

seeTouch™

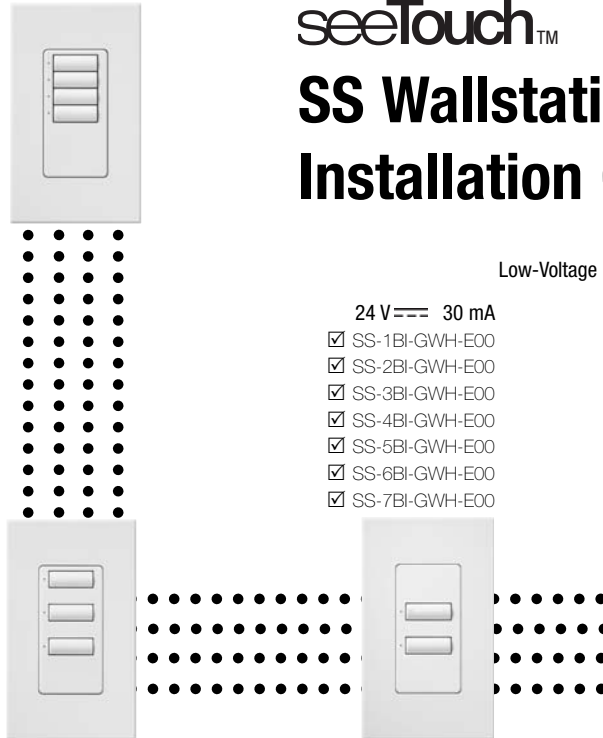
# SS Wallstation Installation Guide

*Please Read*

Low-Voltage PELV (Class 2: USA)

24 V $\overline{=}$  30 mA

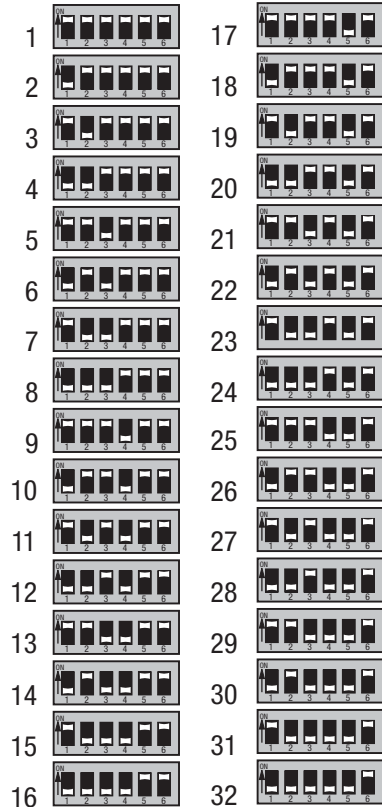
- SS-1BI-GWH-E00
- SS-2BI-GWH-E00
- SS-3BI-GWH-E00
- SS-4BI-GWH-E00
- SS-5BI-GWH-E00
- SS-6BI-GWH-E00
- SS-7BI-GWH-E00



 LUTRON®

## Wallstation Switch Settings for System Addressing

See Step 4 for additional information.



## Wiring Notes

- Control Link Wiring
    - Power: Two #12 AWG (2.5 mm<sup>2</sup>) PELV (Class 2: USA) wires. Use wire connectors and #18 AWG (1.0 mm<sup>2</sup>) wire to connect to terminals 1 and 2.
    - Data: Two shielded #18 AWG (1.0 mm<sup>2</sup>) PELV (Class 2: USA) wires (twisted, shielded pair). Connect to terminals 3 and 4.
- Lutron offers a one-cable, non-plenum, low-voltage solution (P/N GRX-CBL-46L), and a one-cable, plenum, low-voltage solution (P/N GRX-PCBL-46L). Cable is available in 250 ft. (76 m) and 500 ft. (152 m) spools. Check availability outside the U.S. Add (-250) or (-500) to the end of the P/N to specify the desired spool length.
- Connect the wallstation to the control link inside the wallstation's wallbox or in a junction box (provided by others) located no more than 8 ft. (2.5 m) from control.
  - Control link wiring must **not** be run in the same raceway as line voltage.
  - Total control link length is **not** to exceed 2000 ft. (610 m) unless the signal is boosted using a link booster (P/N MX-RPTR).
  - The drain/shield wire must be maintained throughout the control link. Do **not** connect the shield to earth/ground.
  - Refer to the system installation guide and Lutron job drawings for power cable and data cable (control link) wiring restrictions and limitations.
  - Control link requires a link terminator (LT-1) at each end of the control link. Refer to the LT-1 instruction sheet for location and installation information.

