Instruction Bulletin

GDE77979_Eng, 06/2020

SQR22101**Z Z-Wave™ 600W Dimmer

FCC ID: 2AUCU-22101Z

** = color code: WH (white), LA (light almond), BK (black), GY (gray)

Retain for future use.

Features

- Wireless Z-Wave technology creates a mesh network for command and control interoperability with other Z-Wave compliant controllers and devices.
- Manual and remote ON/OFF&Dim control of any installed incandescent, dimmable LED.
- Preset light level option allows the dimmer turn on to the light level that was adjusted in previous time when the light was on
- Sliding Air-Gap Switch meets UL requirement and disconnect power from load locally.
- Single pole or 3-way (multi-location) use with auxiliary switch SQR50101**Z.
- Measure the energy usage of the connected lighting, display the actual consumption (in W) and the accumulated power used (in kWh) in the user interface of the gateway.

NOTE:

- The LED dimming performance may vary based upon dimmer type, model, manufacturer, circuit wiring and circuit loading.
- Please refer to the gateway installation manual for energy usage display and energy measurement features.

SQR22101Z Z-Wave 600W Dimmer, Single Pole, Energy Monitoring Specifications**	
Voltage	120 Vac, 60 Hz
Incandescent	600 W
Dimmable LED	1.25 A (150W)
Operating temperature	32–104°F (0–40°C)
Supply connection	14 AWG [1]
Wireless type	Z-Wave (Support S2 and SmartStart)
Wireless frequency	908.40 MHz / 908.42 MHz / 916 MHz

[1] Suitable for at least 75°C.

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Precautions

⚠CAUTION

HAZARD OF UNINTENDED USE

This dimmer is intended to be used for non-critical automation activities. It is not intended to support life, safety, or medical equipment.

Failure to follow these instructions can result in personal injury or equipment damage.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, NOM-029-STPS or CSA Z462 or local equivalent.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- To reduce the risk of overheating and possible equipment damage, do not install to control a receptacle, a motor-operated appliance, a fluorescent lighting fixture, or a transformer-supplied appliance.
- Use with copper wire only.
- Indoor use only.
- Replace all devices, doors, and covers before turning on power to this equipment.

Failure to follow these instructions will result in death or serious injury.

⚠ WARNING

HAZARD OF HEAT AND FIRE DAMAGE

Read all instructions before installation. The manufacturer will not be held responsible for product damage resulting from not following the instructions.

- Wet hands are strictly prohibited.
- Work strictly according to the rated load.
- Do not continue working after self-disassembly of any nature and damage of external forces.

Failure to follow these instructions can result in death, injury or equipment damage.

