Sivoia® QS

wiring and
programming
guide

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Sivoia® QS Wiring and Programming Guide

Sivoia QS Drives are available for control of Draperies, Roller Shades, Venetian Blinds, Sheer Blinds, and Tensioned Shades. *Sivoia QS* Shades, Blinds, and Draperies can be controlled as part of a *QS* System, incorporating GRAFIK Eye® QS lighting controls, or as a *Window treaments only* System, without lighting controls.

Sivoia QS Drives and Keypads are powered from a 24 V⎓ power supply. All drives, power supplies, keypads and other control devices are linked together. This link provides 24 V⎓ to all components.

The Window treaments can also be equipped with a QS IR Eye receiver and operated via an infrared Hand-Held Remote Control. These can be used in either a *GRAFIK Eye QS* Integrated System or *Sivoia QS* Standalone System.

Contents

Wiring

Setting limits

Verifyling communication

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Restoring defaults
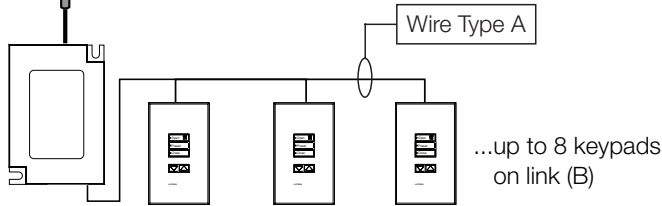
Troubleshooting

1 System Wiring Overview: QS Link Power Supply

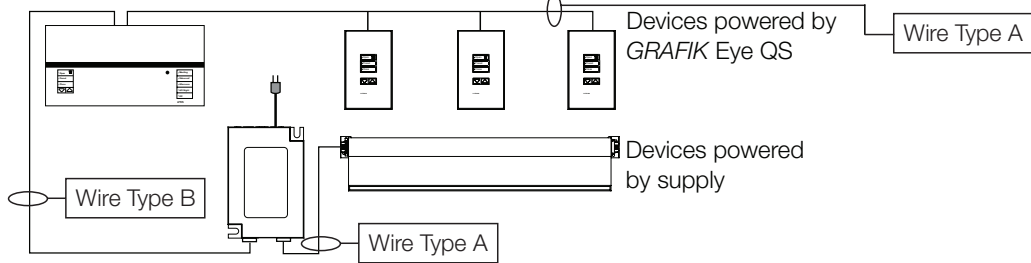**Example:** Powering one shade / drapery drive unit and one keypad
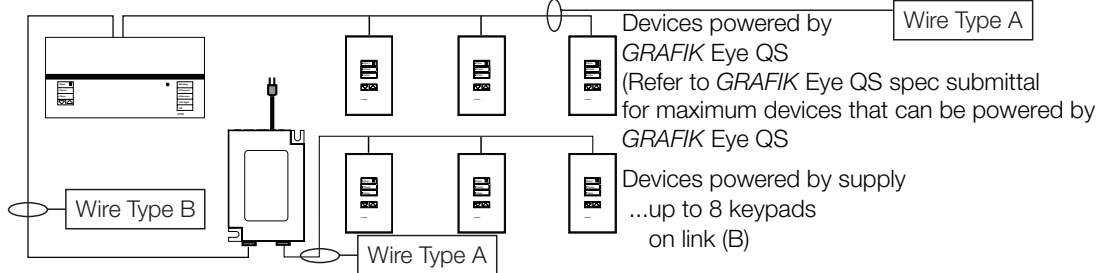(max of one shade / drapery drive unit per output of a power supply)

Wire Type A
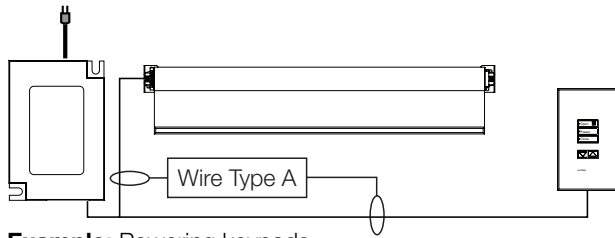
Example: Powering keypads

Wire Type A

...up to 8 keypads
on link (B)

Example: Connecting to a *GRAFIK* Eye® QS (**Note:** *GRAFIK* Eye QS powered from line voltage)

Devices powered by
GRAFIK Eye QS

Wire Type A

Devices powered
by supply

Wire Type B

Wire Type A

Example: Connecting to a *GRAFIK Eye* QS (**Note:** *GRAFIK* Eye QS powered from line voltage)

Wire Type A

Devices powered by
GRAFIK Eye QS
(Refer to *GRAFIK* Eye QS spec submittal
for maximum devices that can be powered by
GRAFIK Eye QS

Devices powered by supply
...up to 8 keypads
on link (B)

