# Nano Box
## V1 & V2
## (275 / 375 / 475)
# Installation Instructions

⚠ INSTALLERS: Please leave this manual with the owner.

◆SI. 🇺🇸

# Limited 1 year warranty
# on Screen Innovations products

Screen Innovations warrants its products, to the original purchaser only, to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase by the original purchaser provided they are properly operated according to Screen Innovations' instructions and are not damaged due to improper handling or treatment after shipment from the factory.

This warranty does not apply to equipment showing evidence of misuse, abuse, or accidental damage, or which has been tampered with or repaired by a person other than authorized Screen Innovations personnel.

Screen Innovations' sole obligation under this warranty shall be to repair or to replace (at Screen Innovations' option) the defective part of the merchandise. Returns for service should be made to your Screen Innovations' dealer. If it is necessary for the dealer to return the screen or part to Screen Innovations, transportation expenses to and from Screen Innovations are payable by the purchaser and Screen Innovations is not responsible for damage in shipment. To protect yourself against damage or loss in transit, insure the product and prepay all transportation expenses.

This warranty is in lieu of all other warranties, express or implied, including warranties as to fitness for use and merchant ability. Any implied warranties of fitness for use, or merchantability, that may be mandated by statute or rule of law are limited to the one (1) year warranty period. This warranty gives you specific legal rights, and you may also have other rights, which vary from state-to-state. No liability is assumed for expenses or damages resulting from interruption in operation of equipment, or for incidental, direct, or consequential damages of any nature.

In the event that there is a defect in materials or workmanship of a Screen Innovations product, you may contact our Sales Partners at 9715-B Burnet Road Suite 400, Austin, TX 78758, (512) 832-6939.

Important: this warranty shall not be valid and screen innovations shall not be bound by this warranty if the product is not operated in accordance with screen innovations' written instructions.

Keep your sales receipt to prove the date of purchase and your original ownership.

Scan this QR Code to access the updated installation instructions and related documents.

| Technical Support: | 512.832.6939 | screeninnovations.com |
| Hours of Support: | 7:30am - 5pm CST | shadesupport@screeninnovations.com |

# TABLE OF CONTENTS

# PARTS IN THE BOX – NANO BOX

## Shades

275 Box

375 Box

475 Box

## Wall Brackets

Screws Included
(3 per Bracket)

## Installation Remotes
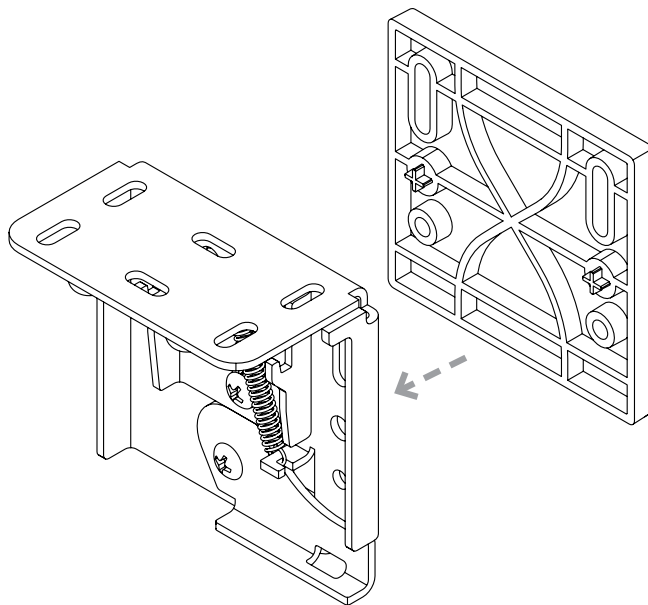(1 per RTS shade)

Included remotes form factor may
vary, however functionality and
performance is consistent."

## Motor Reset Tool
(1 per RTS shade order)

## Terminal Block Brackets
(only low voltage and/or 485)

## Spacer Blocks (Optional – 4 per Shade)

275

OR

375 - 475

Longer Screws Included

## Terminal Blocks
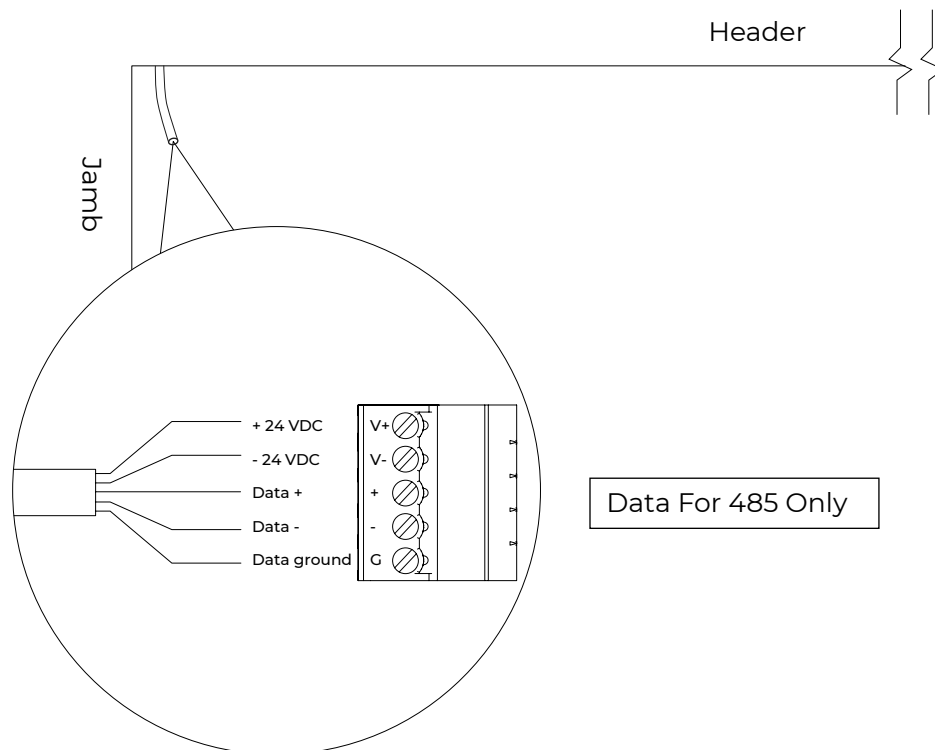
# SPACER BLOCKS (OPTIONAL)

Spacer Blocks – Used to clear an obstruction in the fabric path. Before installing, connect spacer blocks to shade brackets.

NOTE: Do not use more than four (4) spacer blocks per bracket.

# INSTALLATION – NANO BOX

1. Terminate pre-wire with the supplied terminal block.

Header

Jamb

+ 24 VDC    V+
- 24 VDC    V-
Data +    +
Data -    -
Data ground    G

Data For 485 Only

2. The recommended position for the box bracket is 2–4" from the end caps.

NOTE: Installing the wall brackets as close to the end of the cassette as possible ensures better stability of the shades system.

2–4"

2–4"
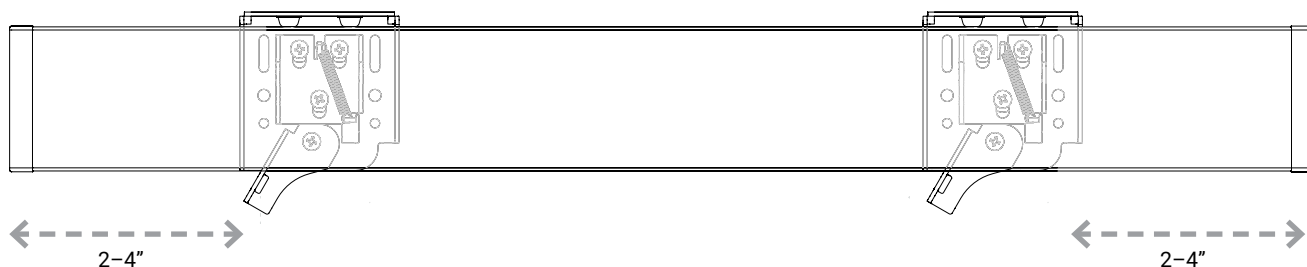
# INSTALLATION – NANO BOX

3. To install the shade, start with the wall bracket lever pointed down in the unlocked position.



Proper position for installing Box

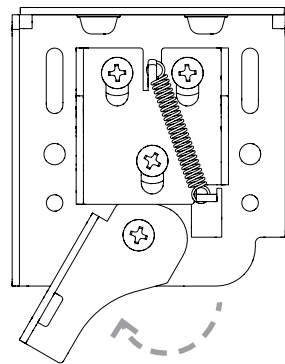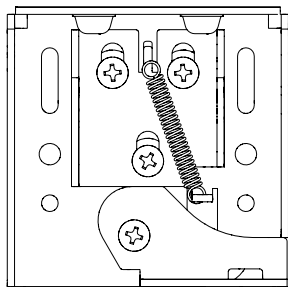# POWER OPTIONS – NANO BOX

## Power Setup:

1. Determine the power type of the shade.
2. Locate the power type in the following pages and setup accordingly.

### For 24v DC – Zigbee/RTS/485 Power

1. On the motor side, install the terminal block bracket between the jamb and wall bracket using the screws supplied.

Header

Jamb

2–4"

Jamb

2–4"