Wallstation circuits are classified as Class 2 circuits (USA) and PELV circuits (IEC). As Class 2 circuits, they comply with the requirements of NFPA® 70, National Electrical Code® (NEC®). As PELV circuits, they comply with the requirements of IEC 60364-4-41, VDE 0100 Part 410, BS7671:1992, and other equivalent standards. When installing and wiring to these wallstations, follow all applicable national and/or local wiring regulations. External circuits connected to input, output, RS232, DMX512, and other communication terminals of wallstations must be supplied from a listed Class 2 source or comply with the requirements for PELV circuits, as applicable in your country.

### CAUTION!

- Read all instructions carefully before starting installation.
- Lutron recommends that wallstations be installed by a qualified electrician.
- Do not connect high-voltage power to low-voltage terminals. Improper wiring can result in personal injury or damage to the control or to other equipment.
- Use only a cloth with warm water and mild soap to clean faceplates (no chemical cleaners).

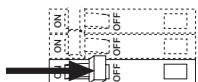
## Installation



**Warning!** Always turn OFF the circuit breaker/MCB or remove the main fuse from the power line before doing any work. Failure to do so can result in serious personal injury.

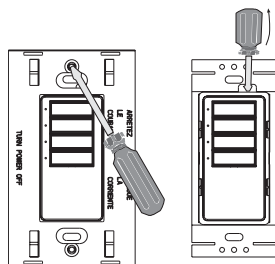
Prewiring: The control links require special wiring considerations. Refer to the system installation guide and Lutron job drawings for wiring restrictions and limitations that apply to your specific project.

1. **Turn Power OFF.** Turn power OFF at circuit



breaker/MCB (or remove fuse).

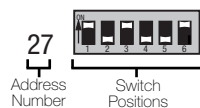
2. **Mount Wallbox.** Mount standard U.S. 1-gang wallbox, 2.75 in. (70 mm) deep (available from Lutron; P/N 241-519). Check availability outside the U.S.
3. **Prepare Wallstations.** Remove the faceplate, adapter (for insert version), and button assembly from the wallstation to access the address switches.



4. **Address Wallstations.** Address all wallstations on the control link. Refer to Lutron job drawings for any preassigned job-specific address for each control. For proper system operation, each wallstation on a link **must** have a unique address. For the maximum number of wallstations per control link, please refer to the system installation guide.

Please refer to page 2 of this installation guide for the correct positions of the switches for each system address. For systems with up to 32 wallstations on the control link, set switches 1-6 to one of the positions (1-32) illustrated in the figure.

For example, to assign the wallstation to address 27, set the switches as follows:



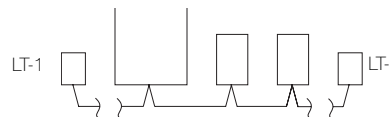
**Note:** Switches 7, 8, and 9 are factory-set to define the control type.

5. **Prepare wires.** Strip insulation from wires so that 3/8 in. (9.5 mm) of bare wire is exposed.



