

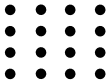
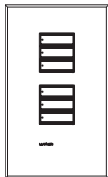
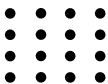
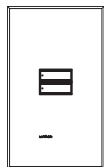
seeTouch[®] QS Wallstation Installation Guide

Please Read

Low-Voltage PELV (Class 2: USA)

24 V $\overline{\text{---}}$ 30 mA

- QSWS2-1B
- QSWS2-2B
- QSWS2-3B
- QSWS2-5B
- QSWS2-7B
- QSWS2-2BRL
- QSWS2-3BRL
- QSWS2-5BRL
- QSWS2-2BRLIR
- QSWS2-3BRLIR
- QSWS2-5BRLIR
- QSWS2-1RLD
- QSWS2-2RLD
- QSWS2-3BD



Wiring Notes

- System Maximums
 - GRAFIK Eye[®] QS series control units can power a maximum of 3 wallstations.
 - 2000 ft. (610 m) maximum wiring length
 - 32-104 °F (0-40 °C) operating temperature.
 - 100 devices per link (see Touch™ QS, Sivoia[®] QS, power panel, and GRAFIK Eye QS each count as one device); 100 zones maximum per link
- Control Link Wiring
 - Power: Two #18 AWG (2.5 mm²) PELV (Class 2: USA) wires. Connect to terminals 1 and 2.
 - Data: Two shielded #22 AWG (1.0 mm²) 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-346S-500), and a one-cable, plenum, low-voltage solution (P/N GRX-PCBL-346S-500). Check availability outside the U.S.
- Sensor/Contact Closure Input Connector Wiring (optional):
 - Three #18 AWG (1.0 mm²) PELV (Class 2: USA) wires.
- Connect the wallstation to the control link inside the wallstation's wallbox or in a junction box (provided by others).
- Control link wiring must **not** be run in the same raceway as line voltage.
- Control link wiring is **not** to exceed 2000 ft. (610 m).
- 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.

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, 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!

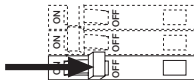
- Read all instructions carefully before starting installation.
- Lutron recommends that wallstations be installed by a qualified electrician.
- Do not connect high-voltage power to low-voltage terminals. Improper wiring can result in personal injury or damage to the control or to other equipment.
-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

Installation

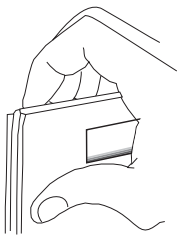


Warning! Always turn OFF the circuit breaker/MCB or remove the main fuse from the power line before doing any work. Failure to do so can result in serious personal injury.

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 and set aside.

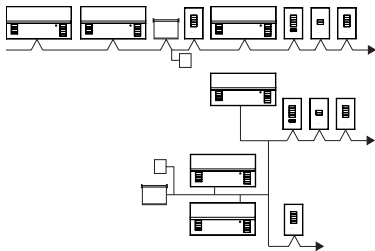


4. **Prepare wires.** Strip insulation from wires so that 3/8 in. (9.5 mm) of bare wire is exposed.



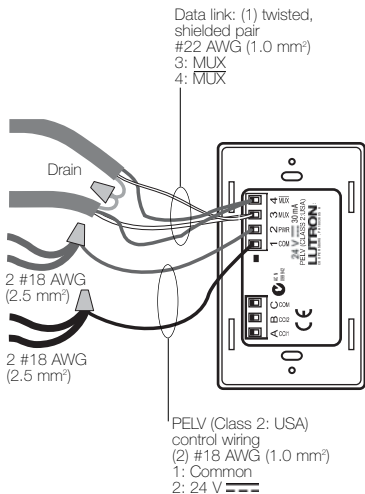
Each wallstation terminal accepts up to two #18 AWG (1.0 mm²) wires.

Note: Wiring may be done in a daisy-chain or T-tap configuration, as shown below.



5. **Connect the Wallstation to the Control Link.**

Connect two #22 (1.0 mm²) 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.