Terminal block bracket must be on motor side.
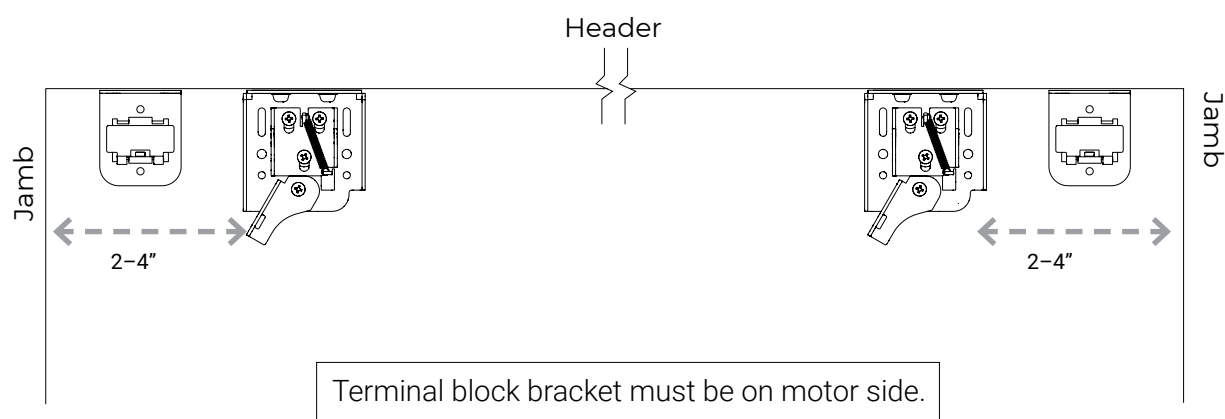
2. Connect the shade and pre-wire connectors on the motor side; secure into the terminal block bracket.
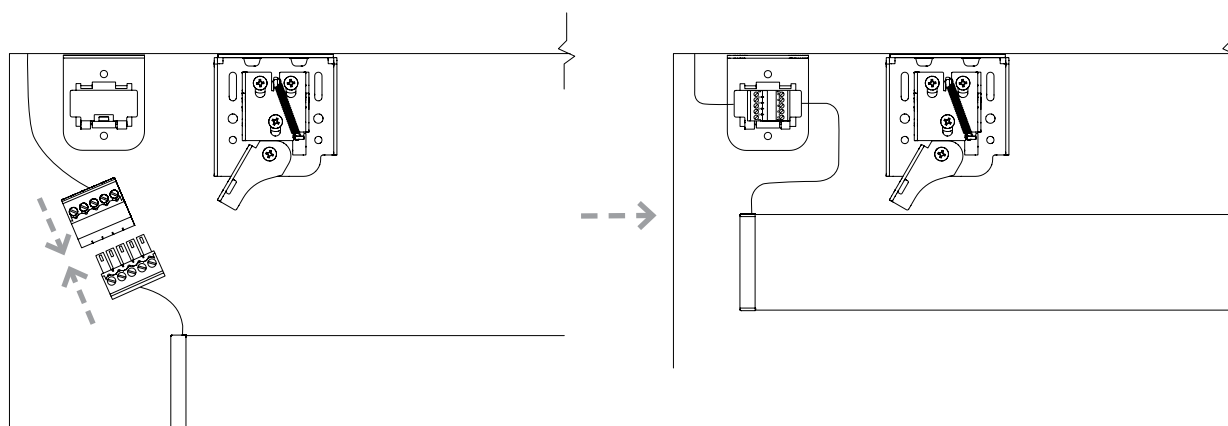
# POWER OPTIONS – NANO BOX

### For 110v AC – RTS Power
Insert power cable into the pre-wire hole.
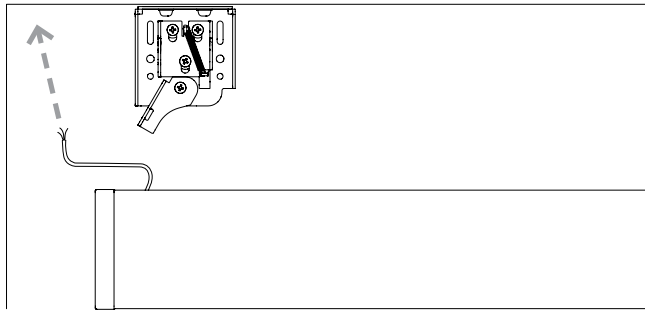


> **NOTE:** Motor cable is not plenum rated. Terminate accordingly.

### For 110v AC – 485 Power
1. Insert power cable into the pre-wire hole.



> **NOTE:**
> Motor cable is not plenum rated. Terminate accordingly.

2. Connect the shade data cable to the pre-wire, then snap into the terminal block bracket



Data Cable

Power Cable

# POWER OPTIONS – NANO BOX

**Wirefree Power**

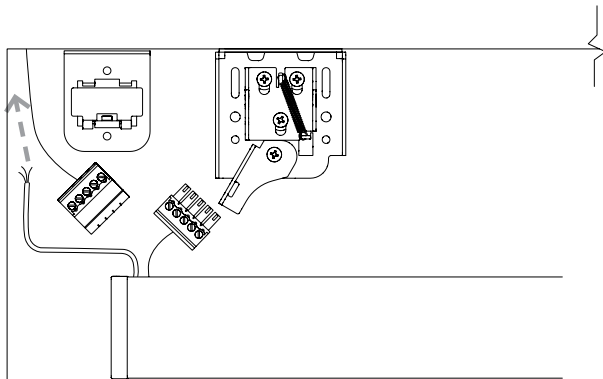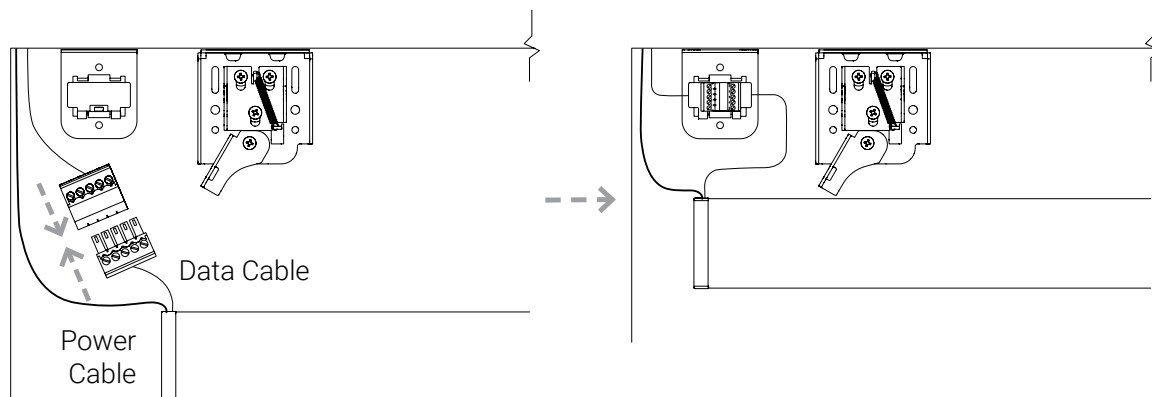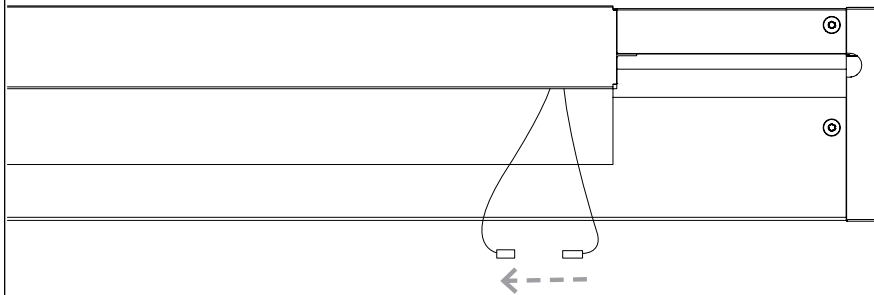1. When working with *Narrow* shades (with an external battery), refer to the following illustration to plug in the external battery. Once the external battery is inserted, the shade will jog twice.



**NOTE:**
The shade will jog twice, once you plug the External Battery.

2. Install the wall brackets 2–4" from the end caps with the supplied screws.

For *Narrow* shades, install the wall bracket $^1/_2$ – $^9/_{16}$" from the end of the shade using the supplied screw.

**NOTE:** The recommended position for the box bracket is 2–4" from the end caps.

Installing the wall brackets as close to the end of the cassette as possible ensures better stability of the shades system.



2" - 4"          2" - 4"

$$\frac{1"}{2} - \frac{9"}{16}$$          $$\frac{1"}{2} - \frac{9"}{16}$$

For Narrow Shades
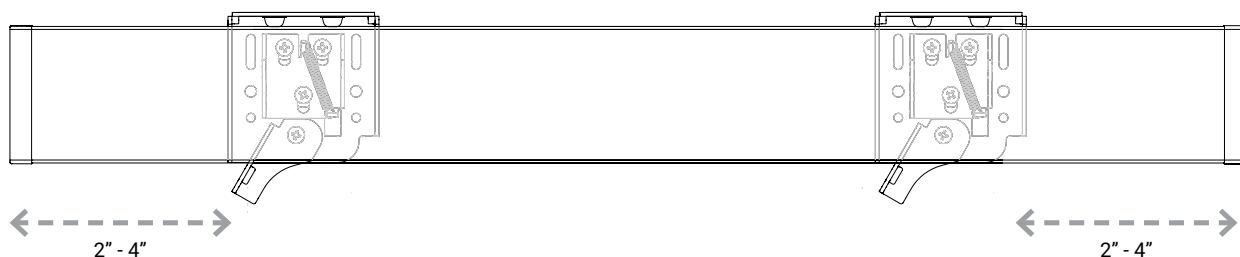
# INSTALLATION – NANO BOX

Determine the Nano model, shown by the hole of the end caps (refer to the illustration below).
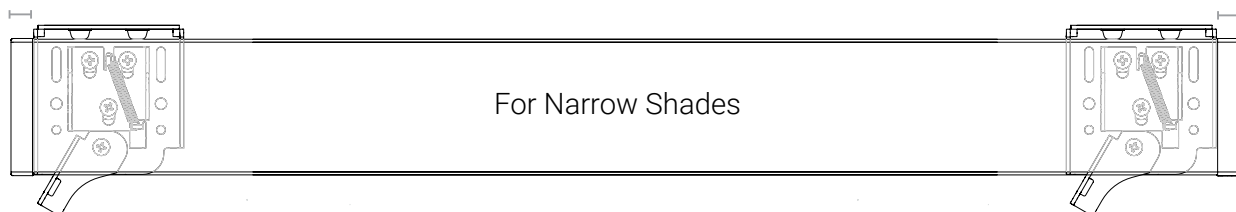If the shade system does have a hole, refer to page 15 *Servicing Nano V2 Box* for guidance on accessing the inside of the shade; motors, material tubes, and fabric may serviced at this time.



