5 Motorized Owner’s Manual

Control - 485

⚠️ INSTALLERS: PLEASE LEAVE THIS MANUAL WITH THE OWNER.
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 merchantability. 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.
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**PARTS IN THE BOX - FLUSH - 110v AC**

L- Bracket / Suspended Ceiling Bracket

- **Screen**
- **Suspended Ceiling Bracket Kit**
- **Front Closure**
- **Rear Closure**
- **L - Brackets**

* NOTE: Screws are provided to mount to wooden structural supports only. If other substrate is present then installer must provide appropriate fasteners.

(2) End flanges
(4) 8-32 x 3/8” flat head screws
(4) Closure Bumpers
(2 pair) Gloves
* Wood Screws

USB Programming Kit
Terminal block receptacle
Idler Retraction Tool
**PARTS IN THE BOX - FLUSH - 24v DC**

L-Bracket / Suspended Ceiling Bracket

*NOTE: Screws are provided to mount to wooden structural supports only. If other substrate is present then installer must provide appropriate fasteners.*

- **Screen**
- **Suspended Ceiling Bracket Kit**
- **Front Closure**
- **Rear Closure**
- **L - Brackets**

- **(2) End flanges**
- **(4) 8-32 x 3/8” flat head screws**
- **(4) Closure Bumpers**
- **24v DC Power Supply**
- *** Wood Screws**
- **USB Programming Kit**
- **Terminal block receptacle**
- **(2 pair) Gloves**
- **Idler Retraction Tool**
PARTS IN THE BOX - EXTERNAL - 110v AC

* NOTE: Screws are provided to mount to wooden structural supports only. If other substrate is present then installer must provide appropriate fasteners.

* Wood Screws
(2 pair) Gloves
L Brackets
Idler Retraction Tool
USB Programming Kit
Terminal block receptacle
9/64" Hex Key
PARTS IN THE BOX - EXTERNAL - 24v DC

* NOTE: Screws are provided to mount to wooden structural supports only. If other substrate is present then installer must provide appropriate fasteners.

- Screen
- Front Closure
- Fascia
- 24v DC Power Supply
- USB Programming Kit
- Terminal block receptacle
- 9/64" Hex Key
- Idler Retraction Tool
- (2 pair) Gloves
- L Brackets
- * Wood Screws
1. Run 3 conductor wire to the left side of screen cassette installation location. To be sure you have the correct wire you can order 485 wire directly from SI.

2. Terminate the wires with the provided terminal block shown below.

3. Make sure an appropriate junction box or power receptacle is located within 5ft of the installation location.

⚠️ Installer must follow all local electrical codes when connecting 110v AC power. Certified electrician is required to connect pigtail power.
1. Run minimum 5 conductor wire to the left side of screen cassette installation location. To be sure you have the correct wire, order directly from SI (Part # - Non-Plenum - 800269/9020126 and Plenum rated - 9020127). If you are using third party wire, follow the power wire distance chart below to ensure use of the correct wire gauge for the 24v DC wires.

2. Terminate the wires with the provided terminal block shown below.

### Power Distance Chart

Do not use any combination above the line.
Installation requires two or more people. Bend knees when lifting.

Measure the case length and record the measurement. If pre constructing the pocket then refer to the screen builder for the F dimension for your particular size screen.
1. Measure the case length and record the measurement. If pre constructing the pocket then refer to the screen builder for the F dimension for your particular size screen.

2. Calculate the pocket ceiling dimensions as shown below and prepare the ceiling pocket as prescribed below.

⚠️ It is highly recommended to provide a 6” x 12” access panel at the left end of the case and/or make sure the left end of the case can be accessed from inside the ceiling or attic.

\[ F = \text{in/cm} \]

\[ F = \boxed{} + 1 \frac{3}{4}'' + 1/4'' = \boxed{} + 1/4'' \]

\[ Z = 8 \frac{1}{8}'' + 1/8'' = \boxed{} \]

\[ W = \boxed{} \]
3. Line up the holes on the removable flanges with the holes in the end plates. Then install and hand tighten the flat head screws as shown.