⚠**WARNING:** This product can expose you to chemicals including Carbon black, which is known to the State of California to cause cancer, and Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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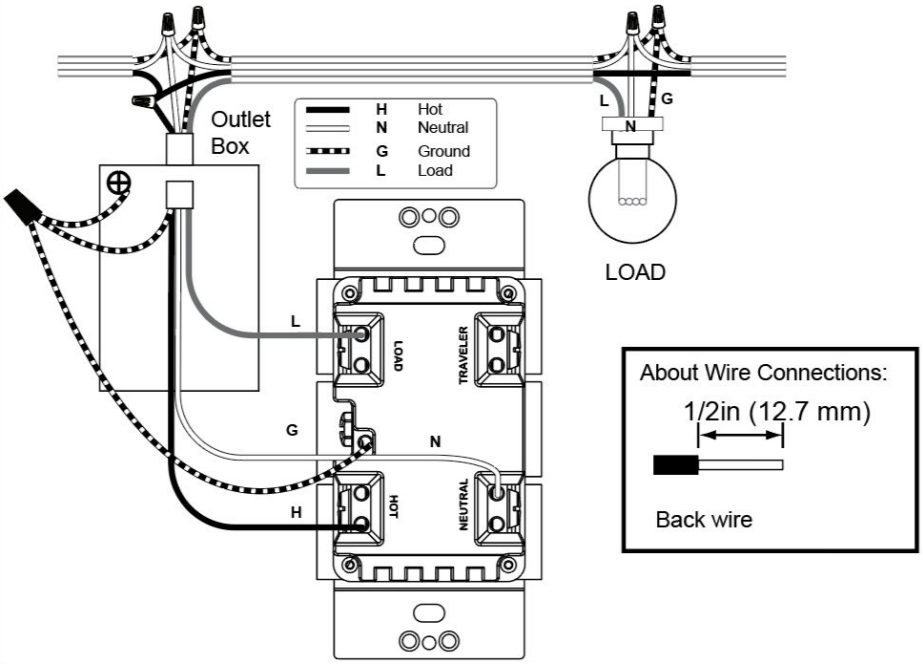
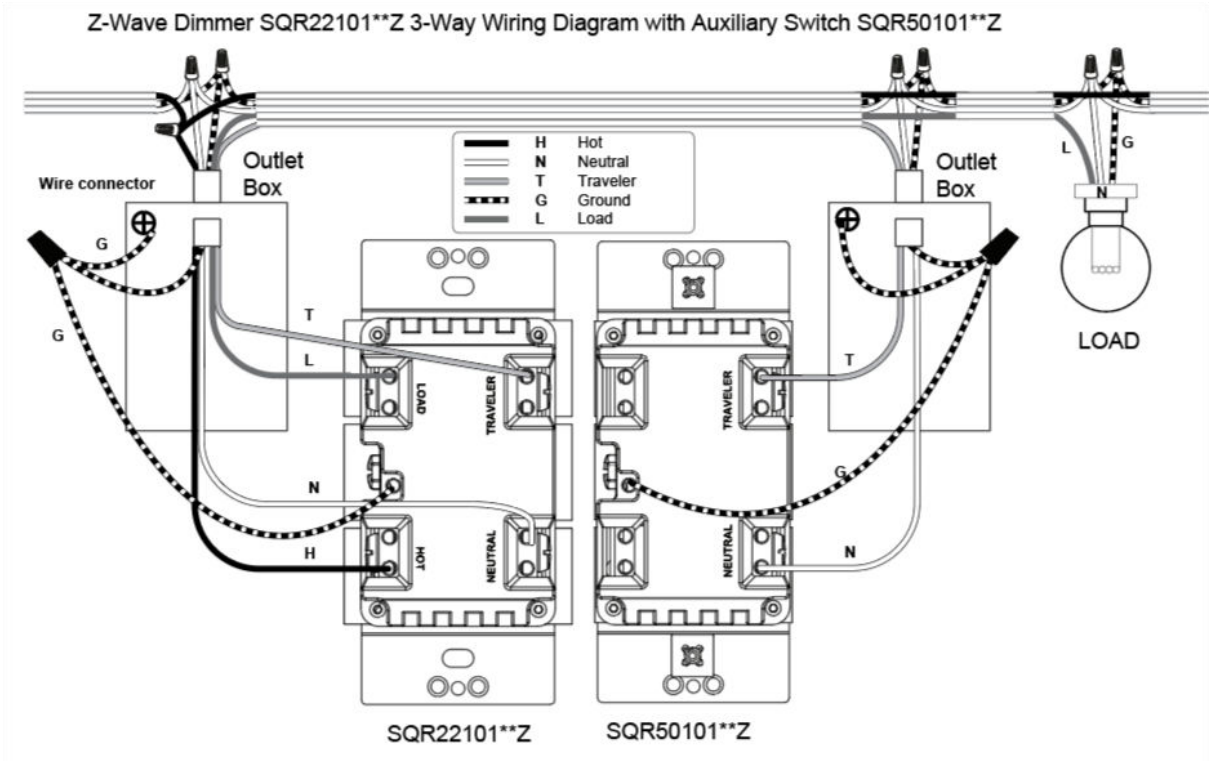
Installation

1. Turn the power OFF at circuit breaker or fuse and test that power is off before wiring.
2. Wire the dimmer according to the appropriate wiring diagram.
3. Check that all connections are tight and no bare wires exposed.
4. Install the dimmer into the standard outlet box using the screws provided.

Z-Wave Dimmer SQR22101**Z Single Pole Wiring Diagram



Z-Wave Dimmer SQR22101**Z 3-Way Wiring Diagram with Auxiliary Switch SQR50101**Z



- Note: Only on/off function is available for 3-way control.