Wire Type B

Wire Type A

Wiring Type Key

Type A Power and communication link (4 conductor)
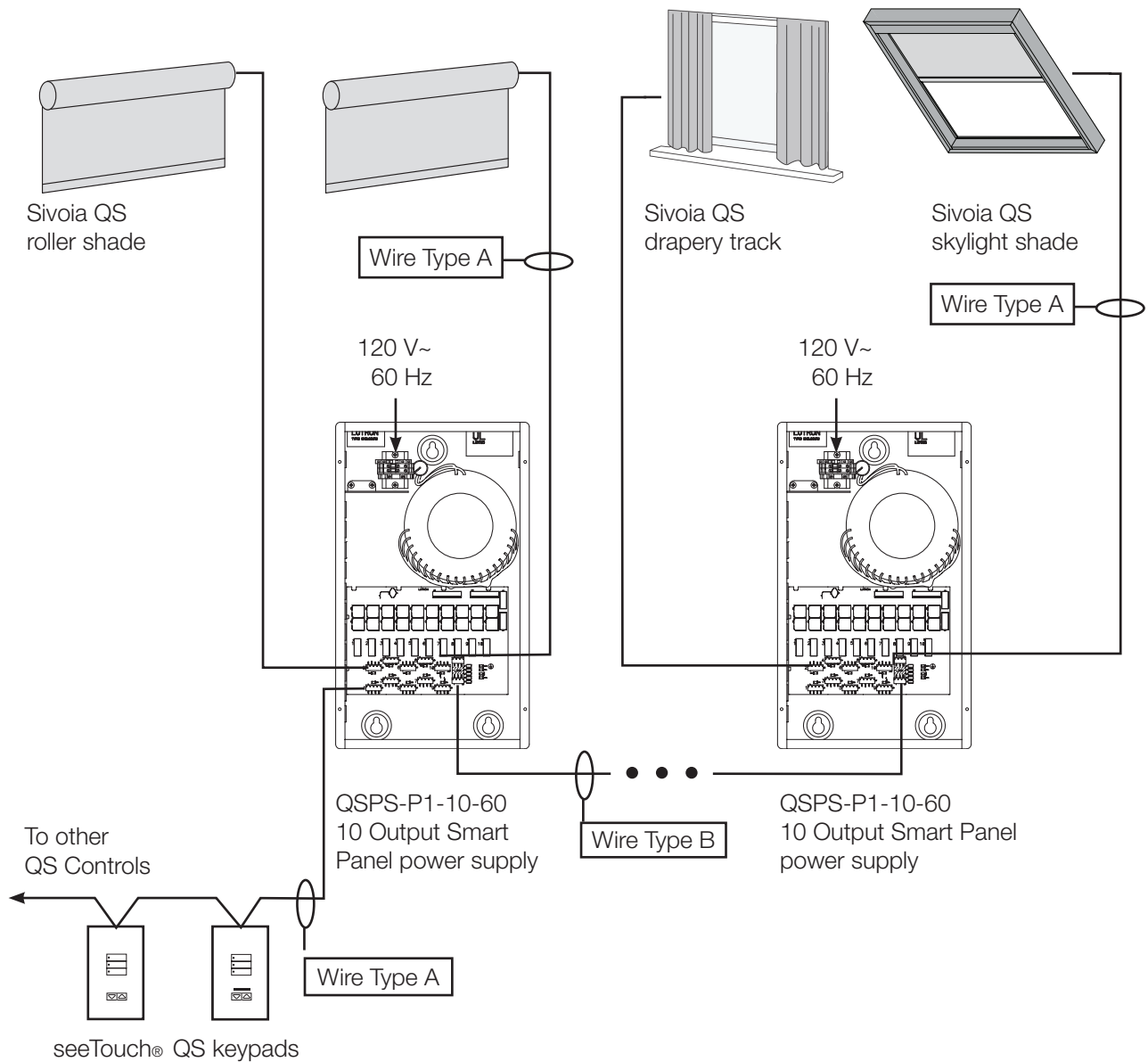Provides power and communication to QS shades or keypads

Type B Communication link (3 conductor)
Communications used to connect power supplies to each other or to *GRAFIK* Eye QS

Refer to Section 6 - QS Power Supply Wiring and Power Draw Unit Guidelines for wire gauge based on distance.

Note: Secondary wiring must be of type CL2, CL2P, CL2R, CL2X or other cable with equivalent or better
electrical, mechanical, and flammability ratings in accordance with local and national electric code.

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2   Sivoia QS System Wiring:
Smart Panel power supply, single shade per output

Sivoia QS
roller shade

Wire Type A

Sivoia QS
drapery track

Sivoia QS
skylight shade

Wire Type A

120 V~
60 Hz

120 V~
60 Hz

To other
QS Controls

QSPS-P1-10-60
10 Output Smart
Panel power supply

Wire Type B

QSPS-P1-10-60
10 Output Smart Panel
power supply

Wire Type A

seeTouch® QS keypads

Wiring Type Key

Type A   Power and communication link (4 conductor)
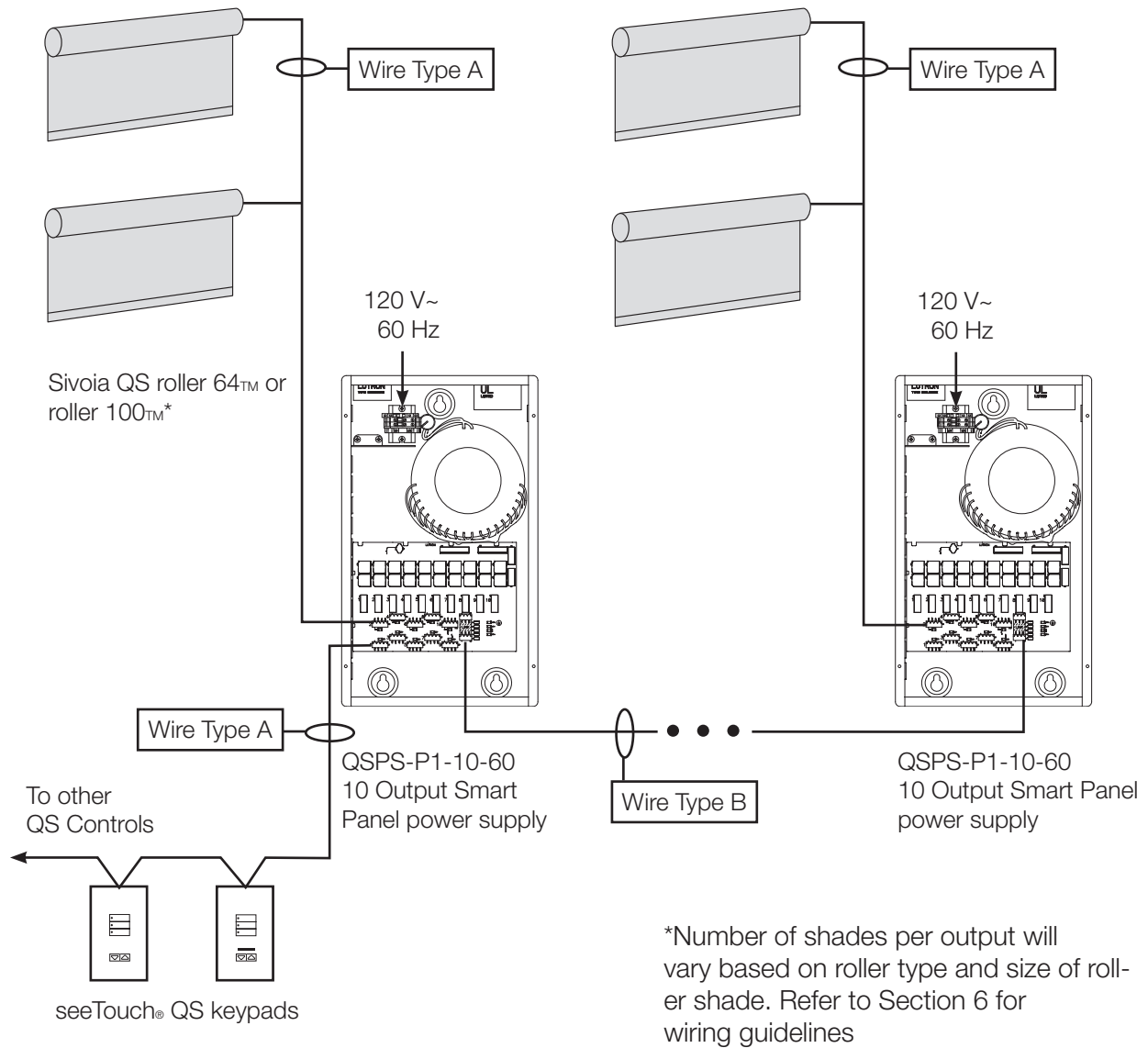Provides power and communication to QS shades or keypads

