

## HS-WX300 Z-Wave In-Wall Switch / Dimmer

### OVERVIEW

HS-WX300 is a Z-Wave in-wall lighting load switch that may be configured to operate as either an on/off switch or a dimmer switch. It may be installed with or without a neutral wire and it works with both wired and wireless companion switches in 3-way circuit configurations. See [homeseer.com/lighting](http://homeseer.com/lighting) for more information about HS-WX300.

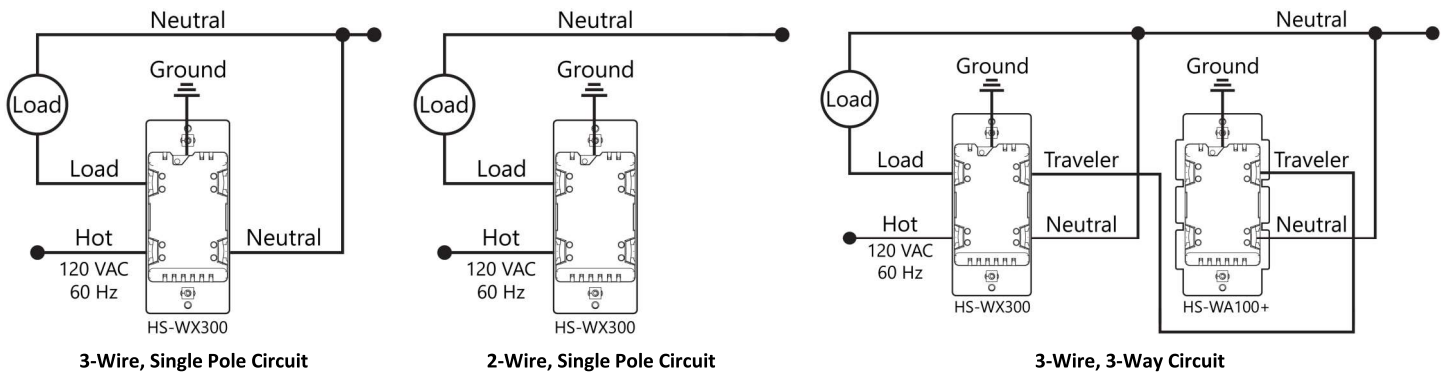
#### **WARNING RISK OF FIRE | RISK OF ELECTRICAL SHOCK | RISK OF BURNS**

DO NOT USE THIS SWITCH TO CONTROL ANYTHING THAT MAY PRESENT A HAZARD WHEN CONTROLLED REMOTELY OR USED IN AN UNATTENDED FASHION. DO NOT USE WITH MEDICAL AND LIFE SUPPORT INSTRUMENTS.

**CAUTION:** TO REDUCE THE RISK OF OVERHEATING AND POSSIBLE DAMAGE TO OTHER EQUIPMENT, DO NOT INSTALL TO CONTROL A RECEPTACLE, A MOTOR-OPERATED APPLIANCE, A FLUORESCENT LIGHTING FIXTURE, OR A TRANSFORMER-SUPPLIED APPLIANCE.

### CIRCUIT TYPES

Most lighting loads are powered with hot (120 VAC) and neutral wires. The hot wire always runs through the wall switch box but the neutral may not be present there. If the neutral wire is present, use the 3-wire method below. If no neutral is present, use the 2-wire method. Note that wired 3-way circuits always require a neutral wire at both switch locations.



### INSTALLATION

**Tools required:** medium standard and Phillips head screwdrivers, wire strippers/cutters

1. Shut off power to the circuit at the circuit breaker or fuse box. **VERIFY power is OFF before continuing!**
2. Remove existing switch's wall plate and mounting screws. Carefully remove the existing switch from the electrical box but leave the wires connected.
3. There may be up to five wires connected to the existing switch. Make note of these wires and label, if necessary, to ensure correct installation of the HS-WX300. You will need to match these wires with the corresponding screw terminals on the HS-WX300.

