



# seeTouch™ B&O® Keypads

15 V $\overline{=}$  65 mA NEC Class 2; IEC PELV

## Technical Assistance

If you have questions concerning the installation or operation of this product, call **Lutron's European Headquarters**. Please provide exact model number when calling.

## European Headquarters

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In Canada: 1,332,625; 1,331,769.

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STBO-4SN



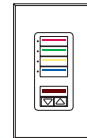
STBO-4SI



STBO-4SIRN



STBO-4SIRI



## Overview

The STBO-4SIRN, -4SIRI, -4SI and -4SN are for use with HomeWorks® systems. The keypad buttons are programmed using the *HomeWorks Illumination™* Software. The STBO-4SIRI and -4SIRN have an integrated IR receiver (on button 5 - no indicator LED) that is compatible with the Bang & Olufsen® (B&O) Beo4® IR Remote Control. The IR receiver accesses buttons 1-5, 23 and 24. The IR receiver can also receive commands from *Beo4* buttons not available on the seeTouch™ B&O

Keypads, such as ◀, ▶, STOP, and GO. Refer to Button Function Chart (page 7).

Up to 32 keypads, each with a unique address, can be connected to each keypad link on the *HomeWorks 4 Series™* or 8 Series™ P5 Processor. Each keypad counts as 16 LEDs. A maximum of 350 keypad LEDs can be connected per 8 Series P5 Processor, and a maximum of 150 keypad LEDs can be connected per 4 Series P5 Processor. To add LED capacity, refer to the section about the HWI-PS in the *HomeWorks Technical Reference Guide* (P/N 360-963; in Europe, 360-963/EA).

## Important Notes

**Codes:** Install in accordance with all local and national electrical codes.



**Danger:** These controls must not be used to control equipment which is not visible from every control location. They must also not be used to control equipment which could create hazardous situations such as entrapment if operated accidentally. Examples of such equipment which must not be operated by these controls include (but are not limited to)

motorized gates, garage doors, industrial doors, microwave ovens, heating pads, etc. It is the installer's responsibility to ensure that the equipment being controlled is visible from every control location and that only suitable equipment is connected to these controls.

**Environment:** Ambient operating temperature: 0-40 °C (32-104 °F), 0-90% humidity, non-condensing. *Indoor use only.*

**Cleaning:** To clean, wipe with a clean damp cloth. **DO NOT** use any chemical cleaning solutions.

**Wallboxes:** see *Touch B&O* keypads may be mounted in standard U.S. wallboxes (or in Lutron Wallbox P/N 241-218, purchased separately). See Mounting Diagram (page 4).

**Keypad Wiring:** Keypad wiring may be in a daisy-chain, star, or T-tap configuration. Each home run on a link may be up to 305 m (1000 ft.) and may contain up to 10 keypad devices. The total length of wire on that link (all home runs) may be up to 1220 m (4000 ft.). Up to 32 keypad devices may be placed on each processor link configured as a keypad link in the *HomeWorks Illumination* Software. An external power supply may be required depending on the total current draw of all keypad devices on the processor.

**Location:** For best performance, do not locate keypad directly facing a plasma television. Plasma televisions interfere with all IR devices.

## Troubleshooting Guide

Keypad is working properly when LEDs light up and loads respond as buttons are pressed.

Symptom	Cause and Action
LEDs don't light up.	Power is not present at keypad. <ul style="list-style-type: none"><li>• Make sure HomeWorks® Processor is powered up.</li><li>• Check for 15 V <math>\approx</math> between pins 1 &amp; 2 on the keypad connector.</li><li>• Remove connector from back of keypad, check connections and replace.</li></ul>
LEDs cycle from top to bottom sequentially.	Keypad is properly powered but is not communicating with the processor. <ul style="list-style-type: none"><li>• Verify that the processor is running.</li><li>• Check that keypad wires 3 &amp; 4 are properly connected.</li><li>• Check that keypad link is plugged into correct connector at processor.</li><li>• Verify that link is configured for <i>HomeWorks</i> keypads in the <i>HomeWorks Utility</i>.</li></ul>
LEDs light when button is pressed, but the system response isn't correct.	Keypad improperly addressed. <ul style="list-style-type: none"><li>• Check keypad for proper address. See Keypad Addressing (page 5).</li></ul> Keypad improperly programmed. <ul style="list-style-type: none"><li>• Check system programming.</li></ul>
No response from the keypad when an IR remote button is pressed.	B&O® Beo4® IR Remote is in the incorrect mode. <ul style="list-style-type: none"><li>• Press the "Light" Button before initiating any button presses from the remote.</li></ul> Batteries in IR remote are weak <ul style="list-style-type: none"><li>• Replace batteries in remote.</li></ul> Keypad improperly programmed. <ul style="list-style-type: none"><li>• Refer to Button Function Chart (page 7) and check system programming.</li></ul> Interference from plasma television. <ul style="list-style-type: none"><li>• Move or turn off plasma television.</li></ul>