Nano 1 (475)



Nano 2 (275/375)
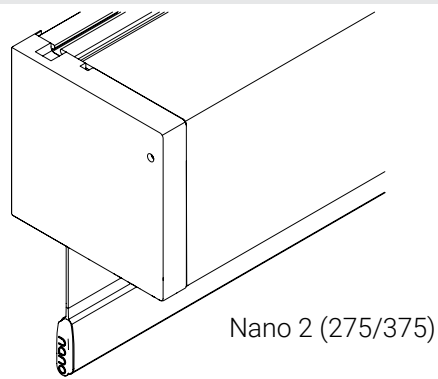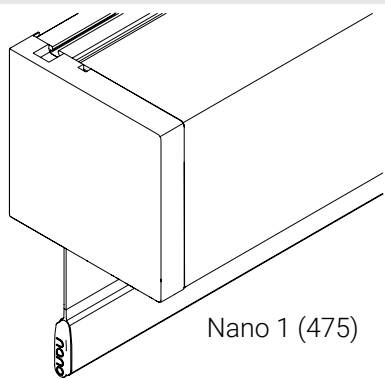
To finish installation with either model, continue with the steps below.

6. Locating the channel running along the back of the shade, hook the channel onto the wall brackets.



channels
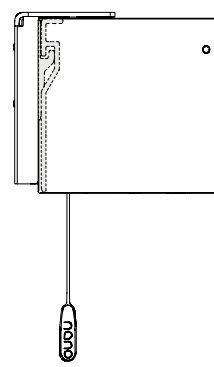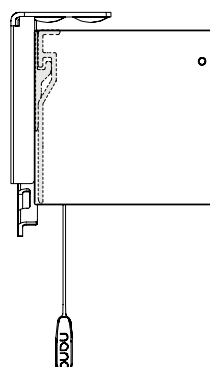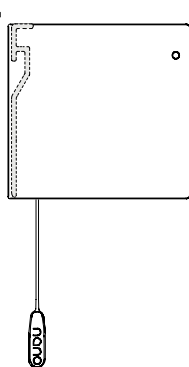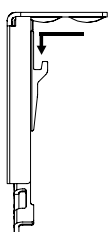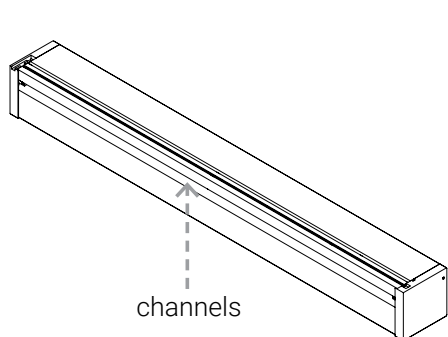
7. Reaching under the cassette, move levers up into the locked position, keeping the shade secure.
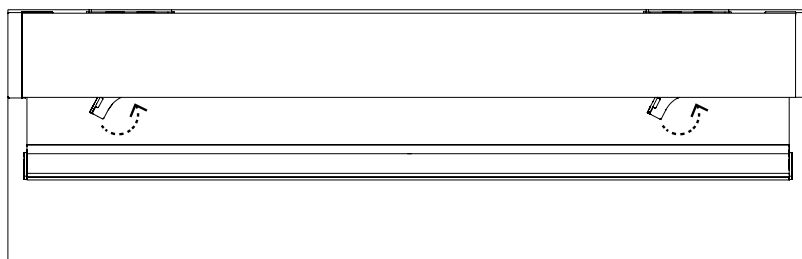
# AC, LOW VOLTAGE (DC) & CONTROL – WIRING

## AC Wiring (AC Motor)

Pigtail

**L** (Brown)
**N** (Blue)
⫿ (Green/Yellow)

Length of the wire: 8.4'
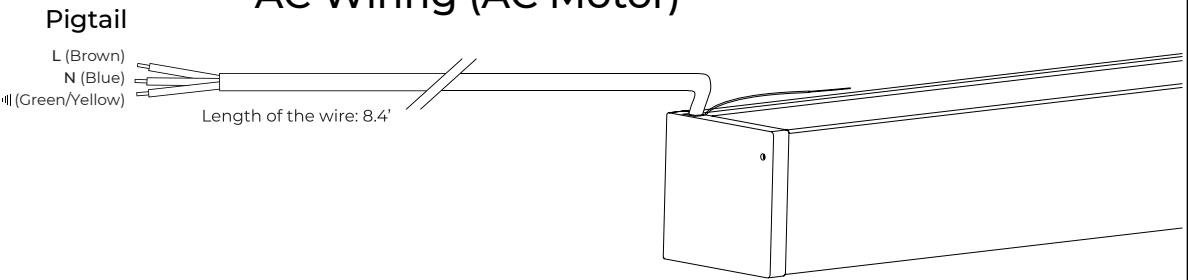
## Low – Voltage Power (DC Motor)
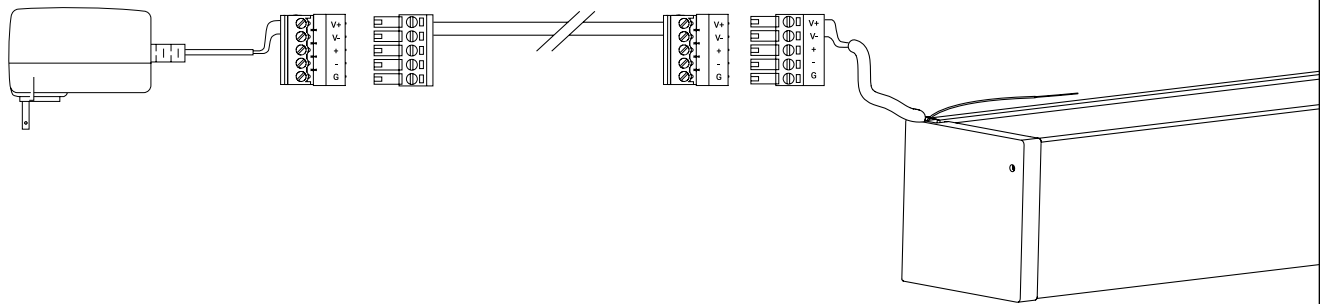
## Low – Voltage Power and 485 Control Wiring (DC Motor)

24v DC Power Supply
RS485 Data+
RS485 Data-
RS485 Ground

| Marking | Description |
|---------|-------------|
| V+ | Positive 24VDC |
| V- | Negative 24VDC |
| + | 485 Data Positive |
| - | 485 Data Negative |
| G | 485 Data Ground |
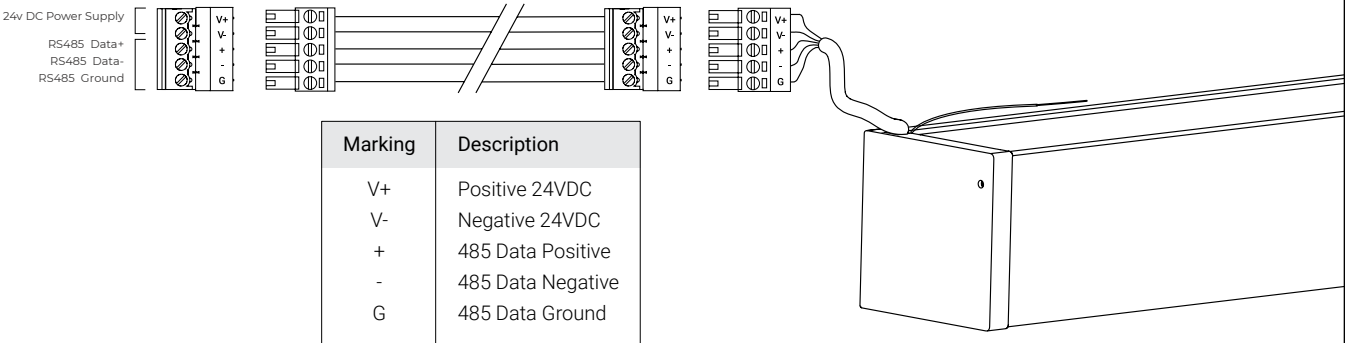
## 485 Control Wiring (AC Motor)

24v DC Power Supply
RS485 Data+
RS485 Data-
RS485 Ground

| Marking | Description |
|---------|-------------|
| V+ | NA |
| V- | NA |
| + | 485 Data Positive |
| - | 485 Data Negative |
| G | 485 Data Ground |
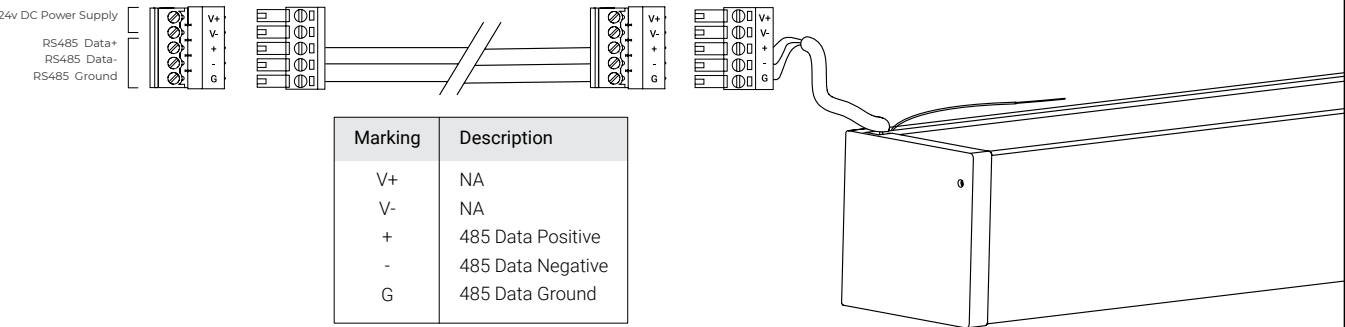
# WIRE CONSIDERATIONS – NANO BOX

## 24v DC – Using 5 Conductor Wire

V+
V-
+
-
G

Pre-wire

V+
V-
+
-
G
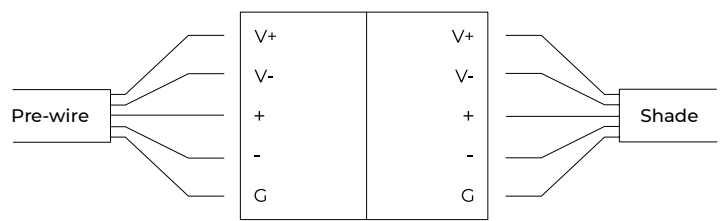
Shade

| Wire Gauge (AWG) | Maximum Supported Wire Length (FT.) |
|---|---|
| 14 | 250 |
| 16 | 150 |
| 18 | 100 |

## 24v DC – Using UTP Wire

Wire between Janus terminal block face and the motor only.