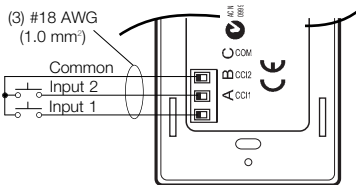


Control Link Wiring

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

6. **Connect the Wallstation to external contact closure inputs (optional).**

If using one contact closure input, connect the input to terminal A of the wallstation sensor/contact closure input connector. If using two contact closure inputs, connect the inputs to terminals A and B. Connect the common side of the contact closure inputs to terminal C.



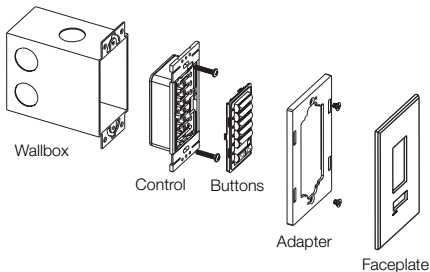
Contact Closure Input Wiring

Notes for Contact Closure Inputs:

Verify compatibility of external contact closure input devices. The contact closure inputs can be used with either dry contact closures or ground-referenced solid-state outputs. The outputs must stay in the closed or open states for at least 40 msec in order to be recognized by the wallstation. If there is any question as to whether the device is compatible with these specifications, contact the manufacturer.

Contact closure inputs are programmed through the *GRAFIK Eye* control unit.

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.



**Typical Mounting Diagram
(Exploded View)**

8. **Turn Power ON.** Turn ON control breaker, or replace main fuse.

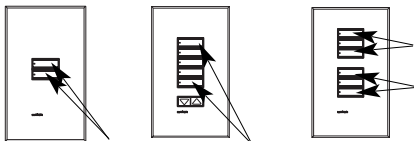
Notes

- Unprogrammed (out of the box) QS wallstations and control units will all work together until they are reprogrammed otherwise.
- LEDs on wallstation buttons light when the lights programmed to them are on.

System Communications

In order for Wallstations to communicate with a control unit, each Wallstation must be individually configured to "talk" by putting the Wallstation in setup mode. (Only one Wallstation can be in setup mode at a time.)

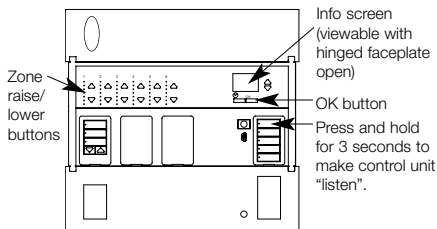
1. **Enter Setup Mode.** Press and hold the top and bottom buttons (not including raise/lower buttons) on the Wallstation keypad for 3 seconds. For 1-button wallstations, press and hold the single button for 10 seconds. The LEDs will scroll from top to bottom.



Press and hold the top and bottom buttons on your wallstation to enter/exit setup mode.

Note: For wallstations with two sets of buttons, you will program each set, as if each were its own wallstation. For multigroup wallstations, such as *Sivoia* QS keypads, the top buttons are programmed to control a group of lights or shades, and the bottom buttons control the groups. Only one group can be selected for control at a time.

2. **Configure the GRAFIK Eye® QS control unit.** Press and hold the top button on the lighting keypad until the LEDs flash in unison. A keypad menu will appear on the info screen to complete your settings. Press the OK button to confirm you want to change type.



The keypad menu will display functions that are available for the wallstation model that is "talking" to it. The example shown here is for a 5-button wallstation with raise/lower buttons.



Use the master buttons located to the right of the info screen to scroll through the list of functions. Press the OK button to accept and save your highlighted choice. Repeat for each control unit you want to "listen" to the Wallstation.

SeeTouch® QS Wallstation Button Functions

The following functions are menu choices when the wallstation is in setup mode and the *GRAFIK Eye QS* is displaying the keypad menu. Each function choice is explained below. See the next page for a summary table of wallstations and their function choices.