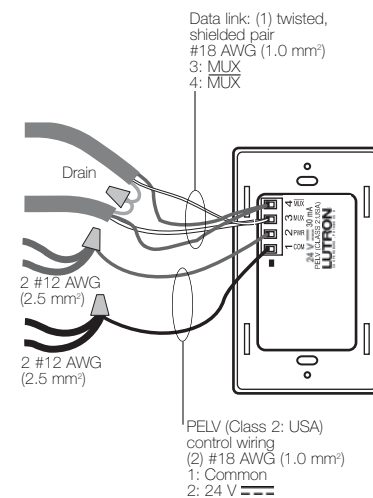
Each wallstation terminal accepts up to two #18 AWG (1.0 mm<sup>2</sup>) wires.

**Note:** Wiring must be done in a daisy-chain and 1-to-1 configuration, as shown below.



Control link requires a link terminator (LT-1) at each end. Refer to the LT-1 instruction sheet for location and installation.

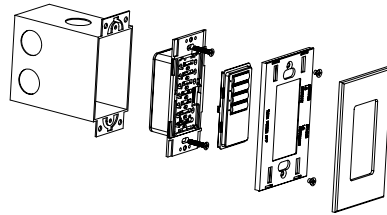
6. **Connect the Wallstation to the Control Link.** Connect two #18 (1.0 mm<sup>2</sup>) shielded, twisted pair wires to terminals 3 and 4 of the wallstation's control link connector. Shielding (drain) of the twisted pair wires must be connected together as shown, but do not connect the shielding to earth/ground or the wallstation. Two #12 AWG (2.5 mm<sup>2</sup>) power wires will not fit in the terminal blocks; however, #12 AWG (2.5 mm<sup>2</sup>) is necessary due to voltage drop on the wire. Use wire connectors and #18 AWG (1.0 mm<sup>2</sup>) wire to make the connections in the wallbox, as shown at right.



**Control Link Wiring**

**Note:** Use the wire connector required by local code (those shown are common in the U.S.).

7. **Mount Wallstation.** Carefully mount and align the wallstation as shown. Screw top and bottom screw into the control and wallbox. Replace faceplate, adapter (for insert versions), and button assembly.
8. **Turn Power ON.** Turn ON control breaker, replace main fuse, or attach the wallstation link to the processor.



Typical Mounting Diagram

## Troubleshooting

Symptom	Cause
LEDs are blinking in unison every few seconds.	<ul style="list-style-type: none"> <li>Miswire or loose connection at the control link data lines 3 and 4.</li> <li>LT-1 is not installed at the ends of the control link.</li> </ul>
Wallstation buttons do not work.	<ul style="list-style-type: none"> <li>Wallstation is incorrectly addressed.</li> <li>Wallstation has not been programmed or has been programmed incorrectly in the processor or controller.</li> </ul>
LEDs do not light.	<ul style="list-style-type: none"> <li>Miswire or loose connection at wallstation(s) or processor on the control link common and power connections 1 and 2.</li> </ul>

### Lutron Electronics Co., Inc. One Year Limited Warranty

For a period of one year from the date of purchase, and subject to the exclusions and restrictions described below, Lutron warrants each new unit to be free from manufacturing defects. Lutron will, at its option, either repair the defective unit or issue a credit equal to the purchase price of the defective unit to the Customer against the purchase price of comparable replacement part purchased from Lutron. Replacements for the unit provided by Lutron or, at its sole discretion, an approved vendor may be new, used, repaired, reconditioned, and/or made by a different manufacturer.

If the unit is commissioned by Lutron or a Lutron approved third party as part of a Lutron commissioned lighting control system, the term of this warranty will be extended, and any credits against the cost of replacement parts will be prorated, in accordance with the warranty issued with the commissioned system, except that the term of the unit's warranty term will be measured from the date of its commissioning.

#### EXCLUSIONS AND RESTRICTIONS

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

- 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 unit 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; (f) vandalism; or (g) an act of God, such as fire, lightning, flooding, tornado, earthquake, hurricane or other problems beyond Lutron's control.
- On-site labor costs to diagnose issues with, and to remove, repair, replace, adjust, reinstall and/or reprogram the unit or any of its components.
- Equipment and parts external to the unit, including those sold or supplied by Lutron (which may be covered by a separate warranty).
- The cost of repairing or replacing other property that is damaged when the unit does not work properly, even if the damage was caused by the unit.