Blue
Blue White
Brown
Brown White
Orange White
Orange
Green
Green White

V+
V-
+
-
G

V+
V-
+
-
G
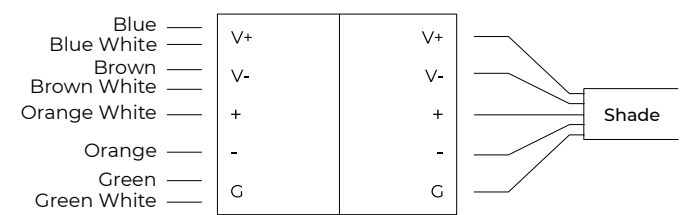
Shade

| Wire Gauge (AWG) | Supported Wire Length (FT.) |
|---|---|
| 24 w/o Spike | 150 (**275 Shade**) <br> 100 (**375 Shade**) |
| 24 w Spike | 300 (**275 Shade**) <br> 150 (**375 Shade**) |

## TERMINATION FOR 4 – CONDUCTOR THIRD PARTY CABLE

If the pre-wire does not have a third insulated data conductor for the 485 ground, terminate the wire as shown below; use the same termination on both ends.

Pre-Wire

22 AWG Jumper wire

V+
V-
+
-
G

V+
V-
+
-
G
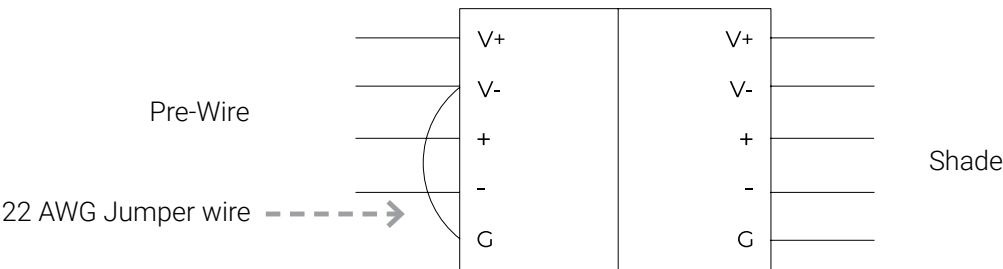
Shade

# ACCESS - MOTOR BUTTON (NANO BOX V2 - 275 / 375)

To acess Motor / Programming Button on the Nano shades, you can lift up the cassette cover as shown in the drawing, and use a thin tool to access it on the lower side of the motor head as shown below.



Motor/Program Button
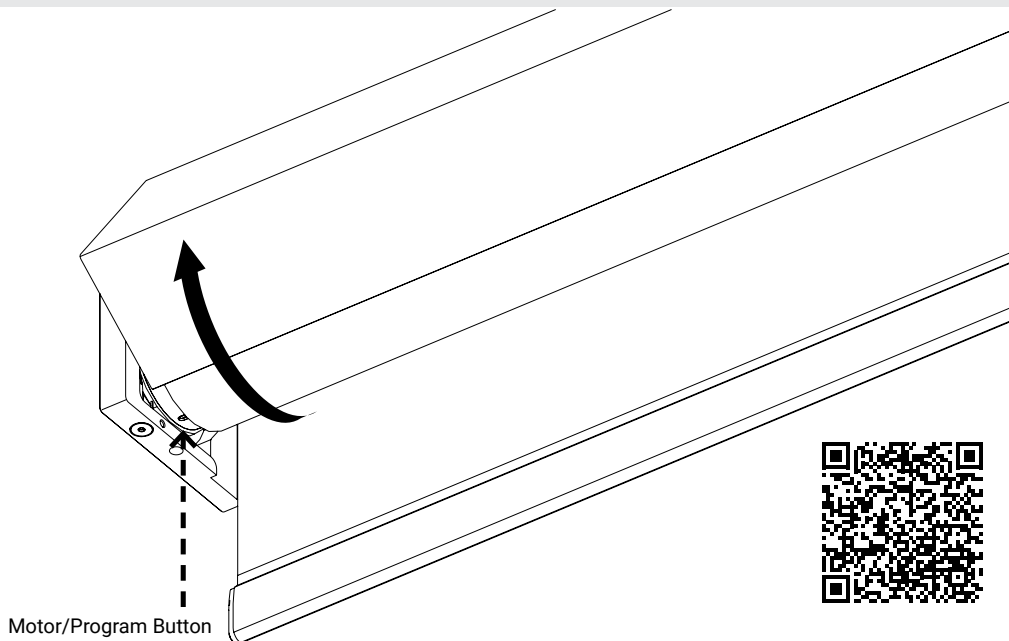
**For additional detailed information refer to the Quick Motor Commissioning Guide**

# ACCESS - MOTOR BUTTON (NANO BOX V1 - 475) - RTS

To acess Motor / Programming Button on the Nano shades 475, use the provided motor reset tool to access it on the lower side of the motor head, click the button and hold it until the motor jogs for 3 times.
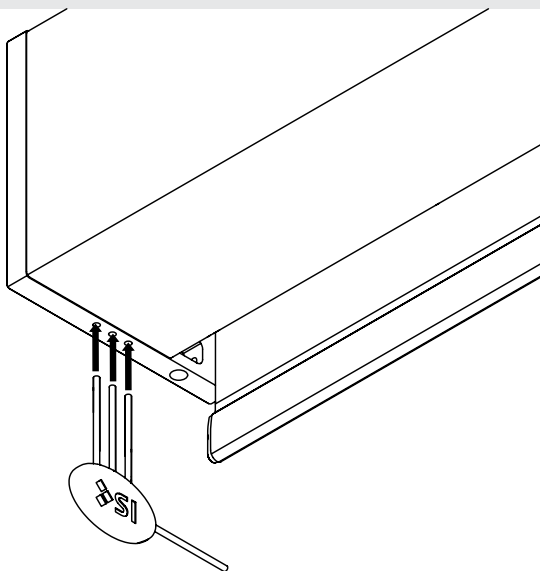


**For additional detailed information refer to the Quick Motor Commissioning Guide**

# COMMISIONING GUIDE REFERENCE

**Motor Quick Commissioning Guide:**
Based on your order, refer the motor (485/ RTS) your screen uses.
Scan the QR code, alternately use the link below to access
https://files.screeninnovations.com/Downloads/Programming+Guides/quick-motor-commisioning-guide.pdf

# CONTROLS GUIDE REFERENCE

With your screen order, you shall receive one of the below mentioned Controls Guides which will walk you through integrating with control system.

**Fontus Screen Control Guide (Dry Contact, 12v Trigger, IR):**
Scan the QR code, alternately use this link to access
https://files.screeninnovations.com/Downloads/Installation+Instructions/Connectivity/fontus-screen-control-installation-instructions.pdf

**TRO.Y Installation Instructions (RS232, IP Control, 3rd party Control system):**
Scan the QR code, alternately use this link to access
https://files.screeninnovations.com/Downloads/Installation+Instructions/Connectivity/troy-installation-instructions.pdf

**LinkPro Z Installation Instructions (IP Control, 3rd party Control system):**
Scan the QR code, alternately use this link to access
https://files.screeninnovations.com/Downloads/Installation+Instructions/Connectivity/LinkProZ-installation-instructions.pdf

Scan this QR Code to access the updated installation instructions and related documents.

Technical Support: 512.832.6939
Hours of Support: 7:30am - 5pm CST

screeninnovations.com
shadesupport@screeninnovations.com
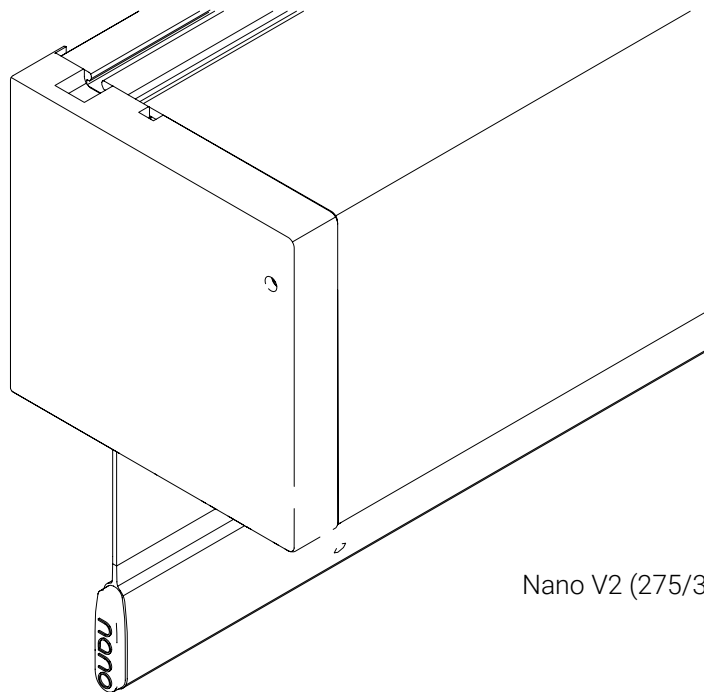
# SERVICING NANO V2 BOX– DIFFERENTIATE YOUR SHADE

Determine the Nano model (V1 or V2) shown by the hole of the end caps (refer to the illustration below).