**Note:** LINE, and LOAD wires are required for every installation. If a NEUTRAL wire is present, we recommend using that also for best performance, particularly for dimming loads. Wires are usually color-coded for easy identification. However, colors can deviate from what's shown in the list below, depending upon the original installer. We recommend using a multi-meter to verify which wire is actually connected to power before wiring. In general, the colors follow the convention below.

- LINE (Hot, 120 VAC) - Black (connected to power)
  - NEUTRAL - White (this wire is often tied to other neutral wires and may require a jumper to connect with the HS-WX300)
  - LOAD - Black (connected to load)
  - GROUND — Green or Bare
  - TRAVELER — Red/Other (only used in 3-way circuits)
4. Disconnect the wires from the existing switch and attach those wires to the HS-WX300 using the screw terminal connectors on the back with the following procedure:
    1. Strip 16 mm (5/8") insulation from each wire\*.
    2. With a screw driver, loosen each screw terminal by rotating the screw counter-clockwise a few turns until resistance is felt.
    3. There are two holes on the back of the switch near each screw terminal. Insert the stripped wire into one of these holes and tighten the screw terminal to secure the connection. Connections should be snug.

\*all wires should be 14 AWG or larger rated at 80°C or higher. Tightening torque should be 12 lbf-in (14kgf-cm). Use copper wire only
  5. Carefully install the wired switch back into the electrical box and reattach the trim plate.

## CHANGING SWITCH MODE

HS-WX300 may be configured to operate as an ON-OFF switch or as a DIMMER. By default, it will operate as a dimmer. To change the switch mode, tap the top paddle 3 times, immediately followed by 3 taps of the bottom paddle. Then observe the LED behavior to confirm the current mode of the switch:

- If all LEDs blink green 3 times, HS-WX300 is configured to function as a dimmer
- If the bottom LED blinks blue 3 times, HS-WX300 is configured to function as an on-off switch

**Note: Switch mode cannot be changed while it's included in a Z-Wave network.**

## CHANGING WIRE MODE

HS-WX300 may be installed with a neutral wire (3-wire mode) or without a neutral wire (2-wire mode). By default, 3-wire mode is enabled. To change the wire mode (at the switch), tap the top paddle 2 times, immediately followed by 2 taps of the bottom paddle. Then observe the LED behavior to confirm the current wire mode of the switch:

- If the bottom 3 LEDs flash white 2 times, HS-WX300 is configured for 3-wire mode
- If the bottom 2 LEDs flash white 2 times, HS-WX300 is configured for 2-wire mode

Note: Wire mode may also be changed by the hub using Z-Wave parameter 32. See the Z-Wave Parameters section for details.

## Z-WAVE INCLUSION or EXCLUSION

Follow this 2-step procedure to add (or remove) your new HomeSeer switch to (or from) your Z-Wave network:

1. Put your Z-Wave controller into inclusion (or exclusion) mode. Consult your controller's manual if you're unsure how to do this.
2. Tap the bottom paddle 2 times, immediately followed by 1 tap of the top paddle. This will initiate the inclusion (or exclusion) process.

**FACTORY RESET** - To be used only in the event that the network primary controller is lost or otherwise inoperable.

1. Turn switch on by tapping the top of the paddle once.
2. Tap the top paddle 5 times, immediately followed by 5 taps of the bottom paddle. If all LEDs flash white 4 times, factory reset was successful. If not, repeat this procedure.

**ASSOCIATION** - This product supports association group #1 for lifeline communication. Refer to your controller manual for instructions on setting the lifeline association.

## OPERATION

Your new HomeSeer switch may be operated locally (by pressing the paddle) or remotely using a Z-Wave compatible hub or system

### Local Control:

- Press (tap) the top of the paddle to power the load.
- Press (tap) the bottom of the paddle to cut power to the load.
- If configured as a dimmer, press and hold the top or bottom of the paddle increase or decrease the dim level.

### Remote Control:

On / Off / Dim control is available remotely. Consult your controller manual for details.