Type B   Communication link (3 conductor)
Communications used to connect power supplies to each other or to *GRAFIK* Eye QS

Refer to Section 6 - QS Power Supply Wiring and Power Draw Unit Guidelines for wire gauge based on distance.

Note: Secondary wiring must be of type CL2, CL2P, CL2R, CL2X or other cable with equivalent or better
electrical, mechanical, and flammability ratings in accordance with local and national electric code.

Sivoia QS roller 64™ or roller 100™*

120 V~ 60 Hz

Wire Type A

Wire Type A

Wire Type A

120 V~ 60 Hz

QSPS-P1-10-60 10 Output Smart Panel power supply

Wire Type B

QSPS-P1-10-60 10 Output Smart Panel power supply

To other QS Controls

seeTouch® QS keypads

*Number of shades per output will vary based on roller type and size of roller shade. Refer to Section 6 for wiring guidelines

Wiring Type Key

Type A Power and communication link (4 conductor)
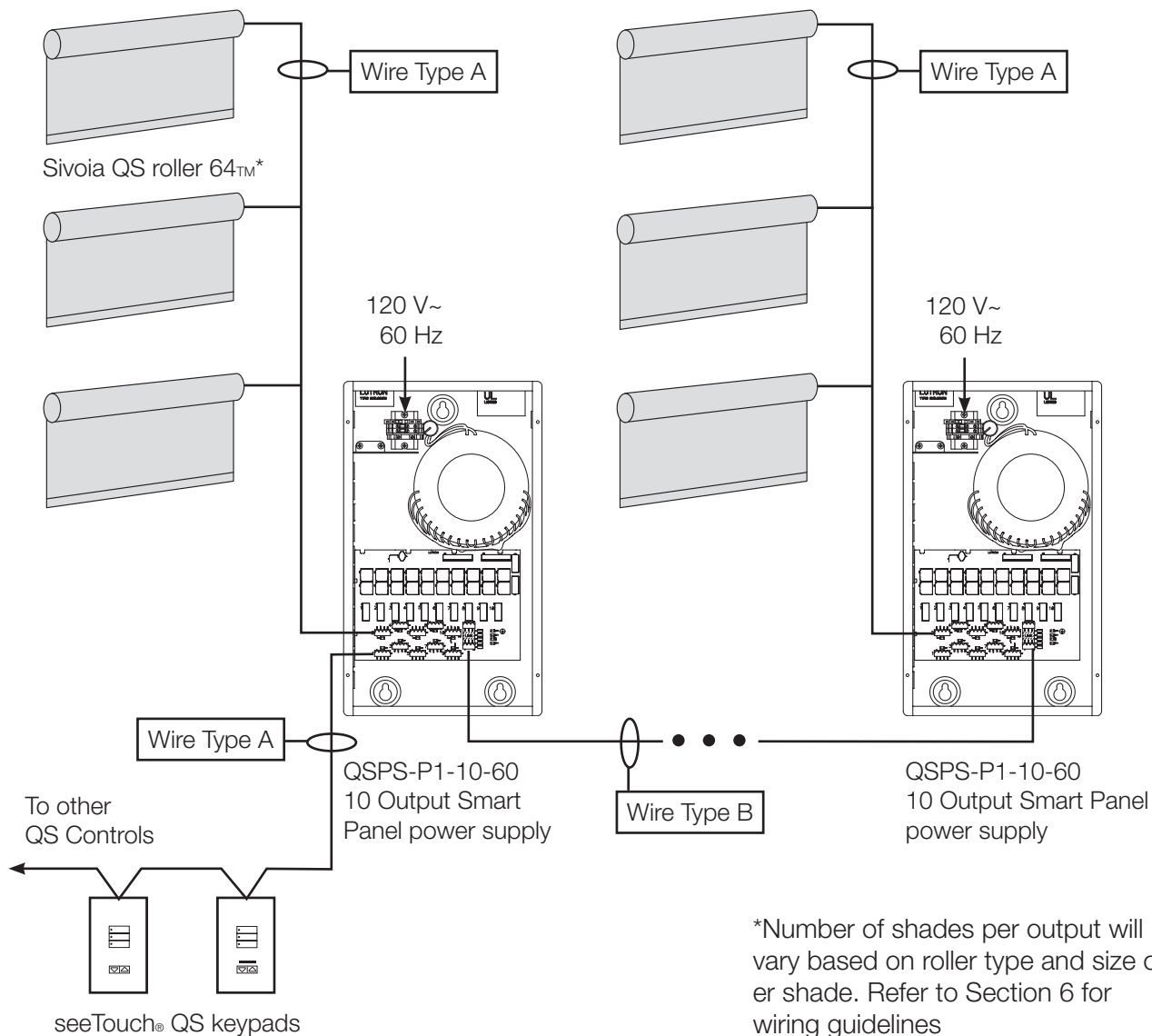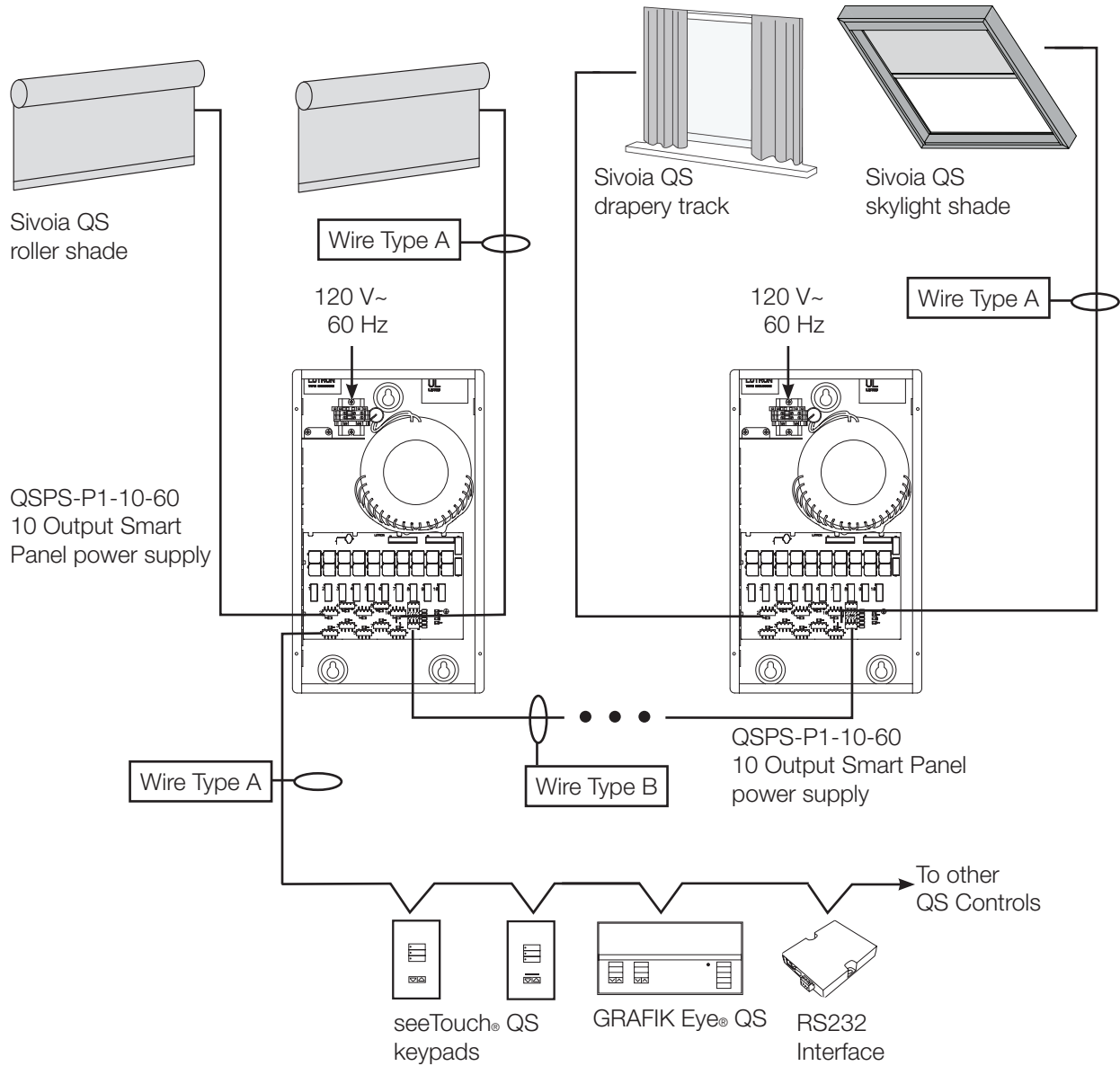Provides power and communication to QS shades or keypads

Type B Communication link (3 conductor)
Communications used to connect power supplies to each other or to *GRAFIK* Eye QS

Refer to Section 6 - QS Power Supply Wiring and Power Draw Unit Guidelines for wire gauge based on distance.

Note: Secondary wiring must be of type CL2, CL2P, CL2R, CL2X or other cable with equivalent or better electrical, mechanical, and flammability ratings in accordance with local and national electric code.

Sivoia QS System Wiring:
Smart Panel power supply, three shades per output

Wire Type A

Wire Type A

Sivoia QS roller 64™*

120 V~
60 Hz

120 V~
60 Hz

Wire Type A

QSPS-P1-10-60
10 Output Smart
Panel power supply

Wire Type B

QSPS-P1-10-60
10 Output Smart Panel
power supply

To other
QS Controls

seeTouch® QS keypads

*Number of shades per output will vary based on roller type and size of roller shade. Refer to Section 6 for wiring guidelines

Wiring Type Key

Type A Power and communication link (4 conductor)
Provides power and communication to QS shades or keypads

Type B Communication link (3 conductor)
Communications used to connect power supplies to each other or to *GRAFIK* Eye QS

Refer to Section 6 - QS Power Supply Wiring and Power Draw Unit Guidelines for wire gauge based on distance.