If the shade system does have a hole (Nano V2), follow these instructions for guidance on accessing the inside of the shade; motors, material tubes, and fabric may serviced at this time.
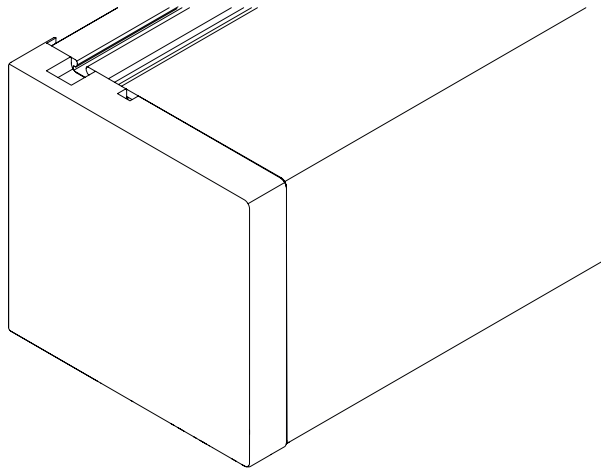
Nano V1 (275/375/475)

Nano V2 (275/375)

# SERVICING NANO V2 BOX – INSPECTING THE ROLL

**By removing the cover during installation, inspection of the roll and tracking the fabric are possible.**
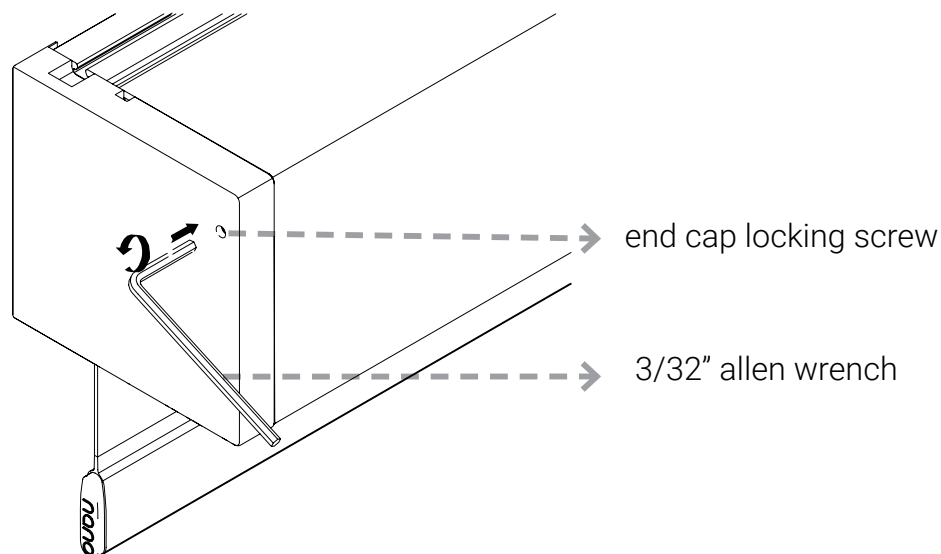
SERVICING NOTES:

- A best practice is to remove the shade from the levers to minimize risk to the shade during servicing; place the shade on a clean, flat surface.

- Inside mount may cause obstruction when removing cover; if there is an obstruction, unlatch the levers, disconnect wiring, and remove shades off the brackets to service, laying on a clean, flat surface.

- Depending on the mounting, removal and reinstallation of the shade may be required to access the endcap locking screw.

- Before removing the tube, ensure all wireless battery shades are put to sleep. See *page 24*.

1a.  To service the Nano 2, begin by loosening the end cap-locking screw on each end cap.

1b.  To unlatch the cassette face and access the motor and fabric, hold the end caps level and push upwards on each side of the cassette face. Unless two installers are available to each unlatch one side of the cassette face, unlatching one side at a time is recommended.

The cassette face can be felt and heard disconnecting from the locking screw.



end cap locking screw

3/32" allen wrench

# SERVICING NANO V2 BOX – INSPECTING THE ROLL

2. When working with a Standard roll (fabric falls closest to window), drop the shade to lower limit to reduce diameter of roll, lessening the chance of fabric interference when removing the cover. To remove the cover, pull the cover towards yourself, rotating upwards slightly.
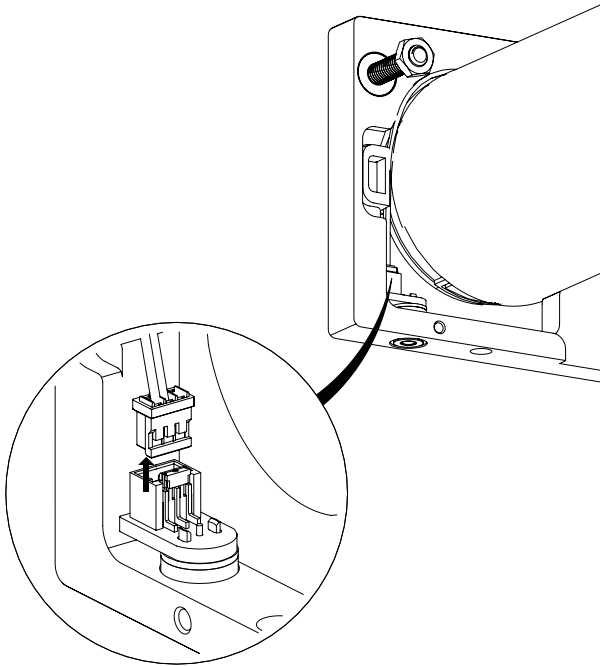
Inspection of the roll, accesss to the motor, and tracking of fabric are now available with the cover removed.
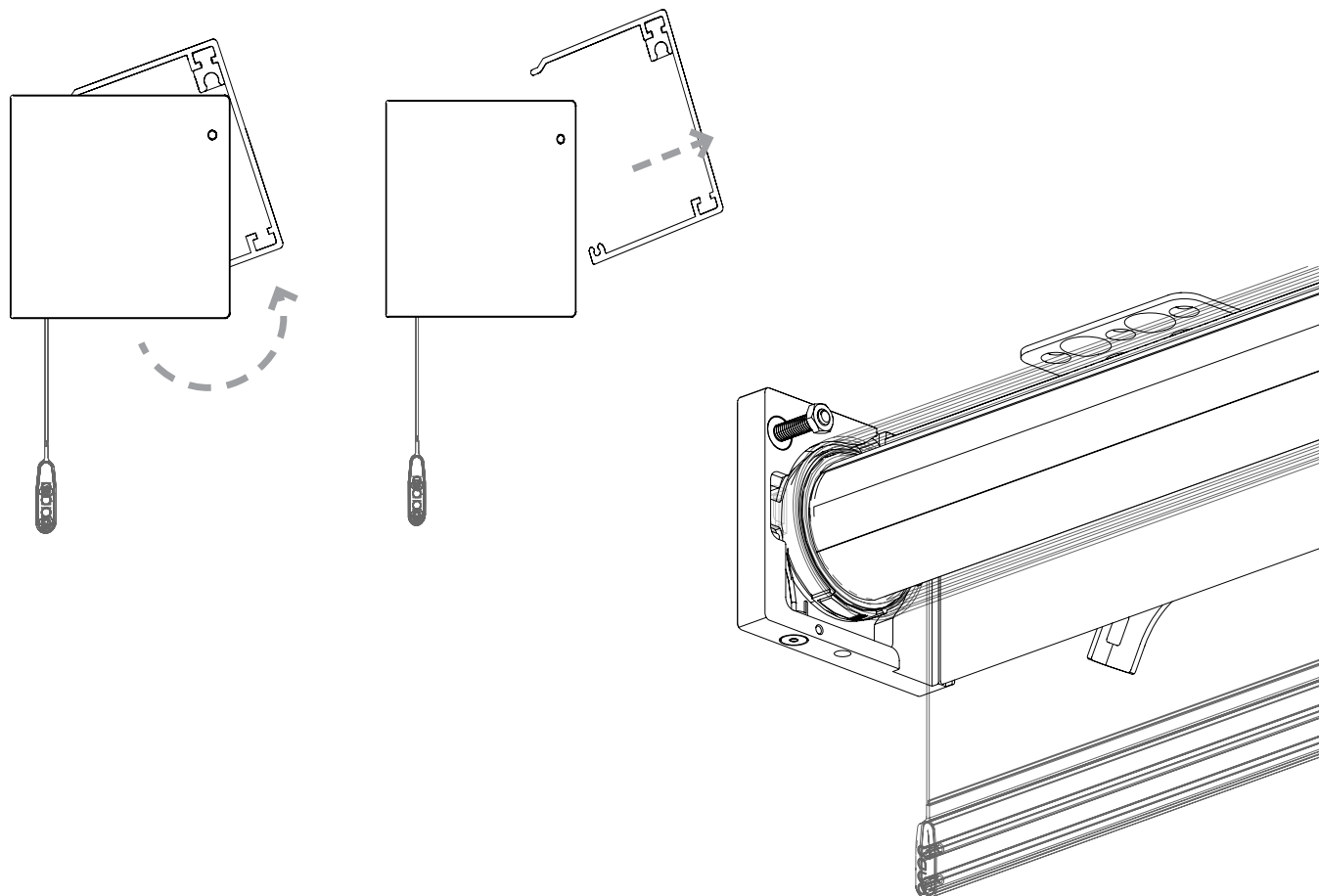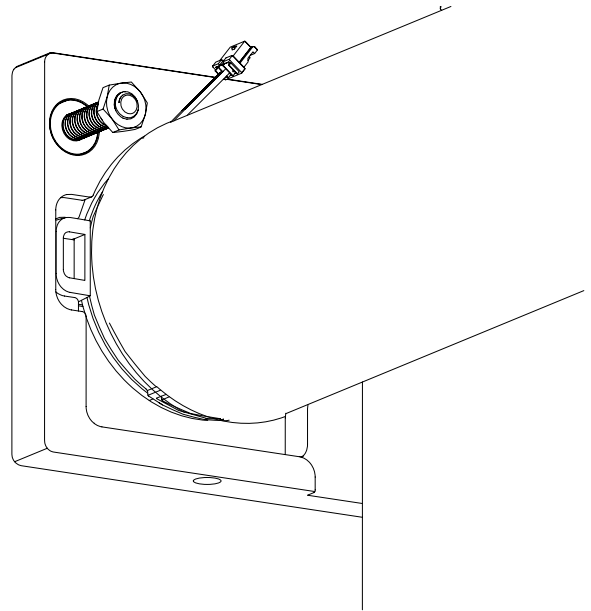
# SERVICING NANO V2 BOX – TUBE REMOVAL