4. Remove the tagged Weight Bar Locks.
Mount the L brackets either to a vertical or horizontal structural support as shown. Make sure brackets are all along the same level line and plumb. Mounting screws have been provided for mounting to wood structural supports only. If mounting to other substrate then installer must provide appropriate fasteners.

Each bracket must be able to hold 200lb load.
## INSTALLATION - FLUSH

Hang Case on L-Brackets and Raise Up

<table>
<thead>
<tr>
<th>2+</th>
<th><strong>Installation requires two or more people. Bend knees when lifting.</strong></th>
</tr>
</thead>
</table>

### 6a

Make sure the hooks on the L brackets are adjusted down. Then raise the case up and hook the case into all 4 hooks on every bracket.

Tighten the screws in the L brackets to raise up the case until the end flanges touch the ceiling.
Install minimum 3/8” threaded rod to structural members in the ceiling per the drawing below.

Parts to be supplied by installer

- Threaded Rod 3/8” Minimum
- Nut
- Washer
- Washer Nut

Install the suspended ceiling bracket kits onto the case as shown below. Move the brackets to match the horizontal position of the threaded rods and then lock down with all 4 screws in each suspended ceiling bracket assembly.
Installations - Flush
Hang Case on Suspended Brackets and Raise Up

6b Raise the case up and guide the threaded rods through the holes in the suspended ceiling brackets. Secure with nuts and washers supplied by the installer.

Use the nuts connected to the threaded rods to raise the case up until the end flanges touch the ceiling.
**INSTALLATION - EXTERNAL**

Measure case & Mount L Brackets

1. Measure the case length and record the measurement.

2. Mount the L brackets either to a vertical or horizontal structural support as shown. Make sure brackets are all along the same level line and plumb. Mounting screws have been provided for mounting to wood structural supports only. If mounting to other substrate then installer must provide appropriate fasteners.

⚠️ Each bracket must be able to hold 200lb load.
INSTALLATION - EXTERNAL

Remove Weight Bar Lock, Hang Case and Raise Up

3. Remove the tagged Weight Bar Locks.

4. Make sure the hooks on the L brackets are adjusted down. Then raise the case up and hook the case into all 4 hooks on every bracket. Then tighten the screws in the brackets until the case firmly presses against the L brackets.
1. Hook the larger front closure into the case opposite the weight bar and then rotate down to secure. Make sure the trim is hooked into the case along entire length before proceeding.

2. Hook the smaller back closure into the case on the side of the weight bar and then rotate down to secure. Make sure the trim is hooked into the case along entire length before proceeding.
Insert the bumpers into the holes in the endplates. Press the pin in the bumper until you feel a **SNAP** indicating the bumper is secured. Before proceeding make sure the bumpers are secured to the endplates. Do this at both ends of the screen.
**TRIM INSTALLATION - EXTERNAL**

Fascia Install & Fascia Lock

1. Hook the front trim into the case opposite the weight bar and then rotate down to secure. Make sure the trim is hooked into the case along entire length before proceeding.

2. Hook the fascia onto the front of the case as shown below.
3 Use the 9/64” hex key to loosen the two screws securing the fascia lock. Then slide the lock down to lock the fascia in place. Finally secure the fascia lock by hand tightening the 2 screws securing the fascia lock position. Do this on both ends of the case.
485 screens are most commonly used with the SIFI controller. The screens are fully commissioned via the SIFI web interface. Only after fully commissioning your screen should you then use your control system’s programming guide to integrate your screen into it.

### 485 Wiring Pinout

<table>
<thead>
<tr>
<th>Pin#</th>
<th>Color</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Orange White</td>
<td>485 (+)</td>
</tr>
<tr>
<td>2</td>
<td>Orange</td>
<td>485 (-)</td>
</tr>
<tr>
<td>3</td>
<td>Green White</td>
<td>Reserved</td>
</tr>
<tr>
<td>4</td>
<td>Blue</td>
<td>Power 24v DC</td>
</tr>
<tr>
<td>5</td>
<td>Blue White</td>
<td>Power 24v DC</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
<td>Reserved</td>
</tr>
<tr>
<td>7</td>
<td>Brown White</td>
<td>485 Ground</td>
</tr>
<tr>
<td>8</td>
<td>Brown</td>
<td>485 Ground</td>
</tr>
</tbody>
</table>