Note: Secondary wiring must be of type CL2, CL2P, CL2R, CL2X or other cable with equivalent or better electrical, mechanical, and flammability ratings in accordance with local and national electric code.

Sivoia QS roller shade

Sivoia QS drapery track

Sivoia QS skylight shade

Wire Type A

120 V~ 60 Hz

120 V~ 60 Hz

Wire Type A

QSPS-P1-10-60 10 Output Smart Panel power supply

QSPS-P1-10-60 10 Output Smart Panel power supply

Wire Type A

Wire Type B

To other QS Controls

seeTouch® QS keypads

GRAFIK Eye® QS

RS232 Interface

Wiring Type Key

Type A Power and communication link (4 conductor)
Provides power and communication to QS shades or keypads

Type B Communication link (3 conductor)
Communications used to connect power supplies to each other or to *GRAFIK* Eye QS

Refer to Section 6 - QS Power Supply Wiring and Power Draw Unit Guidelines for wire gauge based on distance.

Note: Secondary wiring must be of type CL2, CL2P, CL2R, CL2X or other cable with equivalent or better electrical, mechanical, and flammability ratings in accordance with local and national electric code.

6 QS Power Supply Wiring and Power Draw Unit Guidelines

Use this chart to determine the number of shades and or controls that can be powered from one output on the Sivoia QS Smart Panel or from the output of the QS Individual Power Supply depending on the size of the shade. Then, verify the maximum cable length for the output configuration, based on the wire gauge that will be used for the 2 power conductors.

QS Smart Panel Power Supply (QSPS-Px-10-60)				
Maximum devices per one output		**Maximum distance per one output based on wire guage**		
Shades + Controls		**12 AWG (4 mm^2) QSH-CBL-L-500 QSH-CBLP-L-500**	**16 AWG (1.5 mm^2) QSH-CBL-M-500 QSH-CBLP-M-500**	**18 AWG (1 mm^2) GRX-CBL-346S-500**
No shade or drapery	Up to 50 power draw units	1250 ft (375 m)	500 ft (150 m)	250 ft (75 m)
No shade or drapery	Up to 25 power draw units	2000 ft (600 m)	1000 ft (300 m)	600 ft (175 m)
1 Sivoia QS shade or drapery	Up to 1 power draw unit	500 ft (150 m)	200 ft (60 m)	125 ft (35 m)
2 Sivoia QS Roller64, ≤ 30 ft^2 (2.75 m^2) each		200 ft (60 m)	75 ft (20 m)	50 ft (15 m)
3 Sivoia QS Roller64, ≤ 20 ft^2 (1.8 m^2) each				
2 Sivoia QS Roller100, ≤ 50 ft^2 (4.6 m^2) each				

QS Individual Power Supply (QSPS-Px-1-50 or QSPS-J-1-50)				
Maximum devices per one output		**Maximum distance per one output based on wire guage**		
Shades + Controls		**12 AWG (4 mm^2)**	**16 AWG (1.5 mm^2)**	**18 AWG (1 mm^2)**
None	Up to 8 power draw units	2000 ft (600 m)		1500 ft (450 m)
1 Sivoia QS shade or drapery	Up to 1 power draw unit	250 ft (75 m)	100 ft (30 m)	50 ft (15 m)

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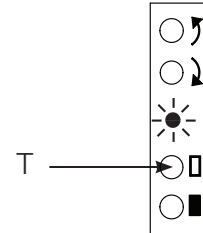
7   Setting Limits From the Drive

The open and close limits define the travel range of the window treament. Limits can be set at the Drive, or from a keypad or an IR Remote previously assigned to that Drive. It is recommended that limits be set initially at the Drive.

T = Tap   H = Press and Hold
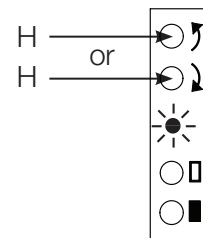
Setting Open Limit
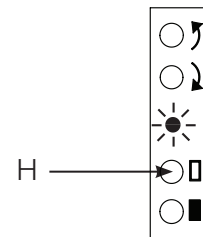
7.1 Tap Open Limit button. Green LED will turn on.

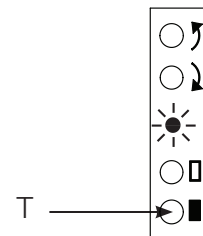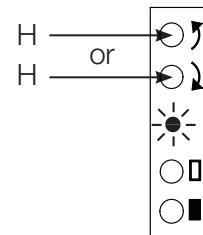**7.2** Press and hold either arrow button to move the Window treament to desired Open Limit.

7.3 Press and hold the Open Limit button until the Green LED flashes. Open Limit is stored.

Setting Close Limit

7.4 Tap the Close Limit button. The Green LED will turn on.

7.5 Press and hold either arrow button to move the Window treament to desired Close Limit.

7.6 Press and hold the Close Limit button until the Green LED flashes. Close Limit is stored.

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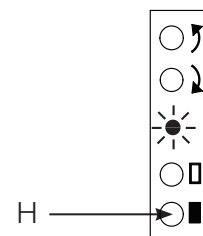
8   Verify Communication

From a Drive:

8.1   Press and hold Close (▮) for 5 seconds,

8.2   Tap CCW (↺) to enter Link Diagnostics mode
-Window treaments will wiggle and display a
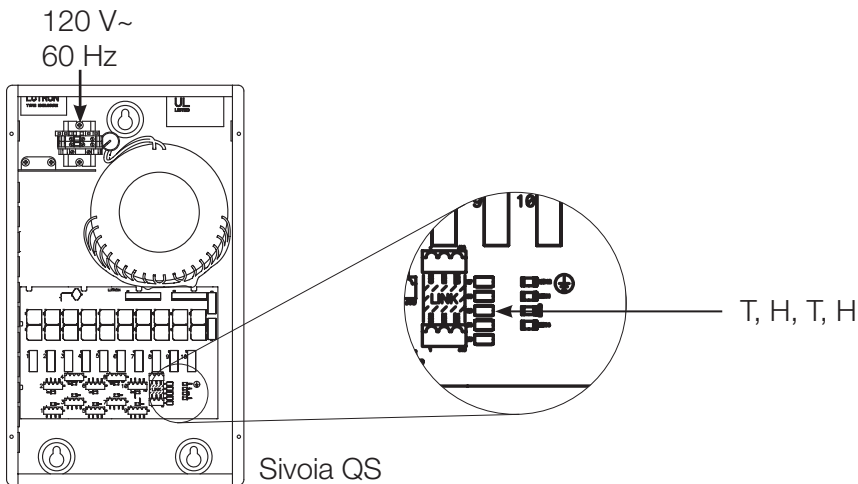green LED, flashing once per second*

8.3   Press and hold Close (▮) to exit Link Diagnostics Mode.
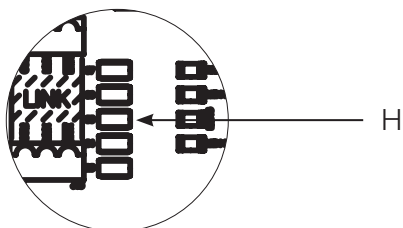
H

T

H
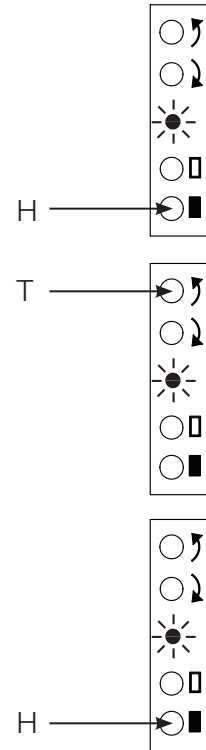
From the Sivoia QS Smart Panel:

8.4   Tap Open, hold Open 5 seconds., tap Open, hold Open 5 seconds.
- All window treaments will wiggle*

120 V~
60 Hz

T, H, T, H

Sivoia QS

8.5   Press and hold Open 5 sec. to exit Link Diagnostics mode

H

(*) If any window treament is not wiggling, or is displaying a red LED, check the wiring
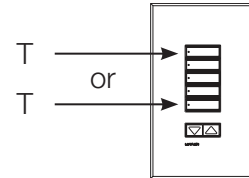
9   Assigning Window treaments to Keypads

9.1   Press and hold Open and Close simultaneously for 5 seconds
-Window treaments that are assigned will move to close (down)
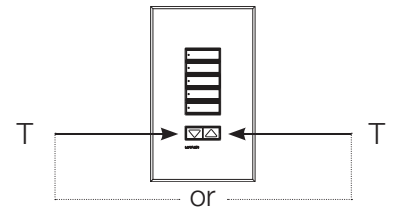-Window treaments that are unassigned will move to open (up)

H
and
H
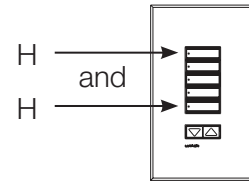
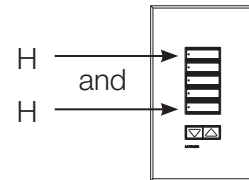**9.2**   Tapping Open selects the next window treatment, Close selects the next window treatment

T
or
T

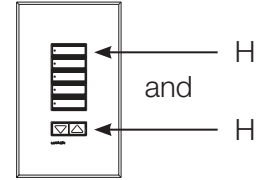**9.3**   Tap the Lower (▽) to assign or Raise (△) to unassign a window treament

T   T
or

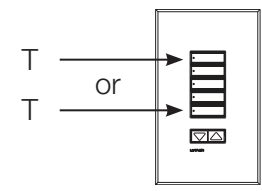**9.4**   Press and hold Open and Close simultaneously for 5 seconds to exit

H
and
H

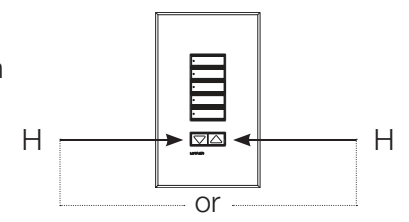## 10   Setting Limits From a Keypad or IR Transmitter

10.1   Press and hold Open and Raise (△)
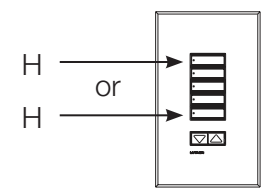simultaneously for 5 seconds

H
and
H

10.2   Tapping Open selects the next window treatment,
Close selects the next window treatment
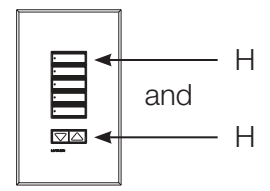
T
or
T

10.3   Hold Raise (△) or Lower (▽) to adjust window treament position

H   H
or

10.4   Press and hold Open for 5 seconds to store the open limit
or Close for 5 seconds to store the close limit

H
or
H

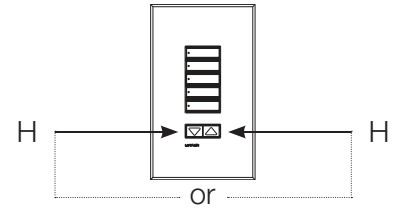**10.5**   Press and hold Open and Raise (△) simultaneously
for 5 seconds to exit
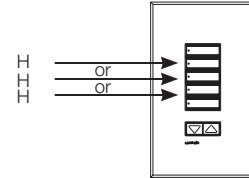
H
and
H

11.1 Adjust the window treament to the desired position by holding the raise or lower buttons.

H ⟶   ⟵ H

or

11.2 Store the current position of the window treament by pressing and holding the desired Preset button for 5 seconds

H ⟶ or
H ⟶ or
H ⟶

12   **Individual Level Adjust**

12.1   Press and hold Open and Lower simultaneously for 5 seconds
-Window treaments that are assigned will move to close (down)
-Window treaments that are unassigned will move to open (up)

