INSTEON®
In-LineLinc™ Relay

INSTEON Inline Relay Module

For models:
#2475S In-LineLinc Relay 400W
# INSTEON In-LineLinc Relay User’s Guide

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ABOUT INSTEON IN-LINELINC RELAY

Congratulations on purchasing the INSTEON In-LineLinc Relay. For the ultimate in custom automation installations, In-LineLinc Relay can be installed inline for most loads, providing automated INSTEON and X10 control to individual fixtures and devices. Additionally, inline installation eliminates the need for a conventional light switch- reducing "switch sprawl" common to automation projects.

What is INSTEON?

INSTEON is a simple, reliable, and affordable breakthrough in home control. Simple, because Plug-n-Tap™ setup is a breeze, and there are no wires to add – INSTEON uses existing powerline wiring as well as radio-frequency for communication. Reliable, because every INSTEON device is a two-way repeater. And affordable, not just because of low cost, but because INSTEON also works with legacy X10 devices. An INSTEON home grows in value with every INSTEON device you add, making life more convenient, safe and fun.

Key In-LineLinc Relay Features

- After installation, setup is easy – links to controlled devices and other controllers in minutes
- Controls all standard incandescent and inductive loads, up to 400 watts
- Also compatible with low voltage lighting with magnetic or dimmable electronic transformers
- Responds to commands from X10 controllers
- Includes probe for use with recessed set button
- Wires in to standard J-boxes (requires a NEUTRAL connection)
- Warranted for two years
HOW TO INSTALL IN-LINELINC RELAY

Caution
Read and understand these instructions before installing, and retain them for future reference.

In-LineLinc Relay is intended for installation in accordance with the National Electric Code and local regulations in the United States, or the Canadian Electrical Code and local regulations in Canada. Use indoors only. In-LineLinc Relay is not designed nor approved for use on power lines other than 120V 60Hz, single phase. Attempting to use In-LineLinc Relay on non-approved powerlines may have hazardous consequences.

Do not install In-LineLinc Relay to control a receptacle. Connect only copper or copper-clad wire to In-LineLinc Relay. Before installing, disconnect power at the circuit breaker or remove the circuit’s fuse to avoid shock or possible damage to In-LineLinc Relay. It is recommended that a qualified electrician perform this installation.

Tools You Will Need

- A flat screwdriver to remove the faceplate from the switch junction box.
- A Phillips screwdriver for the screws that hold In-LineLinc Relay in the junction box.
- A wire cutter and stripper if the switch you are replacing requires you to cut the wires to remove them.
- The included probe, for use with the recessed set button. If unavailable, use a blunt non-conductive tool.

IMPORTANT!
If you are not knowledgeable about and comfortable with electrical circuitry, you should have a qualified electrician install In-LineLinc Relay for you. If you have any questions, please consult an electrician or call

SmartLabs Tech Support
800-762-7846
Preparing to Install In-LineLinc Relay

Before installing In-LineLinc Relay, please familiarize yourself with the following and take the necessary precautions listed here:

- Be sure that you have turned off the circuit breaker or removed the fuse for the circuit you are installing In-LineLinc Relay in. Installing In-LineLinc Relay with the power on will expose you to dangerous voltages.

- In-LineLinc Relay requires a small amount of power to operate, which it receives from a connection to the NEUTRAL electrical wire (usually white). If you are replacing a standard mechanical switch with In-LineLinc Relay, the switch you are replacing will normally not have a connection to the neutral wire. However, most junction boxes will contain a NEUTRAL wire that you can connect In-LineLinc Relay to. If your junction box does not contain a neutral wire, please call SmartLabs Tech Support at 800-762-7846, or consult an electrician.

- In-LineLinc Relay may feel warm during operation. The amount of heat generated is within approved limits and poses no hazards. To minimize heat buildup, ensure that the area surrounding the rear of In-LineLinc Relay has adequate ventilation by clearing away excess insulation.