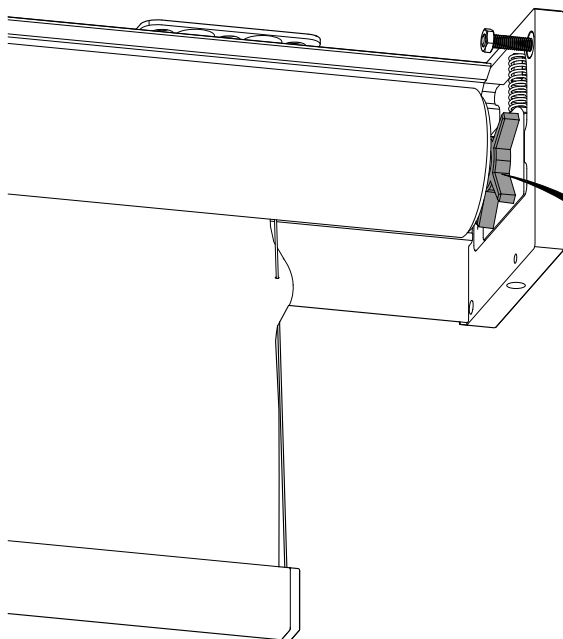1. Disconnect power and the safety spacer as shown below.

Disconnect Power

Wirefree Motor

24v DC Motor

x1

Safety spacer

**NOTE: Retain the safety spacer for reinstallation after service completion.**

# SERVICING NANO V2 BOX – TUBE REMOVAL

2. Fabric tube removal from the cassette:
   Locate the motor side of the fabric tube; push toward the opposite, idler side. The idler spring will depress and disengage, allowing disengagement of the motor side from the end caps. Once the motor side clears the end cap, pull the tube assembly away from the idler to complete removal.

**NOTE: At least two people are required to safely perform tube removal.**
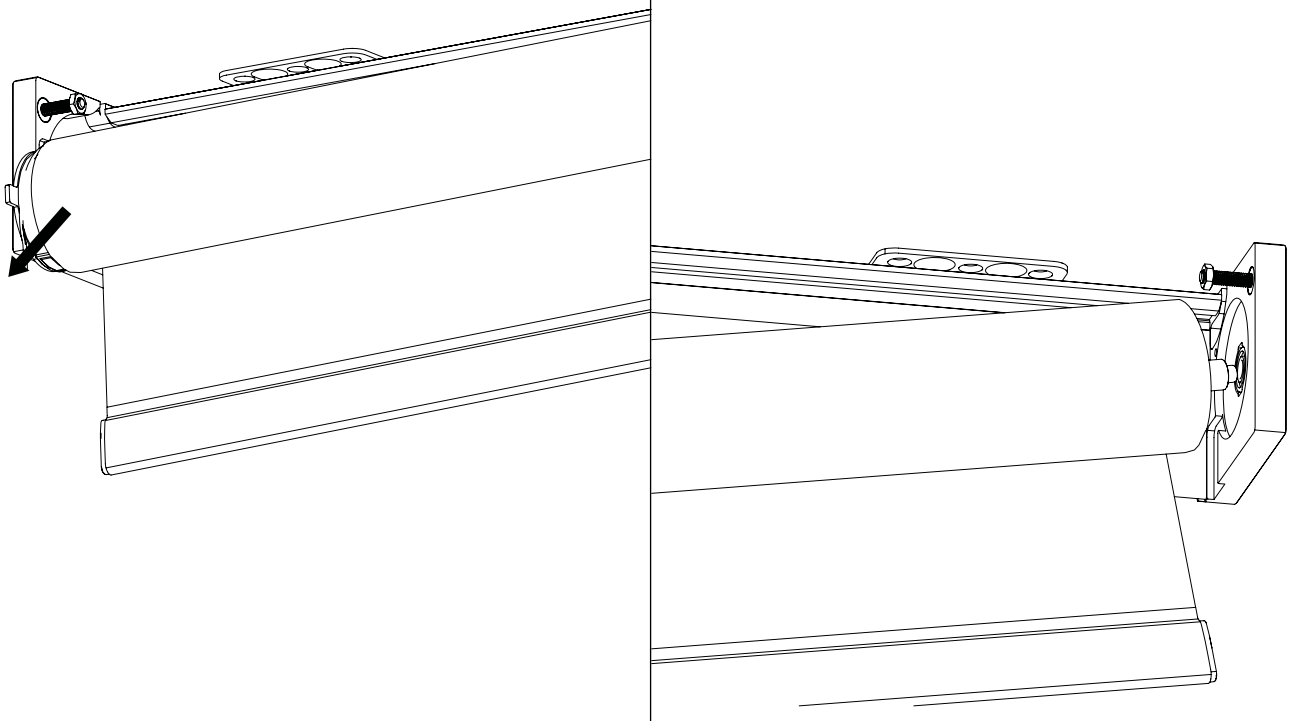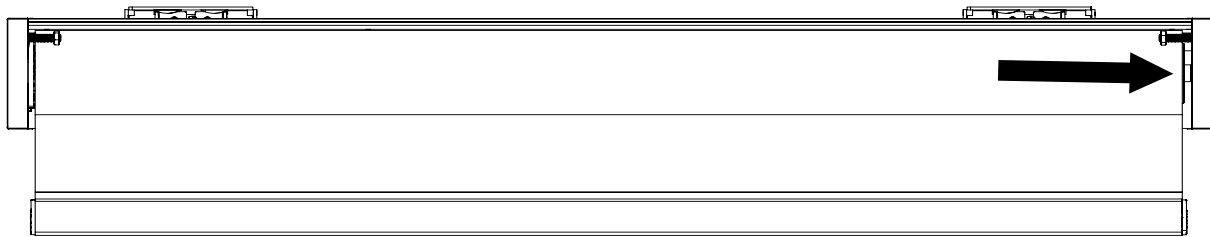


**NOTE: The shade system is now ready for any service.**

> **If any concerns on swapping the motors or fabric tube arise, call SI Shade Support at 512.832.6939 or email shadesupport@screeninnovations.com**

# SERVICING NANO V2 BOX – TUBE INSTALLATION

To reinstall the fabric tube, begin by seating the motor head into the motor end cap.

1.  To ensure correct fit of the motor head, pay particular attention that the rubber noise isolators are fully seated in their corresponding end cap recesses.
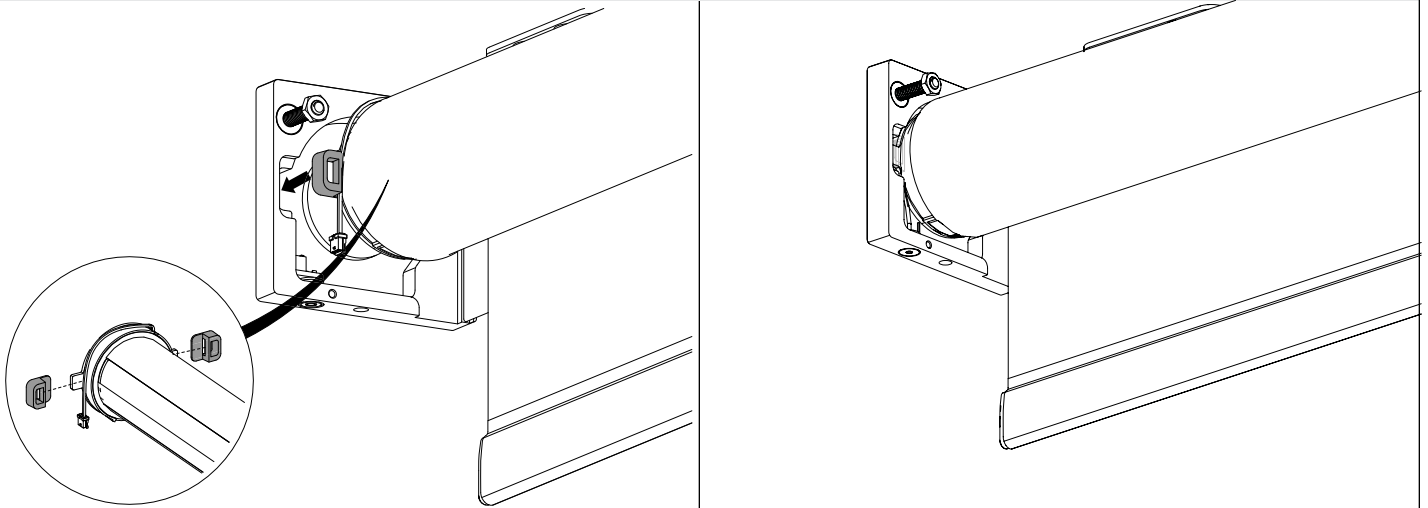


2.  Fully depress the spring-loaded idler; pivot the tube until the idler is in-line with the idler bearing. The idler can be released once it has cleared the edge of the end cap.