## COMPATIBILITY

Your new HomeSeer switch is Z-Wave certified and is ready to be used with a wide variety of home automation hubs and controllers. All features are fully supported by HomeSeer systems but some **ADVANCED FEATURES** (see below) may not be fully supported by other controllers. If you're using another brand of controller, be sure to check with that company to determine compatibility.

**SmartThings users:** A special **device handler** is required to enable your hub to use the advanced features of this switch. Information about installing this may be found at: [homeseer.com/smartthings](http://homeseer.com/smartthings)

## ADVANCED FEATURES

Your new HomeSeer switch includes advanced features that may be accessed with HomeSeer and other systems.

**Multi-tap scene control or event triggering** - Tapping the top or bottom of the paddle 1, 2, 3, 4 or 5 times in rapid succession will broadcast Z-Wave central scene commands to the hub. These commands may be used to trigger automations (like HomeSeer events).

**RGB LED Indicators** - The color of all LED indicators may be controlled with Z-Wave parameter commands from the hub. This may be done manually or via automations, if supported by the hub. HomeSeer hubs are designed to send these parameter com-

mands with event actions.

- **Normal mode:** LED indicators glow to reflect the on/off/dim status of the connected load using a palette of 7 possible colors (red, green, blue, cyan, magenta, yellow, white).
- **Status mode:** Individual LEDs can be controlled to reflect the status of nearly anything in the home. For example, one LED can be programmed to glow yellow when the garage door is open. Another LED can blink red when motion is sensed in the driveway. The possibilities are endless.
- **Switching between normal mode and status mode:** HS-WX300 switches operate in normal mode by default unless or until a status command is received. When that happens, normal mode is suspended and the switch goes into status mode. It will stay in status mode until all status LEDs are turned off. At that point, the switch will revert to normal mode.  
**Note:** If a switch is operating in status mode, manually dimming it will cause the LEDs to operate temporarily in normal mode. After the dimming operation is complete, the switch will revert to status mode.

### COMPATIBILITY (with Non-HomeSeer systems)

The special features of this switch are supported using a number of different Z-Wave technologies. HomeSeer systems are designed to support these technologies and will provide the most seamless operation of these features. However, other systems may also provide satisfactory results depending on the level of support they provide for these same technologies. If you're using a non-HomeSeer system, use the information below and consult with your system manufacturer to determine the level of compatibility.

**Multi-tap Triggers:** This feature uses the Z-Wave CENTRAL SCENE command class. If the system supports this command class AND utilizes a general interrogation process for inclusion, this feature should work. However, if the system employs an inclusion process based on the Z-Wave product ID, then specific product support would need to be implemented.

**Instant Status:** This feature is supported using a Z-Wave MULTILEVEL REPORT (dimmer mode) and BINARY REPORT (on-off switch mode) and the CENTRAL SCENE command class. All Z-Wave certified systems should support the MULTILEVEL REPORT feature.

**RGB LED Control:** This feature is supported using Z-Wave parameter commands. Most Z-Wave certified systems provide a method for issuing parameter commands to individual products. HomeSeer systems simplify the use of this feature by providing event actions to send parameter commands. A complete list of parameters may be found on the next page.

Check our support page ([homeseer.com/support](http://homeseer.com/support)) for information about integrations with other smart hubs and controllers.

## SPECIFICATIONS

<b>Power</b>	Requirements	120VAC / 60 Hz
<b>Max Load</b>	Incandescent   Dimmable CFL/LED	600 watts   300 watts
<b>Derating</b>	Double-gang	500 watts   300 watts
	Triple-gang	400 watts   300 watts
<b>Z-Wave</b>	Frequency	908.4 / 916 MHz
	Range	100 ft. (open air)
<b>Certifications</b>	UL (US, Canada), FCC/IC, Z-Wave Plus	

## WARRANTY

HomeSeer warrants to the original purchaser that this product, for the warranty period, will be free from material defects and workmanship. This warranty is subject to proper installation and operation of the product. HomeSeer's sole obligation, under this warranty, is to repair, replace or correct any defect that was present at the time of delivery. This warranty does not extend to consequential or incidental damage to other products that may be used with this product. Warranty claims must be submitted in writing directly to HomeSeer at [HomeSeer.com](http://HomeSeer.com). Warranty period: limited 2 years from date of purchase

### FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.  
NOTE: The Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:  
—Reorient or relocate the receiving antenna.  
—Increase the separation between the equipment and receiver.  
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.  
—Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

### IC

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toutes les personnes.