- Each In-LineLinc Relay is assigned a unique INSTEON ID, which is printed on a label on the front of the module. Prepare a list of all the INSTEON modules you are installing, which includes their unique ID and their location (e.g. 01.F7.G5, Mike’s Bedroom light). While knowing this ID is only necessary if using automation software (such as SmartLabs HouseLinc Desktop) to program and control the module, and use of this software is optional, it's best to document all INSTEON module IDs and keep the information in a safe place. This step saves a lot of labor if you decide sometime in the future to use one of these software programs, so you don’t need to re-open all the junction boxes and fixtures throughout your home where INSTEON modules are installed to learn these IDs.
Installing In-LineLinc Relay

1. For best INSTEON Network performance, be sure you have properly installed at least two Access Point Signal Enhancers.

2. At the circuit breaker or fuse panel, disconnect the power for all of the circuits in the switch junction box. Verify that power is off by trying to turn on the lights controlled by the switches.

3. Remove the faceplate from the switch junction box, then unscrew the switch you are replacing and pull it out from the junction box.

4. Disconnect the wires from the switch you are replacing. If the wires cannot be detached by unscrewing them, cut the wires where they enter the switch, then strip ½” of insulation off the ends.

5. Follow the diagram below to identify and connect the LINE, LOAD, NEUTRAL, and GROUND wires. If the colors of the wires do not match the diagram, be sure you have identified the wires correctly before connecting them.

6. After you have connected all of the wires, ensure that all of the wire connectors are firmly attached and that there is no exposed copper except for the GROUND wire.

7. Turn the circuit breaker back on or re-install the fuse.

**NOTE**
The NEUTRAL wire will not normally be connected to the switch you are replacing. If there is no NEUTRAL wire in the junction box, please consult an electrician or call SmartLabs Tech Support 800-762-7846.
HOW TO SET UP IN-LINE LINCELIC RELAY TO BE REMOTELY CONTROLLED BY AN INSTEON CONTROLLER

Linking an INSTEON Controller to In-LineLinc Relay

To remotely control In-LineLinc Relay using another INSTEON Controller, follow these steps to link In-LineLinc Relay and the INSTEON Controller together. Refer to your INSTEON Controller's User's Guide for detailed instructions on how to properly install it and link it to In-LineLinc Relay. The following will work for the most common INSTEON Controllers.

1. Select your INSTEON Controller from the list below and follow the method shown to put it into Linking Mode.

   A. **A SwitchLinc V2 Relay** – Press and hold the SwitchLinc Relay’s **Paddle Top** for 10 seconds, then release. To confirm that it is in Linking Mode, the SwitchLinc Relay will flash the light that it is wired to once and begin blinking the top LED in its LED Bar.

   ![A SwitchLinc V2 Relay](image)

   B. **ControLinc™ V2 Tabletop Controller** – Choose the ON/OFF Button Pair you want to use for controlling In-LineLinc Relay. Press and hold the **ON Button** of the pair for 10 seconds. To confirm that it is in Linking Mode, ControLinc V2’s Status LED will begin blinking.

   ![ControLinc™ V2 Tabletop Controller](image)

   C. **KeypadLinc™ V2** – Choose the ON Button you want to use for controlling In-LineLinc Relay. Press and hold the **ON Button** for 10 seconds. To confirm that it is in Linking Mode, KeypadLinc V2 will flash the light that it is wired to once and begin blinking the ON Button that you pushed.

   ![KeypadLinc™ V2](image)

   D. **Other INSTEON Controllers** – See the INSTEON Controller's User's Guide.

2. Press and hold the **set button** for 10 seconds on the In-LineLinc Relay that is being controlled. To confirm linking, the In-LineLinc Relay will blink its status LED and flash the light that it is wired to. Depending on the INSTEON Controller, you have about 4 minutes to perform this step before Linking Mode times out automatically.

HELPFUL TIP

While In-LineLinc Relay (and other INSTEON modules) can be fully configured and controlled using nothing more than the modules themselves and compatible, linked INSTEON controllers, you may find that configuring the devices is significantly easier and faster when using a compatible software program, such as SmartLabs HouseLinc Desktop.
Unlinking In-LineLinc Relay from an INSTEON Controller

If you are no longer going to control an In-LineLinc Relay with an INSTEON Controller, it is very important that you unlink it, because otherwise the controller will retry any commands intended for the unused In-LineLinc Relay, thus slowing down your system.