For Screen Data, use Pins 1, 2 & 8

485 screens are programmed using the Screen Innovations SIFI via the web interface. This programming can be done with a Windows or Mac computer either over LAN or wired directly to SIFI. The following instructions are for a Windows computer, but the steps for programming on a Mac are very similar. For a complete guide to program SIFI on a Mac, please visit our website. Before attempting to program any motors with SIFI, verify that the firmware is up to date. To adjust the lower limit of an 485 screen, follow the steps below.
1. Launch Windows File Explorer
2. Click on the “Network” tab
3. Double click on the SIFI, the default web browser will launch
4. At the landing page, click the three lines in the top right corner, then click “Settings”
5. Select the “SDN” tab on the top left
6. Press the spyglass to auto discover motors on the 485 network (may have to press it more than once)
7. Click on the motor you want to program
8. Name the motor
9. Right click on the down limit count
10. Move the screen up or down using the buttons in the popup window
11. Click set to confirm the limit
12. Operate the screen up and then back down to verify the position of the limit
CONTROLS
Programming 24v DC with SIFI

without PoE

with PoE
CONTROLS
Programming 110v AC with SIFI

without PoE

with PoE
Setting the Drop:
5/3 Motorized is factory preset to have 12” of drop, the distance between the top of the viewing area and the cassette. The drop can be adjusted up to the MAX DROP (see model number or order information for your screen’s MAX DROP) to customize the viewing surface’s vertical position.

NOTE: If a simplified system without a SIFI is setup then changes to factory settings require a special 485 Setting Tool available from Screen Innovations and ordered separately (Part # 9017142).

1. Make sure 24v DC power is supplied to the screen.
2. Use a standard CAT 5e cable to plug in the limit setting tool to the data hub. Disconnect all devices that you do NOT want to program (only connect the device you want to program. Limit setting tool should be connected to data hub).
3. If you are not using a data hub then you can connect directly to the screen. Terminate the cable as directed in the RS485 wiring port chart (refer to page 22).
4. Plug the RJ45 into the setting tool.
5. Turn the setting tool on by pressing the ON/OFF button.
6. Use the UP and DOWN buttons to point to “Somfy 485 Node Discovery”.
7. Press OK to enter the selection.
8. Once the node ID appears on the screen, press OK again.
9. Use the directional buttons to navigate to “Down Limit Setting” and press OK to enable setting the drop.
10. Use the UP and DOWN arrows to adjust the screen drop to the desired amount, up to MAX DROP to the bottom of the cassette.

⚠️ DO NOT set the drop more than MAX DROP. Doing so can damage the screen material.

11. Once the viewing area is positioned and the drop is correct, press the OK button to save the new lower limit and drop.
12. Turn the setting tool off.
13. Disconnect the 485 cable from the Setting Tool.
14. Reconnect the 485 cable to the control system.
CONTROLS - OPTION 3
Programming with USB Cable

Connect USB to Windows PC for Limit Setting

For 110v AC

Connect USB to Windows PC for Limit Setting

For 24v DC
There are several options to control a Screen 485 screen with 3rd party controls. To integrate with your preferred solution see the corresponding programming guide and/or the system manufacturers instructions. **Note: To change the programming (lower limit) you will need either a SIFI or an 485 limit setting tool.**

• For connection to your control system refer to pinout image (pg 21). Then use your control system’s programming guide to send commands to control the screen. For further integration help call support at 512.832.6939.

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**CONTROLS - USING 3RD PARTY via Serial**

![Diagram of RS485 Screen connection](image)

- RS485 Screen
- RS485 Serial Conductors (refer to pg. 6)
- Computer or Control system with serial port

**CONTROLS - USING 3RD PARTY via SIFI**

When using a SIFI, you will connect the SIFI to Screen as shown in the following drawing with the RS-485 connection. Connecting your 3rd party control system to Screen uses an IP network connection. Connect your SIFI to the same IP network as your control system and follow the SIFI programming guide to complete the connection. More details about how to integrate with your preferred solution see the corresponding programming guide and/or the system manufacturers instructions.