**NOTE: Reverse roll shade end caps have additional channels; should the idler engage one of these channels, use a screw driver to depress the idler and shift into the correct bearing.**
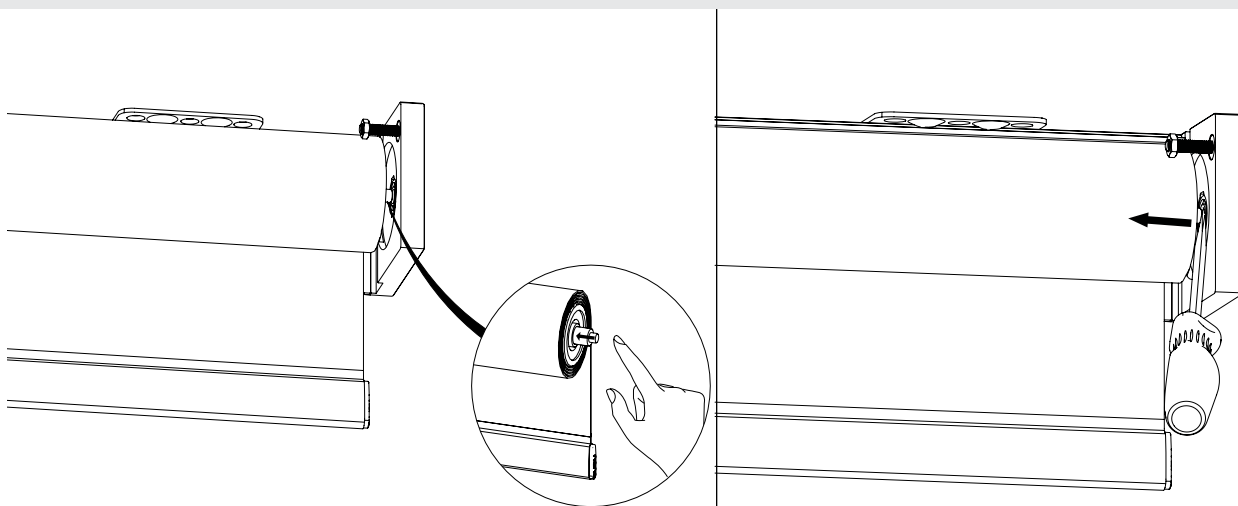
# SERVICING NANO V2 BOX – TUBE INSTALLATION

3. To level Nano V2 375 models, note that the idler bearing is positioned on a spring loaded plate that moves up and down. To level this model, set the plate to the appropriate position and tighten using the hole at the bottom of the end cap.
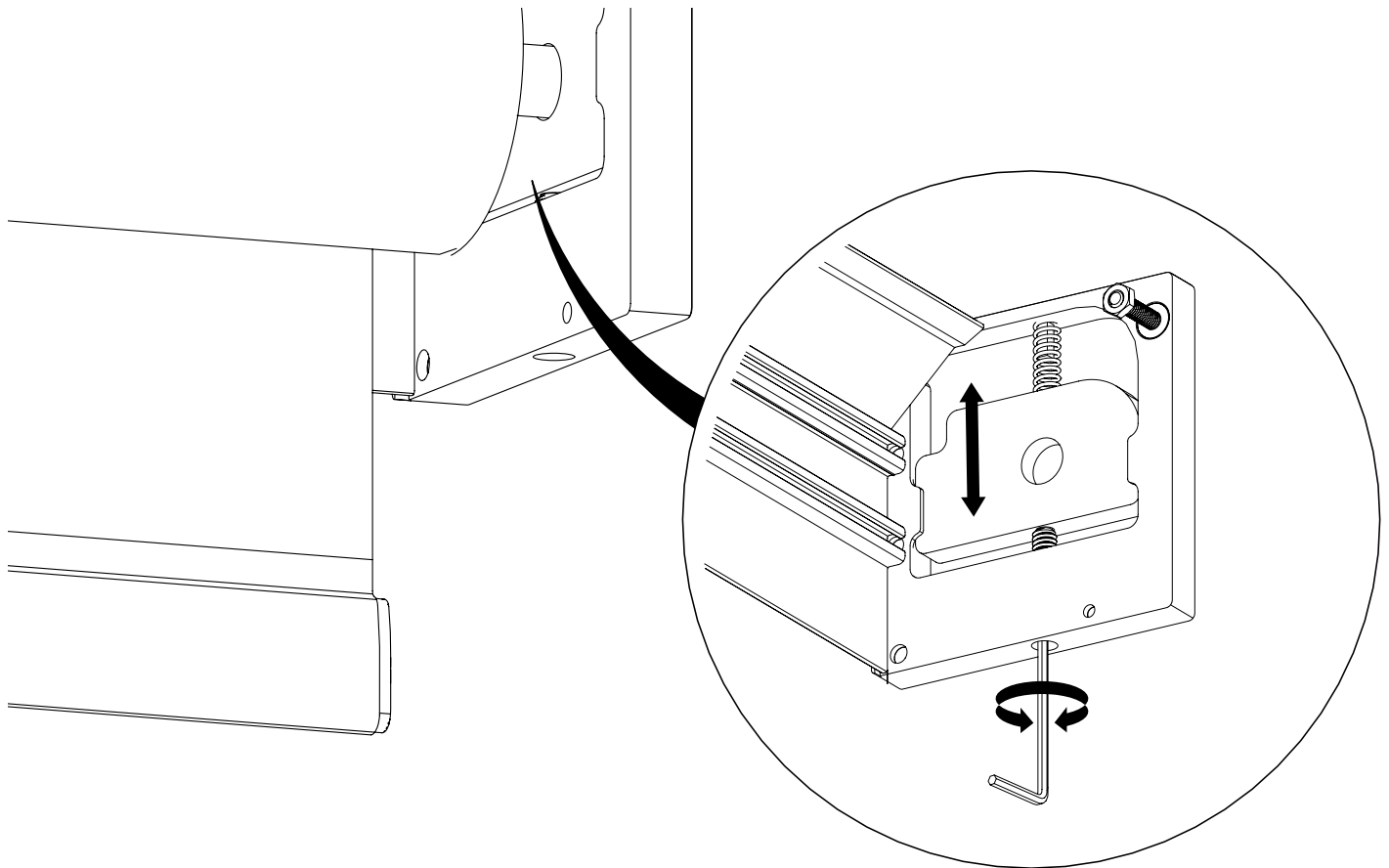
# SERVICING NANO V2 BOX – TUBE INSTALLATION

4. Reconnect power and the safety spacer as seen below.

Reconnect Power

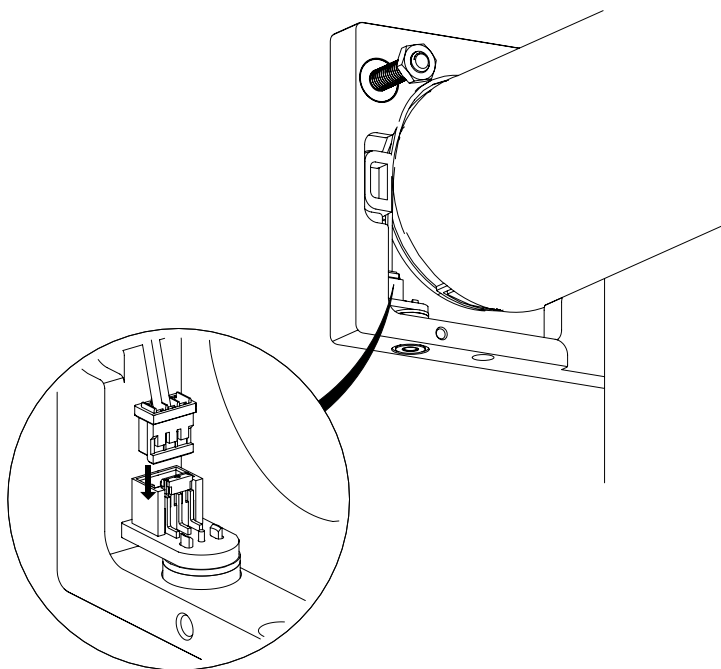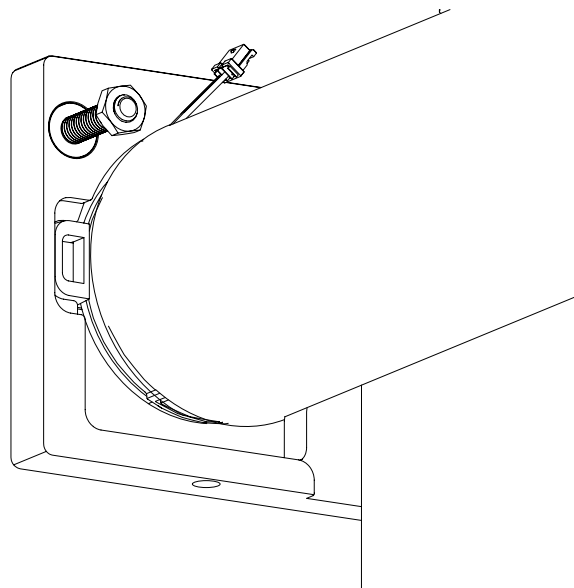

Wirefree Motor

24v DC Motor
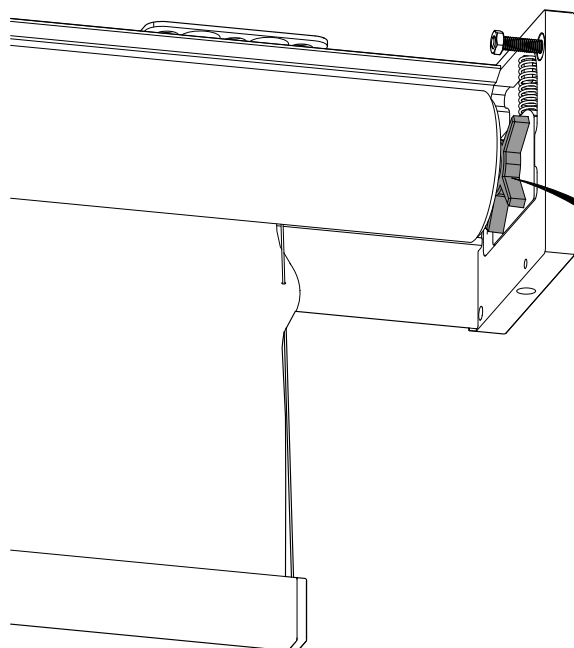


x1

Safety spacer

# SERVICING NANO V2 BOX – TUBE INSTALLATION

5a. Ensure the locking screw nut is fully disengaged, allowing for cassette engagement.