1. Select your INSTEON Controller from the list below and follow the method shown to put it into Unlinking Mode.

   A. **A SwitchLinc V2 Relay** – Press and hold the SwitchLinc Relay’s **Paddle Top** for 10 seconds, release, then press the Paddle Top a second time for 10 seconds.

   B. **ControLinc™ V2 Tabletop Controller** – Press and hold the **OFF Button** of the ON/OFF Button Pair you used for controlling In-LineLinc Relay for 10 seconds. To confirm that it is in Unlinking Mode, ControLinc V2’s Status LED will begin blinking.

   C. **KeypadLinc™ V2** – Press and hold for 10 seconds the **ON Button** you used for controlling In-LineLinc Relay, then press and hold the same **ON Button** for 10 seconds **again**. To confirm that it is in Unlinking Mode, KeypadLinc V2 will flash the light that it is wired to once and begin blinking the **ON Button** that you pushed.

   D. **Other INSTEON Controllers** – See the INSTEON Controller’s User’s Guide.

2. Press and hold the **set button** for 10 seconds on the In-LineLinc Relay that is being controlled. To confirm unlinking, the In-LineLinc Relay will blink its status LED and also the light that it is wired to. Depending on the INSTEON Controller, you have about 4 minutes to perform this step before Unlinking Mode times out automatically.
ADVANCED FEATURES OF IN-LINE LINCOLN RELAY

Restoring Power to In-LineLinc Relay

In-LineLinc Relay stores all of its settings in non-volatile memory, so they are not lost even when power is removed. In the event of a power loss, In-LineLinc Relay will automatically return the load being controlled to the on/off state it had before the power was interrupted.

Resetting In-LineLinc Relay to Its Factory Default Settings

The factory reset procedure can be used to clear In-LineLinc Relay’s memory and restore its factory default settings. This procedure will clear the unit of all INSTEON Links, X10 Primary Address or X10 Scene Addresses.

1. Before resetting an In-LineLinc Relay that has been linked to an INSTEON Controller, be sure to unlink it from the Controller first. See Unlinking In-LineLinc Relay from an INSTEON Controller, above.

2. Turn off the power source to In-LineLinc Relay (usually by opening the breaker feeding it).

3. After 10 seconds without power, push and hold In-LineLinc’s SET Button, restore the power, then release the set button 3 seconds after power was restored.

4. A few seconds after you release the SET button, In-LineLinc Relay’s status LED will turn ON, indicating that the factory reset is complete. In-LineLinc Relay is now reset to all the default settings and ready for fresh programming and use.
X10 PROGRAMMING OPTIONS

In-LineLinc Relay is X10 ready, meaning that it can respond to X10 commands from an X10 Controller. However, **to operate In-LineLinc Relay in X10 mode, you must first set up an X10 Primary Address.** As it ships from the factory, or after a factory reset procedure, In-LineLinc Relay will have no X10 Primary Address set up.

**Setting the X10 Primary Address**

**You must do this before In-LineLinc Relay will respond to X10 commands.** You can use any of the 256 possible X10 addresses for the X10 Primary Address.

1. Press and hold In-LineLinc’s **set button** for 10 seconds. Once the attached load flashes 3 times, release the set button.

2. Using an X10 Controller, send the **X10 Primary Address** you want to set up **three times**. You have about 4 minutes to perform this step before In-LineLinc Relay times out.

3. Once In-LineLinc Relay has received the X10 Address three times, In-LineLinc Relay will confirm that it has set its Primary X10 Address by flashing the attached load again.

**Removing the X10 Primary Address**

1. Press and hold In-LineLinc’s **set button** for 10 seconds. Once the attached load flashes 3 times, release the set button.

2. Press and hold In-LineLinc’s **set button again** for 10 seconds. Once the attached load flashes 3 times, release the set button.