Zone: Assigns control of one or more zones on one or more *GRAFIK Eye QS* control units to the selected wallstation button. Press the wallstation button you want to assign zone control to. Use the zone buttons on the control unit to set the desired levels for each zone, then press the zone raise and lower buttons simultaneously to confirm your setting for that zone. Repeat for each zone on each control unit you wish to assign to that wallstation button.

Partition: Used for rooms that can be divided by one or more partitions into smaller spaces. The LED on the assigned button indicates whether the partition should be considered open (LED is lit; control units work together as one) or closed (LED is off; control units work independently in separate spaces). Wallstations programmed for partitioning are only used for partitioning, and each button is configured to control different combinations of control units.

Partition and Clear: 5-button wallstations only. The bottom button is the clear button, which turns all the LEDs off, forcing all the control units to operate independently, and locks out any button presses.

Partition 2B: 2-button wallstations only. The top button indicates partition open, and the bottom button indicates partition closed.

Zone Lockout: 2-button wallstations only. This function disables all buttons on all wallstations and control units.

Fine Tune: 2-button wallstations only. The buttons function as raise and lower buttons for the assigned zones.

Sequence: 2-button wallstations only. This function scrolls through scenes 5 through 16 using their assigned fade rates, then repeats. For showroom-type applications.

Panic: 2-button wallstations only. Pressing the button sends all assigned zones immediately to scene 16, and locks out all button presses on all connected wallstations and control units.




Scenes: Choose from the list of preset groups of scenes to assign to the buttons on this wallstation. See the next page for a list of available scene groupings for each keypad.

Toggle: 1-button wallstations only. The button toggles between scene 1 and off.

Note: If a control unit has devices connected to it through contact closure inputs, those devices are tied to the top and bottom buttons only on any wallstation keypad.

SeeTouch® QS Wallstation Button Functions Summary



# Buttons	1	2	3	5	7	
Zone	X	X	X	X	X	 Program as two 3-button keypads
Partition		(2B)	X	X	X	
Clear				X		
Zone Lockout		X				 Program as one 3-button keypad and one 2-button keypad
Fine Tune		X				
Sequence		X				
Panic		X				
Scenes	1-Off (toggle)	1-Off 9-10 13-14	1-3 5-7 13-15	1-4, Off 5-8, Off 9-12, Off 13-16, Off	1-7 9-15	 Program as two 2-button keypads

Notes

See the previous page for full explanations of the standard functions.

2-button partition: Top button indicates partition is open; bottom button indicates partition is closed.

Scenes: Display indicates what scene choices are available for this keypad.

Wallstations with dual keypads: Each keypad functions independently and is programmed separately.

Wallstations with Raise/Lower buttons: These buttons function only when the wallstation function is either zone control or control of scenes.

3. **Exit Setup Mode.** Press and hold the top and bottom buttons on the Wallstation for 3 seconds. The LEDs will stop cycling.

Note: To remove a control unit from listening to a wallstation, put the wallstation in setup mode, and press and hold the **bottom** button on the lighting keypad of the control unit you want to remove.

Troubleshooting

Symptom

Cause

No communication with
GRAFIK Eye control unit.

- Miswire or loose connection at the control link data lines 3 and 4.
 - Wallstation has not been programmed or has been programmed incorrectly.
-

Wallstation buttons do not
work.

- Wallstation is miswired.
 - Wallstation is not powered.
 - Wallstation is not wired to the correct set of lights.
 - Wallstation is not programmed to the correct controller.
-

LEDs do not light.

- Miswire or loose connection at wallstation(s) or processor on the control link common and power connections 1 and 2.
-

Contact closure inputs or
sensor input do not produce
the desired result in the
system.

- Miswire or loose connection at wallstation sensor/CCI connector.
 - Wallstation has not been programmed or has been programmed incorrectly.
-

Wallstation buttons do not
function as intended.

- Wallstation has not been programmed or has been programmed incorrectly.

Warranty

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:

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 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.
2. 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.
3. Equipment and parts external to the unit, including those sold or supplied by Lutron (which may be covered by a separate warranty).
4. 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.

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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.

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