H
and
H

12.2   Tap the desired Preset button to enter Preset-adjust mode

T

12.3   Tapping Open selects the next window treatment,
Close selects the next window treatment

T
or
T

12.4   Hold Raise (△) and Lower (▽) to adjust window treament position

H   H

or
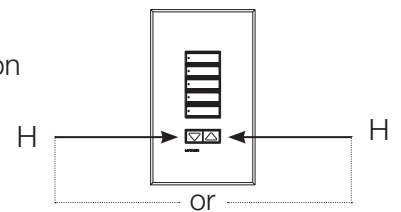
12.5   Repeat steps 12.2 & 12.3 to adjust additional window treaments

12.6   Press and hold Open and Lower simultaneously
for 5 seconds to exit

H
and
H

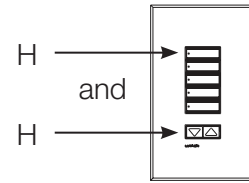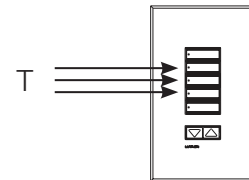**12.7**   Store the current position of the window treaments
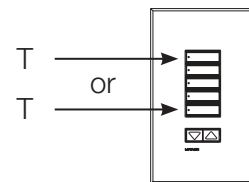by pressing and holding the desired Preset button
for 5 seconds

H
H or
H or
H
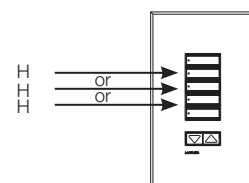
- Restoring a Drive to factory defaults will reset all keypad assignments but will not affect the open and closed limits.

Returning a Drive to its Factory Default Setting

13.1 Press and hold Close Limit button until LED flashes Green then turns on steady.
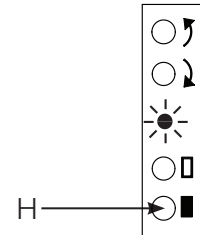
13.2 Press and hold Open Limit button until LED flashes Green then turns on steady.
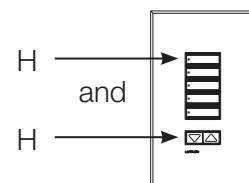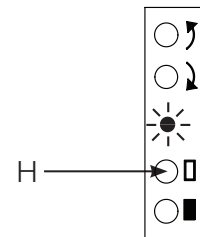
13.3 Press and hold CW arrow button until LED flashes Green then turns on steady.
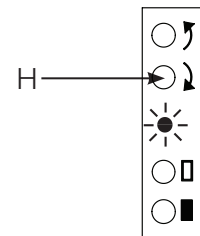
13.4 Press and hold CCW arrow button until LED flashes Green then turns on steady.
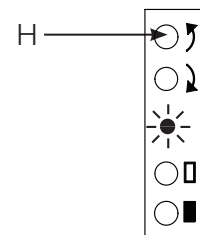
13.5 LED flashes a multi-color sequence, then turns off.

14.1   Triple tap and hold the top button on the keypad. DO NOT release the button after the third tap.

T, T, T, H
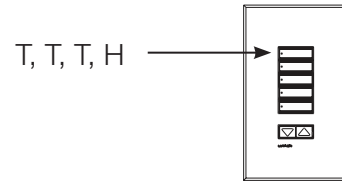
14.2   Keep the button pressed on the third tap until the LED next to the top button turns on solid (approximately 3 seconds).

14.3   Immediately release the button and triple tap it again. The LED next to the top button will flash quickly. When the LED stops flashing, the control has been returned to Factory Settings.

T, T, T
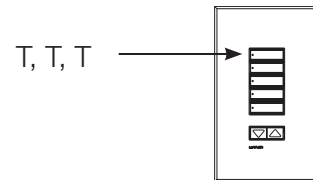
15   Troubleshooting

Symptom	Solution
Drive will not move	Drive is not powered - Check Drive power
	Fabric is obstructed - Free obstruction
	Drive not connected to keypad
	Drive not assigned to keypad
Drive does not fully open or fully close	Limits have been set incorrectly - try using raise and lower buttons
	Fabric is obstructed - Free obstruction
Drive opens when pressing close button, and closes when pressing open button	Open and close limits have been reversed - Refer to sections 7 and 10; "setting limits"
Drive does not move smoothly.	Check for binding of fabric or obstructions
Keypad will not operate drive	Check that keypad is wired properly and assigned to the drive
IR controls will not operate shade, keypads work properly	IR transmitter does not have line of sight to IR receiver
	IR transmitter not assigned to shade
	IR receiver not connected to shade link
	Out of range - Move to within 30 ft of IR receiver
Tripping fuse or breaker in power supply	Too many devices on a single power output
	Verify there is no obstruction in the path of the shade, drapery or carriers
	Verify the drapery stackback is not being over compressed
	Verify the (drapery) Master Carrier is not driving into the idler end or adjacent Master Carrier

Limited Warranty

SCOPE

This limited warranty ("Warranty") covers the Lutron supplied (a) Sivoia Shade Systems ("Sivoia Shade Systems"), (b) manual shade system and (c) alternating current or a/c shade system (each of the foregoing being a "System"). Customer acknowledges and agrees that use of the System constitutes acceptance of all terms and conditions of this Warranty.