3. Using an X10 Controller, send **any X10 Address three times**. It does not matter what the X10 Address is as long as it is the same one each time. You have about 4 minutes to perform this step before In-LineLinc Relay times out.

4. Once In-LineLinc Relay has received the X10 Address three times, In-LineLinc Relay will confirm that it has removed its Primary X10 Address by blinking flashing the attached load again.

**NOTE**

An X10 Address consists of a House Code followed by a Unit Code. An X10 command, such as X10 ON or X10 OFF, may optionally follow the X10 Address.
About X10 Scene Address Programming

In-LineLinc Relay can be a member of up to 255 X10 Scenes. An X10 Scene Address is just another X10 address like the X10 Primary Address. When an X10 ON command is sent to an X10 Scene Address, every X10 Scene-enabled module with that X10 Scene Address will turn on. Sending an X10 OFF command to an X10 Scene Address will turn off all modules that are members of that X10 Scene. X10 Scene-enabled modules will ignore ALL ON and ALL OFF commands for the X10 Scene Address.

Remotely Setting an X10 Scene Address

1. Using an X10 Controller, send the CLEAR Sequence:

   - O16  N16  M16  P16  M16

2. Send In-LineLinc Relay’s X10 Primary Address (house code and unit code).

3. Send the following X10 Address sequence:

   - M16  N16  O16  P16

4. Send the desired X10 Scene Address (house code and unit code) to lock in the new X10 Scene Address.

5. In-LineLinc Relay will flash the light it is wired to and blink its status LED, indicating that the X10 Scene Address has been set up.

Remotely Removing an X10 Scene Address

1. Using an X10 Controller, send the CLEAR Sequence:

   - O16  N16  M16  P16  M16

2. Send In-LineLinc Relay’s X10 Primary Address (house code and unit code).

3. Send an X10 ON or OFF command.

4. Send the following X10 Address sequence:

   - O16  P16  M16  N16

5. Send the X10 Scene Address (house code and unit code) that is to be removed.

6. In-LineLinc Relay will flash the light it is wired to and blink its status LED, indicating that the X10 Scene Address has been removed.
ABOUT INSTEON

Understanding Why an INSTEON Network Is Reliable

INSTEON messages travel throughout the home via Powerline Carrier (PLC) signals on the existing house wiring, and also via wireless Radio Frequency (RF). As the messages make their way to INSTEON devices being controlled, they are picked up and retransmitted by all other INSTEON devices along the way. This method of communicating, called a mesh network, is very reliable because each additional INSTEON device helps to support the overall network.

To further ensure reliability, every INSTEON device confirms that it has received a command. If an INSTEON Controller does not receive this confirmation, it will automatically retransmit the command up to five times.

Further Enhancing Reliability

As signals travel via the powerline or RF throughout the home, they naturally become weaker the farther they travel. The best way to overcome signals getting weaker is to increase the coverage of the mesh network by introducing more INSTEON devices.

It is possible that some audio-video products, computers, power strips or other electrical equipment may attenuate INSTEON signals on the powerline. You can temporarily unplug suspected devices to test whether the INSTEON signal improves. If it does, then you can plug in filters available from Smarthome that will permanently fix the problem.

Using SmartLabs’s Access Point to Upgrade Your INSTEON Network

Access Point Signal Enhancers are ideal for improving signal strength and network coverage throughout your home. In addition, two Access Points provide a wireless path for INSTEON signals to travel between the two separate electrical circuits, called powerline phases, found in most homes. Without a reliable method for coupling opposite powerline phases, some parts of your home may receive INSTEON signals intermittently. With at least one Access Point plugged into one of the powerline phases, and at least one more plugged into the opposite powerline phase, INSTEON powerline signals will be strong everywhere in your home.
About INSTEON and X10

Possible BoosterLinc Interference with INSTEON

If you have installed older SmartLabs Plug-In BoosterLinc™ X10 Signal Boosters or certain other BoosterLinc-enabled products, the older BoosterLinc technology may interfere with INSTEON communications.

Plug-In BoosterLinc X10 Signal Boosters, SmartLabs #4827, shipped after February 1, 2005, with V3.0 or later firmware, are fully compatible with INSTEON.