5b. Reinsert the cover by positioning straight-on, then rotating downwards to engage with the locking screws.

**NOTE: The locking screws will "click" once they have engaged and the cassette face will align with the end cap.**
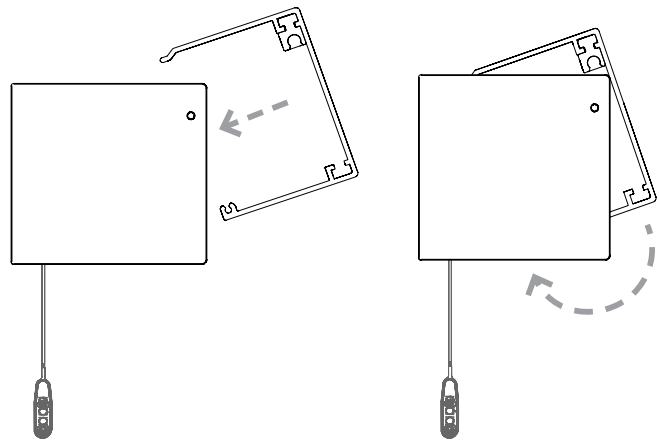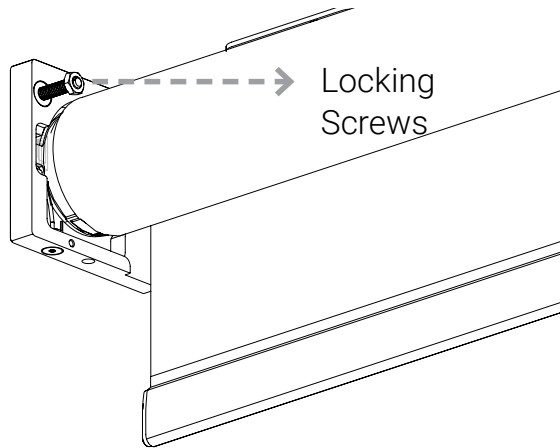


Locking Screws

**NOTE:  Before performing Step 5, shift brackets into the latched position to ensure stability if the shade is installed in a window.**

6. Tighten the locking screws until snug, closing any gap between the end cap and the cassette, locking the cover in place.



end cap locking screw

3/32" allen wrench
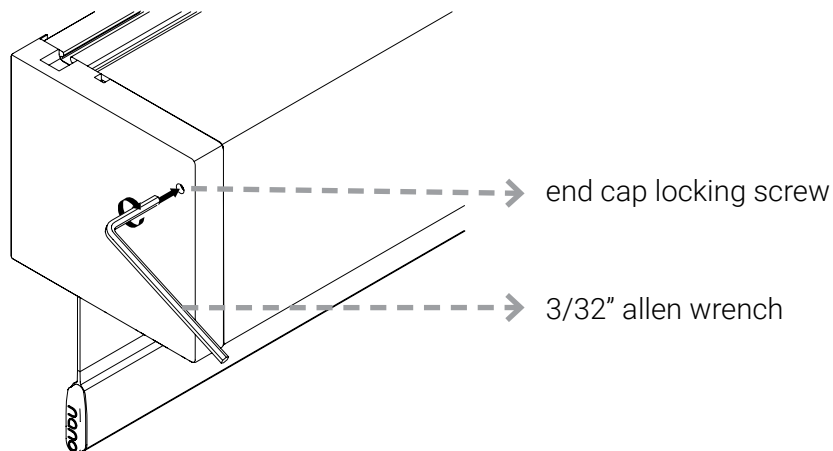
7. To reinstall the shade, refer to page 6: INSTALLATION.

# SERVICING NANO V2 BOX – WIRELESS SLEEP MODE

**Wireless Power**

Before storing, servicing, or transporting, deactivate the motor by putting it in sleep mode, to make sure the shade does not deploy or get damaged.

**RTS**

1. **"Delivery" or Sleep Mode:** Use a thin tool to hold the button on the back of the remote until the shade jogs once. Press and hold the UP, STOP, and DOWN buttons at the same time until the shade jogs again. The motor is now asleep.
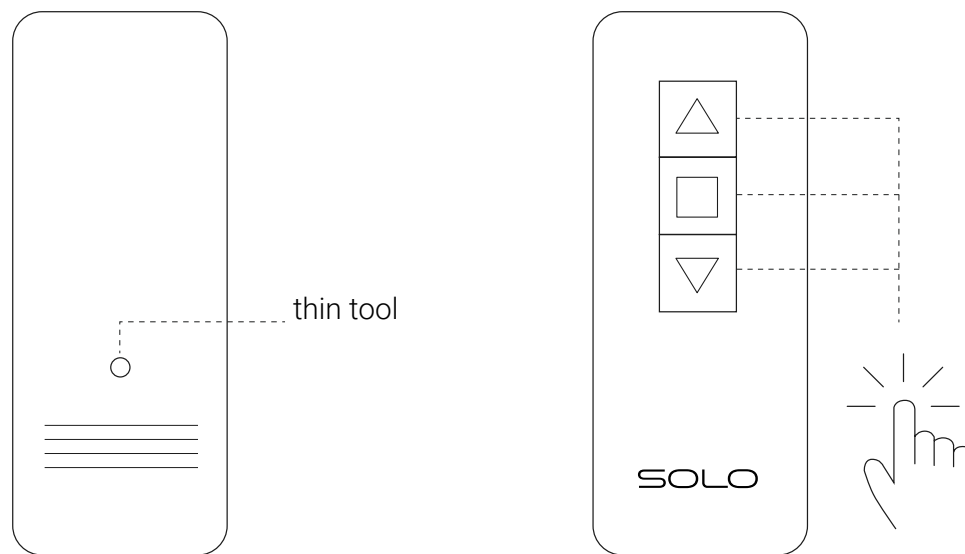


thin tool

SOLO

**Zigbee**

1. **"Delivery" or Sleep Mode:** Use *page 18* of these instructions to disconnect the power and safety spacer, as shown.
2. **Reconnecting:** To reconnect the power and safety spacer, follow *page 22* of these instructions.

**RTS and Zigbee**

1. **Wake-up Mode:** Prior to use, wake the shade from sleep.
   a. Plug the charger into the wall, connecting the charging cable to the charger and magnetic charging port on the cassette. The shade will jog up and down once to signal that the motor is now awake.
   b. In case the charger does not wake up the shade, use a thin tool to briefly press the motor button through the small hole just in front of charging port. The shade will jog once to indicate it is awake.

# TROUBLESHOOTING

| Problem | Possible Cause | Action to Take |
|---|---|---|
| **RTS** | | |
| Shade won't operate. | Motor is not powered. | Ensure that 24Volt motors have 24v DC supply and that the polarity is correct. |
| | Remote button presses are too short. | When operating an RTS remote hold the buttons down for at least 2 seconds. |
| | The remote is being used out of range. | Move within 30ft. of the shade. If the issue persists, adjust the antenna to a new position, and make sure the antenna does not touch metal. |
| | The remote battery is out of place or drained. | Check that the red LED on the remote flashes when buttons are pressed. On the installation remote, pry off the back by hand and ensure the battery is fully seated in the battery tray. If the remote remains unresponsive, replace the battery with a CR2430 3V lithium cell. |
| Loss of control of motor. | Motor setup issue | Only use the motor reset tool, if prescribed from Support as it will erase all the settings and set the motor back to factory default settings. |
| **Zigbee** | | |
| TaHoma LED is Red. | No internet connectivity. | Check network connection to the internet, and ensure the TaHoma is properly connected via ethernet or Wifi. |
| Shade won't operate. | Low-voltage power supply | Verify wiring, terminations and AC power connections to your power supply. |

With our Support team guidance, you may be instructed to press the motor programming button using a thin tool (e.g. a paperclip). If instructed, pressing this button for 2 seconds, can take the motor out of delivery mode and will result in 1 jog.

> **Note: Under no circumstances, should you hold this programming button for more than 2 jogs.**

thin tool
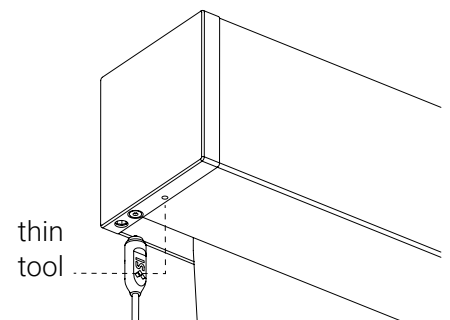
# NOTES

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18. _____

**Screen Innovations**

9715-B Burnet Rd, Suite 400 Austin, TX 78758

512.832.6939

www.screeninnovations.com

Please use this QR Code to access the updated installation instructions and related documents.

Technical Support: 512.832.6939
Hours of Support: 7:30am - 5pm CST

screeninnovations.com
support@screeninnovations.com