EXCEPT AS EXPRESSLY PROVIDED IN THIS WARRANTY, THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF ANY TYPE, INCLUDING ANY IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. LUTRON DOES NOT WARRANT THAT THE UNIT WILL OPERATE WITHOUT INTERRUPTION OR BE ERROR FREE.

NO LUTRON AGENT, EMPLOYEE OR REPRESENTATIVE HAS ANY AUTHORITY TO BIND LUTRON TO ANY AFFIRMATION, REPRESENTATION OR WARRANTY CONCERNING THE UNIT. 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 LOSS OF PROFITS, CONFIDENTIAL OR OTHER INFORMATION, OR PRIVACY; BUSINESS INTERRUPTION; PERSONAL INJURY; FAILURE TO MEET ANY DUTY, INCLUDING OF GOOD FAITH OR OF REASONABLE CARE; NEGLIGENCE, OR ANY OTHER PECUNIARY OR OTHER LOSS WHATSOEVER), NOR FOR ANY REPAIR WORK UNDERTAKEN WITHOUT LUTRON'S WRITTEN CONSENT ARISING OUT OF OR IN ANY WAY RELATED TO THE INSTALLATION, DEINSTALLATION, USE OF OR INABILITY TO USE THE UNIT OR OTHERWISE UNDER OR IN CONNECTION WITH ANY PROVISION OF THIS WARRANTY, OR ANY AGREEMENT INCORPORATING 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 SUPPLIER, AND EVEN IF LUTRON OR ANY 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 UNIT, OR ANY AGREEMENT INCORPORATING THIS WARRANTY, AND CUSTOMER'S SOLE REMEDY FOR THE FOREGOING, WILL BE LIMITED TO THE AMOUNT PAID TO LUTRON BY CUSTOMER FOR THE UNIT. THE FOREGOING LIMITATIONS, EXCLUSIONS AND DISCLAIMERS WILL APPLY TO THE MAXIMUM EXTENT ALLOWED BY APPLICABLE LAW, EVEN IF ANY REMEDY FAILS ITS ESSENTIAL PURPOSE.

#### TO MAKE A WARRANTY CLAIM

To make a warranty claim, promptly notify Lutron within the warranty period described above by calling the Lutron Technical Support Center at (800) 523-9466. Lutron, in its sole discretion, will determine what action, if any, is required under this warranty. To better enable Lutron to address a warranty claim, have the unit's serial and model numbers available when making the call. If Lutron, in its sole discretion, determines that an on-site visit or other remedial action is necessary, Lutron may send a Lutron Services Co. representative or coordinate the dispatch of a representative from a Lutron approved vendor to Customer's site, and/or coordinate a warranty service call between Customer and a Lutron approved vendor.

This warranty gives you specific legal rights, and 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, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

These products may be covered under one or more of the following U.S. patents: 4,835,343; D456,783; D465,460; and corresponding foreign patents. U.S. and foreign patents pending. National Electric Code, NEC, and NFPA are registered trademarks of the National Fire Protection Association, Inc., Quincy, Massachusetts.

Lutron and the sunburst logo are registered trademarks and seeTouch is a trademark of Lutron Electronics Co., Inc.  
© 2006 Lutron Electronics Co., Inc.