The following Plug-In BoosterLinc X10 Signal Boosters use older firmware that may cause interference with INSTEON:

- White BoosterLinc X10 Signal Boosters, #4827, shipped before February 1, 2005, with V2.5 or earlier firmware
- All Gray BoosterLinc X10 Signal Boosters, #4827

Try unplugging the older BoosterLinc X10 Signal Boosters to see if this helps with INSTEON interference. If it does, please call SmartLabs Tech Support at 800-762-7846 for help with replacing your older BoosterLinc X10 Signal Boosters with newer INSTEON-compatible ones.

The following pre-INSTEON SmartLabs products have BoosterLinc technology that you can turn on or turn off when you set the X10 Address for the product. If turned on, the BoosterLinc technology may interfere with INSTEON.

- KeypadLinc™ 6 with Integrated Dimmer, #12073W, #12073WB and #12073WW
- SwitchLinc™ Relay 2-Way, #23883 and #23883T
- ToggleLinc™ 2-Way Dimmer, #23890, and Switch, #23893

To disable BoosterLinc X10 Signal Amplification on these products:
1. Press and hold the SET Button.
2. Send the X10 Primary Address.
3. Send an X10 OFF command.

You can send an X10 ON command in Step 3 to re-enable the BoosterLinc feature.

If you have any of these products and the BoosterLinc feature is turned on, please consult your User's Guide or call 800-762-7846 for help with turning it off. You may then wish to install newer INSTEON BoosterLinc X10 Signal Boosters, which SmartLabs can help you with.

INSTEON's Effect on X10

If your existing X10 devices seem to be working less reliably after installing INSTEON devices, remember that INSTEON devices can absorb X10 signals just as X10 devices do, and that INSTEON devices do not repeat X10 signals. Installing INSTEON-compatible BoosterLinc X10 Signal Boosters, SmartLabs #4827, or a Access Point, #2443, can increase X10 signal levels.