Refer to thr block diagram on page XX.
For further integration help call SI support at 512.832.6939.
Momentary dry contact closure via Somfy DecoFlex Switch. See below for suggested block diagram. See RS485 wiring pinout (pg. 21) for wiring termination. See DecoFlex programming guide to integrate control system dry contact closure into your system.

**CONTROLS - USING 3RD PARTY**
via DCT with 12v and IR

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For 24v DC

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For 110v AC
ADJUSTING THE TAB TENSION

1. Press in the button and turn knob counter clockwise until the string is loose.

2. Turn the knob clockwise 2 to 4 clicks at a time until there is tension on the string. The strings should have minimal tension on them only.

⚠️ DO NOT OVERTIGHTEN TAB TENSION STRINGS: Tab tension strings will NOT flatten out major wrinkles in the screen. Overtightening the tab tension strings can result in damage to your screen material.
## Troubleshooting

Problems related to electrical or motor function may require a qualified service person or electrician. Should you have a problem that is not addressed here, call: Screen Innovations (512-832-6939.)
http://www.screeninnovations.com/category/support/

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Probably Cause</th>
<th>Action to Take</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor shuts off. Motor has been in use for more than 2 minutes.</td>
<td>Motor is designed for short operations (lowering and retracting), not continuous duty. Longer operation, causes the motor to overheat and shutoff. This typically happens during installation when testing the screen.</td>
<td>Allow the motor to cool down. Complete cooling can take an hour or more. Heat gain is cumulative and takes time to dissipate. If motor use is initiated before it has cooled completely, the motor will shut down again when it reaches maximum temperature.</td>
</tr>
<tr>
<td>When down button is pressed, screen stops halfway</td>
<td>An intermediate stop was set for the motor.</td>
<td>Call SI Customer Support to fix at 512.832.6939, Opt. 1</td>
</tr>
<tr>
<td>SIFI is not powered.</td>
<td></td>
<td>Check the wire pinouts and termination. Look for broken, loose, or damaged wires. Determine if necessary.</td>
</tr>
<tr>
<td>SIFI is not on the local network.</td>
<td></td>
<td>Check that the green LED on SIFI is flashing. If not, make sure power is available via the bus power supply or PoE (with expansion card only). Use the service keypad (if available) to validate the RS485 network and motors are operating properly before troubleshooting SIFI network problems. Check that the SIFI is communicating on the local network. Ping the device via the windows command prompt, or make sure the device shows up in the network tab of the Windows File Explorer.</td>
</tr>
<tr>
<td>AC Screen won't run</td>
<td>No AC power available.</td>
<td>Check to see if the circuit breaker has switched off. Reset if needed. Check outboard switching apparatus. Check voltage availability. Contact an electrician.</td>
</tr>
<tr>
<td>DC Screen won't run</td>
<td>No power to 24v DC supply</td>
<td>Check for power at your plug and/ check for breaker box.</td>
</tr>
</tbody>
</table>
It is 100% programmed and tested at the factory. In case of a malfunction please use the troubleshooting guide table.

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>Probably Cause</th>
<th>Action to Take</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dirt, fingerprints, marks, etc. on screen surface.</td>
<td>Improper handling of screen.</td>
<td>Follow clean instructions outlined in the Screen Care and Cleaning Section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="https://www.screeninnovations.com/category/support/faq/general/#how-to-clean-your-projection-screen">https://www.screeninnovations.com/category/support/faq/general/#how-to-clean-your-projection-screen</a></td>
</tr>
<tr>
<td>Indentations appear on screen surface.</td>
<td>Debris or particles adhering to screen due to static cling.</td>
<td>Check back of screen as well as front of screen for dust or debris. Wipe the back of the screen with a clean damp cloth. Also, lightly brush off the front of the screen.</td>
</tr>
<tr>
<td>Wrinkles near bottom of screen.</td>
<td>Screen material has stretched and thus increased the tension on the tabs.</td>
<td>Follow the adjusting tab tension section</td>
</tr>
<tr>
<td>Vertical wrinkles in screen</td>
<td>Material has shifted at the weight bar</td>
<td>Gently move the material out to each end of the weight bar until smooth.</td>
</tr>
<tr>
<td>Dimples in screen</td>
<td>Debris rolled up in screen material</td>
<td>Clean material per instructions on Pg 30.</td>
</tr>
</tbody>
</table>

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