## Contact and Warranty Information

Internet: [www.lutron.com](http://www.lutron.com)  
E-mail: [product@lutron.com](mailto:product@lutron.com)

### WORLD HEADQUARTERS

Lutron Electronics Co., Inc.  
7200 Suter Road, Coopersburg, PA  
18036-1299 USA  
TEL +1.610.282.3800  
FAX +1.610.282.1243  
Technical Support 1.800.523.9466  
Toll-Free 1.888.LUTRON1

### Brazil

Lutron BZ do Brasil, Ltda.  
Avenida Brasil, 239, Jardim America,  
Sao Paulo-SP, CEP: 01431-001, Brasil  
TEL +55.11.3885.5152  
FAX +55.11.3887.7138

### Technical Support

USA, Canada, Caribbean: 1.800.523.9466  
Mexico: +1.888.235.2910  
Central/South America: +1.610.282.6701

### EUROPEAN HEADQUARTERS

#### United Kingdom

Lutron EA Ltd.  
6 Sovereign Close, London, E1W 3JF UK  
TEL +44.(0)20.7702.0657  
FAX +44.(0)20.7480.6899  
Technical support +44.(0)20.7680.4481  
FREEPHONE 0800.282.107

#### France

Lutron LTC, S.A.R.L.  
90 rue de Villiers, 92300 Levallois-Perret  
France

TEL +33.(0)1.41.05.42.80  
FAX +33.(0)1.41.05.01.80  
FREEPHONE 0800.90.12.18

#### Germany

Lutron Electronics GmbH,  
Landsberger Allee 201,  
13055 Berlin, Germany  
TEL +49.(0)30.9710.4590  
FAX +49.(0)30.9710.4591  
FREEPHONE 00800.5887.6635

### Italy

Lutron LDV, S.r.l.  
FREEPHONE 800.979.208

### Spain, Barcelona

Lutron CC, S.R.L.  
Gran Via del Carlos III, 84, planta 3ª  
08028 Barcelona, Spain  
TEL +34.93.496.57.42  
FAX +34.93.496.57.01  
FREEPHONE 0900.948.944

### Spain, Madrid

Lutron CC, S.R.L.  
Calle Orense, 85, 28020 Madrid, Spain  
TEL +34.91.567.84.79  
FAX +34.91.567.84.78  
FREEPHONE 0900.948.944

### ASIAN HEADQUARTERS

#### Singapore

Lutron GL Ltd.  
15 Hoe Chiang Road,  
#07-03 Euro Asia Centre,  
Singapore 089316  
TEL +65.6220.4666  
FAX +65.6220.4333

#### China, Beijing

Lutron GL Ltd.  
Beijing Representative Office  
5th Floor, China Life Tower,  
No. 16 Chaowai Street,  
Chaoyang District, Beijing 100020 China  
TEL +86.10.5877.1817  
FAX +86.10.5877.1816

#### China, Guangzhou

Lutron GL Ltd.  
Guangzhou Representative Office  
Suite A09, 23/F Tower A, Center Plaza,  
161 LinHeXilu, Tian He District,  
Guangzhou 510620 China  
TEL +86.20.2885.8266  
FAX +86.20.2885.8366

### China, Shanghai

Lutron GL Ltd.  
Suite 07, 39th Floor, Plaza 66,  
1266 Nan Jing West Road,  
Shanghai, 200040 China  
TEL +86.21.6288.1473  
FAX +86.21.6288.1751

### Hong Kong

Lutron GL Ltd.  
Unit 2808, 28/F, 248 Queen's Road East,  
Wanchai, Hong Kong  
TEL +852.2104.7733  
FAX +852.2104.7633

### Japan

Lutron Asuka Co., Ltd.  
No. 16 Kowa Building, 4F,  
1-9-20, Akasaka, Minato-ku,  
Tokyo 107-0052 Japan  
TEL +81.3.5575.8411  
FAX +81.3.5575.8420

### Asia Technical Hotlines

Northern China: 10.800.712.1536  
Southern China: 10.800.120.1536  
Hong Kong: 800.901.849  
Singapore: 800.120.4491  
Taiwan: 00.801.137.737  
Thailand: 001.800.120.665853  
Other Areas: +65.6220.4666



Lutron Electronics Co., Inc.  
Made and printed in U.S.A.  
P/N 030-897 Rev. A 5/06