Please call 800-762-7846 if you have any questions or would like more help.
## TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The status LED on my In-LineLinc Relay is not turning on at all and it</td>
<td>In-LineLinc Relay is not getting power.</td>
<td>Make sure the circuit breaker is turned on.</td>
</tr>
<tr>
<td>won’t control my light.</td>
<td></td>
<td>Check junction box wires to ensure all connections are tight and no bare wires are exposed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check the light fixture to ensure all connections are tight and no bare wires are exposed.</td>
</tr>
<tr>
<td>The switch I’m replacing only has two wires.</td>
<td>In-LineLinc Relay needs a NEUTRAL wire in order to operate.</td>
<td>Look in the rear of the junction box for a group of white wires all tied together with a wire nut. Those are the NEUTRAL wires. Connect In-LineLinc Relay’s white wire there.</td>
</tr>
<tr>
<td>My In-LineLinc Relay is not receiving signals from INSTEON or X10</td>
<td>The In-LineLinc Relay and the Controller are on opposite powerline phases.</td>
<td>Make sure two Access Point Signal Enhancers are properly installed to bridge the two powerline phases.</td>
</tr>
<tr>
<td>Controllers.</td>
<td></td>
<td>Add new INSTEON devices or move around existing INSTEON devices. All INSTEON devices act as INSTEON Network repeaters.</td>
</tr>
<tr>
<td>My In-LineLinc Relay is not linking to or working with an INSTEON</td>
<td>The INSTEON signal may be too weak.</td>
<td>Make sure you are not experiencing interference with older X10 BoosterLinc technology. Upgrade to INSTEON BoosterLincs.</td>
</tr>
<tr>
<td>Controller or Device.</td>
<td></td>
<td>Make sure two Access Point Signal Enhancers are properly installed to bridge the two powerline phases.</td>
</tr>
<tr>
<td>My In-LineLinc Relay doesn’t always respond to an INSTEON Controller.</td>
<td>The INSTEON Controller may have been reset without first unlinking In-LineLinc Relay from it.</td>
<td>Re-link In-LineLinc Relay to the INSTEON Controller.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check scene membership and remove any unwanted links from In-LineLinc Relay, or perform a Factory Reset to clear it.</td>
</tr>
<tr>
<td>The light turned on by itself.</td>
<td>Another Controller, a timer, or stray X10 signals triggered In-LineLinc Relay.</td>
<td>Install a powerline signal blocker in your home to keep X10 signals from neighboring homes from interfering. Consider not using In-LineLinc Relay in X10 mode. If the above doesn’t work, perform a Factory Reset.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the above doesn’t work, perform a Factory Reset.</td>
</tr>
<tr>
<td>In-LineLinc Relay turns on, but not off, using another Controller.</td>
<td>The load is producing electrical noise that is interfering with In-LineLinc Relay’s reception of powerline signal.</td>
<td>Install a powerline noise filter like Smarthome’s #4835 between the load and In-LineLinc Relay.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Install additional INSTEON Devices to boost the INSTEON signal.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase the X10 signal strength with an INSTEON-compatible X10 booster to overcome the powerline noise.</td>
</tr>
<tr>
<td>My In-LineLinc Relay doesn’t respond to X10 address A1 when I first</td>
<td>Unlike previous X10-only products, In-LineLinc Relay does not have an X10</td>
<td>Set up an X10 Primary Address by following the instructions in the section Setting the X10 Primary Address.</td>
</tr>
<tr>
<td>set it up.</td>
<td>Primary Address set up at the factory.</td>
<td></td>
</tr>
<tr>
<td>I’m having difficulty performing advanced X10 programming</td>
<td>The X10 “MNOP” house and unit codes were sent in the wrong order.</td>
<td>Don’t hold down the buttons on your X10 controller too long, to avoid duplicate codes being sent.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remove power from In-LineLinc, usually by opening the breaker feeding it.</td>
</tr>
<tr>
<td>In-LineLinc Relay is locked up.</td>
<td>A surge or excessive noise on the powerline may have glitched it.</td>
<td>If the above doesn’t work, see Resetting In-LineLinc Relay to Its Factory Default Settings, above.</td>
</tr>
</tbody>
</table>
If you have tried these solutions, reviewed this User’s Guide, and still cannot resolve an issue you’re having with In-LineLinc Relay, please:

- Call: Tech. Support @ 1-800-SMARTHOME (800-762-7846)
- Contact Us Online: http://www.smarthome.com/contactus.html
# SPECIFICATIONS