LIMITED WARRANTY

Subject to the exclusions and restrictions described below, Lutron warrants that each System will be free from manufacturing defects from the date of shipment by Lutron for a period of (a) one year as to the wall controls, interfaces and system accessories of the Sivoia Shade System ("External Sivoia Components") and (b) eight years as to the other Systems and the electronic drive unit, shade fabric and shade hardware of the Sivoia Shade System. If any manufacturing defect exists in the External Sivoia Components, so long as Customer promptly notifies Lutron of the defect within the one year warranty period and, if requested by Lutron, returns the defective part(s), Lutron will, at its option, either repair the defective part(s) or provide comparable replacement part(s). If any manufacturing defect exists in any of the components of a System other than the External Sivoia Components, so long as Customer promptly notifies Lutron of the defect within the eight year warranty period and, if requested by Lutron, returns the defective part(s), Lutron will, at its option, either repair the defective part(s) or issue a credit to the Customer against the purchase price of comparable replacement part(s) purchased from Lutron as provided below:

Number of Years from Date of Shipment	Percentage of Cost of Replacement Parts Credited by Lutron
Up to 5	100%
More than 5 but not more than 8	50%
More than 8	0%

Replacement parts for the System provided by Lutron or, at its sole discretion, an approved vendor may be new, used, repaired, reconditioned, and/or made by a different manufacturer.

EXCLUSIONS AND RESTRICTIONS

This Warranty will be void, and Lutron and its suppliers will have no responsibility under this Warranty, if Lutron or its representatives cannot access any components of the System to inspect, diagnose problems with or repair the System or any of its components as a result of concealment or inaccessibility of such components within a building structure.

This Warranty does not cover, and Lutron and its suppliers are not responsible for:

1. Damage, malfunction or inoperability diagnosed by Lutron or a Lutron approved third party as caused by normal wear and tear, abuse, misuse, incorrect installation, neglect, accident, interference or environmental factors, such as (a) use of incorrect line voltages fuses or circuit breakers; (b) failure to install, maintain and operate the System pursuant to the operating instructions provided by Lutron and the applicable provisions of the National Electrical Code and of the Safety Standards of Underwriter's Laboratories; (c) use of incompatible devices or accessories; (d) improper or insufficient ventilation; (e) unauthorized repairs or adjustments or alterations; (f) vandalism; (g) an act of God, such as fire, lightning, flooding, tornado, earthquake, hurricane or other problems beyond Lutron's control; or (h) direct exposure to corrosive materials.

2. On-site labor costs to diagnose issues with, and remove, repair, replace, adjust, reinstall and/or reprogram the System or any of its components.

3. Components and equipment external to the System, such as, non-Lutron lighting and automation systems; building wiring audio-visual equipment; and non-Lutron time clocks, photosensors and motion detectors.

4. The cost of repairing or replacing other property that is damaged when any System does not work properly, even if the damage was caused by the System.

THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO EIGHT YEARS FROM THE DATE OF SHIPMENT, EXCEPT THAT SUCH IMPLIED WARRANTIES ARE LIMITED TO ONE YEAR FROM THE DATE OF SHIPMENT AS TO THE EXTERNAL SIVOIA COMPONENTS.

NO LUTRON AGENT, EMPLOYEE OR REPRESENTATIVE HAS ANY AUTHORITY TO BIND LUTRON TO ANY AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE SYSTEMS. UNLESS AN AFFIRMATION, REPRESENTATION OR WARRANTY MADE BY AN AGENT, EMPLOYEE OR REPRESENTATIVE IS SPECIFICALLY INCLUDED HEREIN, OR IN STANDARD PRINTED MATERIALS PROVIDED BY LUTRON, IT DOES NOT FORM A PART OF THE BASIS OF ANY BARGAIN BETWEEN LUTRON AND CUSTOMER AND WILL NOT IN ANY WAY BE ENFORCEABLE BY CUSTOMER.

IN NO EVENT WILL LUTRON OR ANY OTHER PARTY BE LIABLE FOR EXEMPLARY, CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO DAMAGES FOR PERSONAL INJURY, FAILURE TO MEET ANY DUTY, INCLUDING OF GOOD FAITH OR REASONABLE CARE, NEGLIGENCE, OR ANY OTHER LOSS WHATSOEVER), NOR FOR ANY REPAIR WORK UNDERTAKEN WITHOUT LUTRON'S PRIOR WRITTEN CONSENT ARISING OUT OF OR IN ANY WAY RELATED TO THE INSTALLATION, DEINSTALLATION, USE OF OR INABILITY TO USE THE SYSTEM OR

OTHERWISE UNDER OR IN CONNECTION WITH ANY PROVISION OF THIS WARRANTY, EVEN IN THE EVENT OF THE FAULT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, BREACH OF CONTRACT OR BREACH OF WARRANTY OF LUTRON OR ANY OTHER PARTY, AND EVEN IF LUTRON OR SUCH OTHER PARTY WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

NOTWITHSTANDING ANY DAMAGES THAT CUSTOMER MIGHT INCUR FOR ANY REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DIRECT DAMAGES AND ALL DAMAGES LISTED ABOVE), THE ENTIRE LIABILITY OF LUTRON AND OF ALL OTHER PARTIES UNDER THIS WARRANTY ON ANY CLAIM FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE MANUFACTURE, SALE, INSTALLATION, DELIVERY, USE, REPAIR, OR REPLACEMENT OF THE SYSTEM, AND CUSTOMER'S SOLE REMEDY FOR THE FOREGOING, WILL BE LIMITED TO THE AMOUNT PAID BY CUSTOMER FOR THE SYSTEM. THE FOREGOING LIMITATIONS, EXCLUSIONS AND DISCLAIMERS WILL APPLY TO THE MAXIMUM EXTENT ALLOWED BY APPLICABLE LAW, EVEN IF ANY REMEDY FAILS ITS ESSENTIAL PURPOSE.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

WARRANTY CLAIMS, TECHNICAL ASSISTANCE AND WARRANTY INFORMATION

Contact the Lutron Technical Support Center at the numbers provided below or your local Lutron sales representative with questions concerning the installation or operation of the System or this Warranty, or to make a warranty claim. Please provide the exact model number when calling.

USA and Canada (24 hrs/7days)
(800) 523-9466
Other countries (8 a.m. – 8 p.m. ET)
(610) 282-3800
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