TRO.Y is not powered.	<ol style="list-style-type: none"><li>1. Check PoE connection on your switch. Make sure switch has enough PoE power for TRO.Y (AT/BT).</li><li>2. If not using switch, check A/C power input on included PoE injector (Make sure your injector is 48vDC).</li></ol>
TRO.Y cannot connect to wireless controller.	No Ethernet connection.	<ol style="list-style-type: none"><li>1. Ensure wireless controller is connected to the same logical segment of the switch (a token refresh may be needed).</li><li>2. Ensure the data connection from the PoE injector is connected to your switch.</li></ol>
Cannot connect to my browser (TRO.Y webserver).	The device running the browser is not connected to the same logical segment of the switch.	<ol style="list-style-type: none"><li>1. Verify the device running the browser has the same IP range and subnet as TRO.Y.</li><li>2. If you can't verify the address then, a software reset can be performed using the programming button (refer to pg.15).</li></ol>



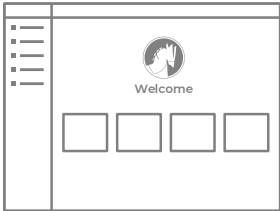
# TROUBLESHOOTING - CONTROLS

Tech Support: 512.832.6939

Problem	Possible Cause	Action to Take
TRO.Y cannot discover any 485 motors.	Improper bus connection(s) between TRO.Y/Janus/485 shades.	<ol style="list-style-type: none"><li>1. Verify that at least 1 TRO.Y bus out is connected to a bus in on a Janus.</li><li>2. Verify that at least 1 485 shade is connected to a shade port on a Janus.</li></ol>
TRO.Y cannot discover any Zigbee/RTS motors.	Wireless controller not present on network or not configured for 3rd party control.	<ol style="list-style-type: none"><li>1. Verify that the wireless controller is powered up and connected to a same logical segment of the network.</li><li>2. Verify that the 3rd party control is enabled and setup.</li></ol>
3rd party controller cannot communicate to TRO.Y.	Incorrect 232 wiring or settings.	<ol style="list-style-type: none"><li>1. Verify the correct pinout to the 3rd party controller.</li><li>2. Verify the correct 232 settings (refer to pg. 11).</li></ol>
Forgot my login.	Lost laptop, or unknown.	To reset the login, use programming button to disable security (refer to pg.15).

# INSTALLATION COMPLETE - STARTING WEB SERVER

Now that you have installed the TRO.Y unit, you will use a browser to configure and setup your controls. Using DHCP, TRO.Y will request an IP address from your router. To start configuring the web server, you must enter this IP address into your browser's address bar. If your router does not have the DHCP then a static IP must be assigned.



TRO.Y dashboard is what appears when you enter your IP address. And now you have an option to create an account or discover motors.

Detailed programming manual available when you scan this QR code.







Screen Innovations  
9715-B Burnet Rd, Suite 400 Austin, TX 78758  
512.832.6939  
[www.screeninnovations.com](http://www.screeninnovations.com)