## Button Function Chart

Beo4 Button*	HomeWorks® Keypad Button	Function
Red button	Btn 1: Red (Actual keypad button)	Programmable - Defaults to single action scene (can be programmed to control any zone/scene)
Green button	Btn 2: Green (Actual keypad button)	Programmable - Defaults to single action scene (can be programmed to control any zone/scene)
Yellow button	Btn 3: Yellow (Actual keypad button)	Programmable - Defaults to single action scene (can be programmed to control any zone/scene)
Blue button	Btn 4: Blue (Actual keypad button)	Programmable - Defaults to single action scene (can be programmed to control any zone/scene)
0	Btn 5: (Actual keypad button)	Programmable - Defaults to single action scene (can be programmed to control any zone/scene)
GO (Play)	Btn 10	Programmable - Defaults to single action scene (can be programmed to control any zone/scene)
1 - 9	Btms 11 - 19	Programmable - Defaults to single action scene (can be programmed to control any zone/scene)
▶▶	Btn 21	Used to control shades. May also be programmed to control lights.
◀◀	Btn 22	Used to control shades. May also be programmed to control lights.
STOP	Btn 20	Used to stop raise/lower of shades. May also be programmed to control lights.
△	Btn 24: (Actual keypad button)	Master Raise. Possibly single scene raise (any specified zone/scene).
▽	Btn 23: (Actual keypad button)	Master Lower. Possibly single scene lower (any specified zone/scene).

\* Light Button must be pressed first before pressing any other button.

## Installation

1. Disconnect power to the keypads by turning off all circuit breakers connected to the HomeWorks® processor or keypad link auxiliary power supply (HWI-PS).

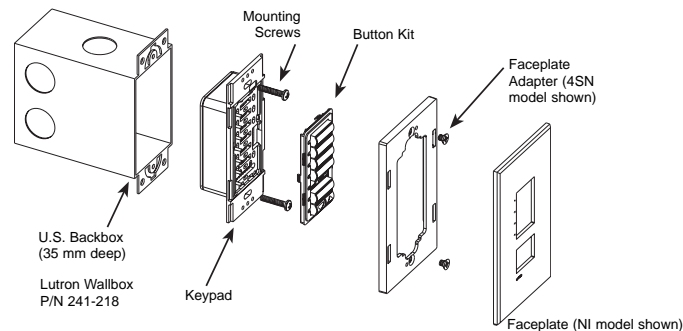


**Wiring with power ON may result in personal injury.**

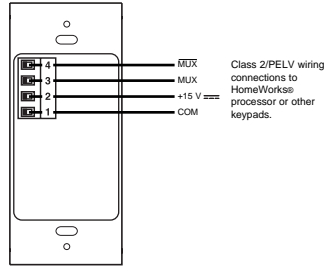
2. Address keypads. Assign a unique address to each keypad using the DIP switch on the front of the keypad. See Keypad Addressing (page 5) for DIP switch location and DIP switch settings. Be sure to record the address for future programming purposes.

3. Strip insulation from wires to 10 mm (3/8 in.). Each terminal will accept one or two 1.0 mm<sup>2</sup> (18 AWG) wires.
4. Connect wiring to terminal block as shown in Wiring Diagram (page 6).
5. Mount keypad as shown in Mounting Diagram (below). **Do not over-tighten mounting screws.**
6. Restore power to the HomeWorks processor and keypad link auxiliary power supply (if used).

## Mounting Diagram

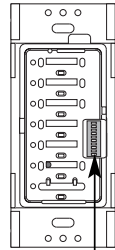


## Keypad Rear View



## Keypad Addressing

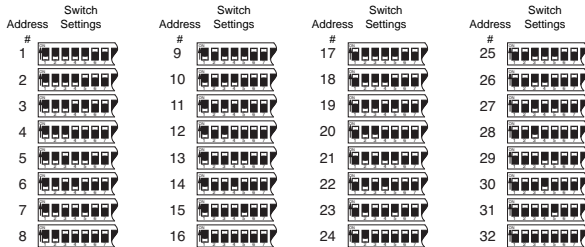
### Keypad Front View (faceplate removed)



DIP switches 1-5 for setting address, DIP switches 6-10 do not affect keypad address.

### DIP Switches

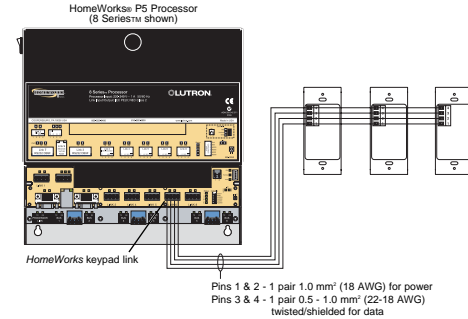
Set DIP switches 1-5 to give the keypad a unique *HomeWorks* system address from 1 to 32. DIP switches 6 through 10 do not affect the keypad address and should be always set in the up (on) position.



Example: Setting Switch #1 ON.

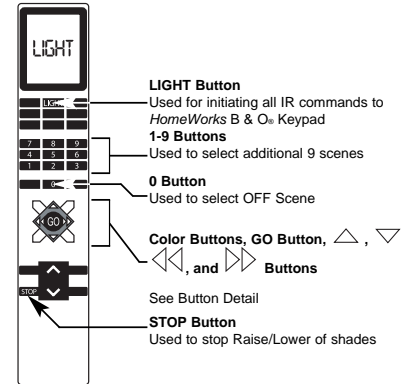


## Wiring Diagram

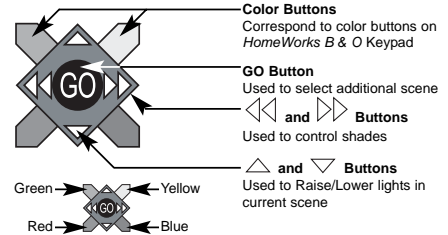


## Button Function (HWBO-4SE-IR and HWBO-8SE-IR only)

### Beo4® IR Remote Control



### Beo4 Button Detail



### Keypad Button Detail (STBO-4SIRI shown)