## In-LineLinc Relay Specifications

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<td>Smarthome Product Number</td>
<td>2475S, INSTEON In-LineLinc Relay Module</td>
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<td>2 years</td>
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<td>LED Indicator</td>
<td>Single segment white LED</td>
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<td>INSTEON only, X10 only, INSTEON and X10 Combo Mode</td>
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<td>INSTEON, X10, INSTEON cleanup</td>
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<td>Setup Memory</td>
<td>Non-volatile EEPROM</td>
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<tr>
<th>INSTEON Features</th>
<th></th>
</tr>
</thead>
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<tr>
<td>INSTEON Addresses</td>
<td>1 hard-coded out of 16,777,216 possible</td>
</tr>
<tr>
<td>INSTEON Links</td>
<td>417 out of 16,777,216 possible</td>
</tr>
<tr>
<td>INSTEON Powerline Frequency</td>
<td>131.65 KHz</td>
</tr>
<tr>
<td>INSTEON Minimum Transmit Level</td>
<td>3.2 V_{pp} into 5 Ohms</td>
</tr>
<tr>
<td>INSTEON Minimum Receive Level</td>
<td>1 mV_{pp} nominal</td>
</tr>
<tr>
<td>INSTEON Messages Repeated</td>
<td>Yes</td>
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<tr>
<th>X10 Features</th>
<th></th>
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<tbody>
<tr>
<td>X10 Primary Address</td>
<td>1 optional (comes unassigned)</td>
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<td>X10 Scene Addresses</td>
<td>255 possible</td>
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<td>X10 Status Response</td>
<td>Supported</td>
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<td>X10 Minimum Transmit Level</td>
<td>3.2 V_{pp} into 5 Ohms</td>
</tr>
<tr>
<td>X10 Minimum Receive Level</td>
<td>10 mV_{pp} nominal</td>
</tr>
<tr>
<td>X10 Messages Repeated</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire Nuts</td>
<td>3 included</td>
</tr>
<tr>
<td>Buttons</td>
<td>One recessed set button, requires included probe (or other non-conductive blunt instrument)</td>
</tr>
<tr>
<td>Mounting</td>
<td>Mounts in single or multiple-ganged junction box.</td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>Indoors, 40 to 104°F, up to 85% relative humidity</td>
</tr>
<tr>
<td>Dimensions</td>
<td>3.75&quot; H x 1.8&quot; W x 1.2&quot; D (2.75&quot; H without screw tabs)</td>
</tr>
<tr>
<td>Weight</td>
<td>3.6 oz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>120 Volts AC +/- 10%, 60 Hertz, single phase</td>
</tr>
<tr>
<td>Surge Protection</td>
<td>MOV rated for 150 Volts</td>
</tr>
<tr>
<td>Power Wire Leads</td>
<td>6&quot;, 16 AWG, stranded, 600V, 105°C insulation, ends stripped and tinned, LINE (black), LOAD (red), NEUTRAL (white)</td>
</tr>
<tr>
<td>Ground Lead</td>
<td>6&quot;, 18 AWG, stranded, bare copper</td>
</tr>
<tr>
<td>Load Types</td>
<td>Wired-in incandescent and inductive loads</td>
</tr>
<tr>
<td>Maximum Load</td>
<td>13 Amps; 400 Watts (for incandescent loads)</td>
</tr>
<tr>
<td>Minimum Load</td>
<td>No minimum load required</td>
</tr>
<tr>
<td>Certification</td>
<td>Safety tested (ETL) for use in USA and Canada</td>
</tr>
</tbody>
</table>
Certification

In-LineLinc Relay has been thoroughly tested by ITS ETL SEMKO, a nationally recognized independent third-party testing laboratory. The North American ETL Listed mark signifies that the product has been tested to and has met the requirements of a widely recognized consensus of U.S and Canadian product safety standards, that the manufacturing site has been audited, and that the manufacturer has agreed to a program of quarterly factory follow-up inspections to verify continued conformance.

Limited Warranty

Seller warrants to the original consumer purchaser of this product that, for a period of two years from the date of purchase, this product will be free from defects in material and workmanship and will perform in substantial conformity to the description of the product in this User’s Guide. This warranty shall not apply to defects or errors caused by misuse or neglect. If the product is found to be defective in material or workmanship, or if the product does not perform as warranted above during the warranty period, Seller will either repair it, replace it or refund the purchase price, at its option, upon receipt of the product at the address below, postage prepaid, with proof of the date of purchase and an explanation of the defect or error. The repair, replacement, or refund that is provided for above shall be the full extent of Seller’s liability with respect to this product. For repair or replacement during the warranty period, call Smarthome customer service to receive an RA# (return authorization number), properly package the product (with the RA# clearly printed on the outside of the package) and send the product, along with all other required materials, to:

SmartLabs, Inc.
ATTN: Receiving Dept.
16542 Millikan Ave.
Irvine, CA 92606-5027

Limitations

The above warranty is in lieu of and seller disclaims all other warranties, whether oral or written, express or implied, including and warranty of merchantability or fitness for a particular purpose. Any implied warranty, including any warranty of merchantability or fitness for a particular purpose, which may not be disclaimed or supplanted as provided above shall be limited to the one-year period of the express warranty above. No other representation or claim of any nature by any person shall be binding upon seller or modify the terms of the above warranty and disclaimer. In no event shall seller be liable for special, incidental, consequential, or other damages resulting from the possession or use of this product, including without limitation damage to property and, to the extent permitted by law, personal injury, even if seller knew or should have known of the possibility of such damages. Some states do not allow limitations on how long an implied warranty lasts and/or the exclusion or limitation of damages, in which case the above limitations and/or exclusions may not apply to you. You may also have other legal rights that may vary from state to state.

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Rev 06-18-2009