## Z-Wave Parameters

HS-WX300 includes many settings that may be adjusted by the user with wireless Z-Wave parameter commands. The table below includes the information necessary for setting these parameters. Consult your hub's manual for information on using Z-Wave parameter commands.

**Note:** HomeSeer hubs are designed to issue Z-Wave parameter commands to HS-WX300 with event actions. This allows for easy programming to make LEDs glow or blink different colors when things happen in your home. Other hubs may require device handlers and additional programming to accomplish the same functionality.

Z-Wave Parameters				
Parameter	Description	Bytes	Value	Default
3	Sets bottom LED operation (in normal mode)	1	0= bottom LED ON if load is OFF 1= bottom LED OFF if load is OFF	1
4	Sets paddle's load orientation	1	0 = Top of Paddle turns load ON 1 = Bottom of Paddle turns load ON	0
5	Sets the lowest dimming threshold (Added in firmware 5.14)	1	Possible values: 1-14 3-wire mode (1=16%, 14=25%)	1
6	Enables/Disables Central Scene (Added in firmware 5.12)	1	0 = Central Scene Enabled, controls load with delay. Enables Multi-tap and press and hold 1 = Central Scene Disabled, controls load instantly. Disables multi-tap, central scene, press and hold	0
11	Set dimmer Ramp rate for remote control	1	Possible values: 0-90 0=No delay (instant ON), 1=1 second	3
12	Set dimmer Ramp rate for local control	1	Possible values: 0-90 0=No delay (instant ON), 1=1 second	3
13	Sets dimmer mode of operation	1	0=Normal mode (load status) 1=Status mode (custom status)	0
14	Sets the Normal mode LED color	1	Possible values: 0-6 0=White, 1=Red, 2=Green, 3=Blue, 4=Magenta, 5=Yellow, 6=Cyan	0
21	Sets the Status mode LED 1 (bottom) color	1	Possible values: 0-7 0=Off, 1=Red, 2=Green, 3=Blue, 4=Magenta, 5=Yellow, 6=Cyan, 7=White	0
22	Sets the Status mode LED 2 color			
23	Sets the Status mode LED 3 color			
24	Sets the Status mode LED 4 color			
25	Sets the Status mode LED 5 color			
26	Sets the Status mode LED 6 color			
27	Sets the Status mode LED 7 (top) color			
30	Sets the dimmer Blink frequency for All LEDs in Status mode	1	Possible values: 0, 1-255 0=No blink, 1=100ms ON then 100ms OFF	0
31	Sets LED(s) 1-7 to Blink in Status mode	1	Bitmask defines specific LEDs to enable for blinking: Note: this decimal value is derived from a hex code calculation based on the following: Bit 0 = led 1, Bit 1 = led 2, Bit 2 = led 3, Bit 3 = led 4, Bit 4 = led 5, Bit 5 = led 6, Bit 6 = led 7 IE: value of 1 = first LED, 64 = led 7	0
32	Sets the Wiring mode of the switch	1	0=3-wire mode (Hot, Neutral, Load) 1=2-wire mode (Hot, Load)	1
33	Sets whether LEDs display wiring mode on startup	1	0=LEDs do not indicate wiring mode on startup 1=LEDs flash to indicate wiring mode on startup	1

This product employs or practices certain features and/or methods of the following U.S. Patents: U.S. Patent Nos. 6,891,838, 6,914,893 and 7,103,511.