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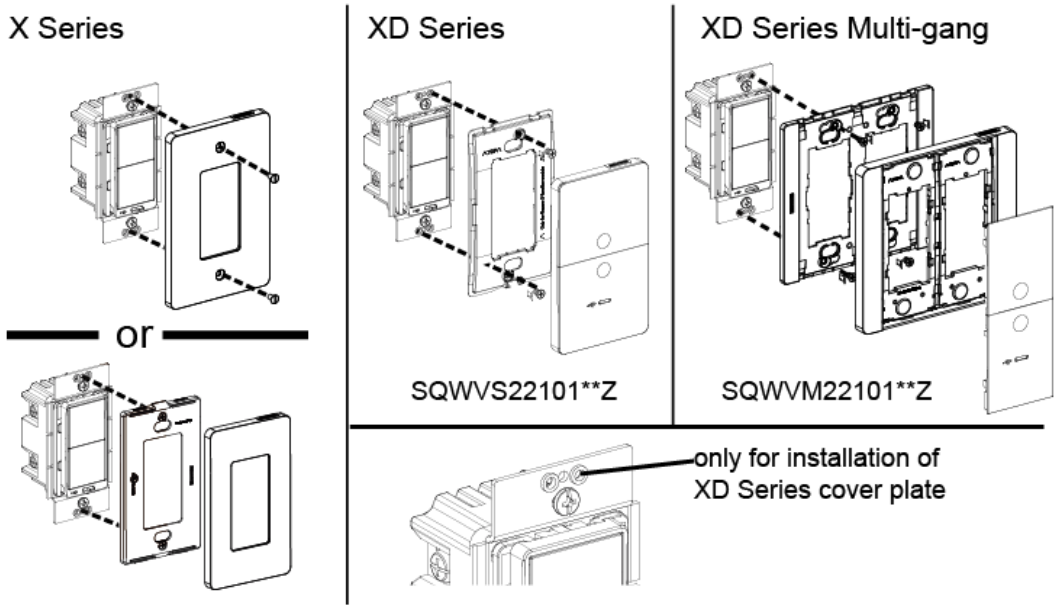
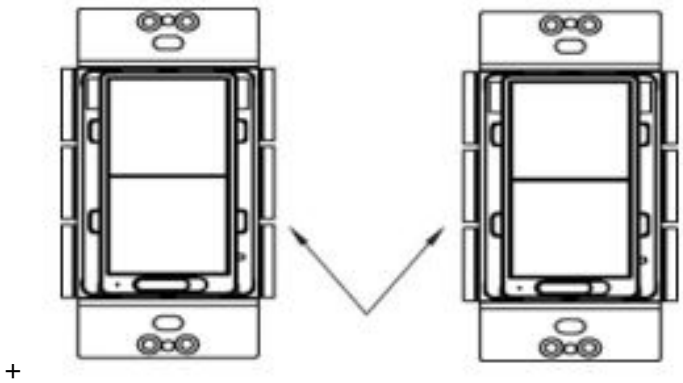
5. Install the plate (not included).
6. Restore power.



Notes:
** means the color code, for example: WH = white, GY=gray and so on.

Note:

When installing more than one dimmer in the same wall box, it may be necessary to remove the side tabs before installing (see below). Using pliers to bend each tab back and forth until they break off. Removal of tabs WILL REDUCE MAXIMUM LOAD CAPACITY, please refer to below derating table.



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Derating table

Table 1: Multi-gang Single Load Type

Single Load Type	Maximum load rating (W)	Derating for Multiple 2 gang(W)	Derating for Multiple ≥3 gang(W)
Incandescent lamp	600W	500W	400W
Dimmable LED	150W	150W	150W

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Table 2: Combined Bulb Type

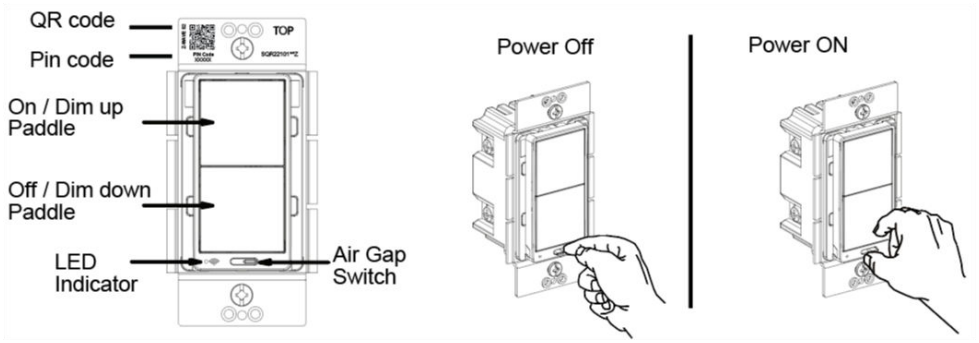
If the combined Wattage of ALL LED/ bulbs on 1 dimmer is:	Then the Maximum COMBINED Wattage for the Incandescent/ bulbs on EACH attached dimmer:		
	If NO tabs are removed, Max Wattage is:	If tabs on 1 side are removed, Max Wattage is:	If tabs on 2 sides are removed, Max Wattage is:
0W	600W	500W	400W
1-25W	500W	400W	300W
26-50W	400W	300W	200W
51-75W	300W	200W	100W
76-100W	200W	100W	50W
101-125W	100W	50W	0W
126-150W	0W	0W	0W

Operation

1. Air Gap Switch

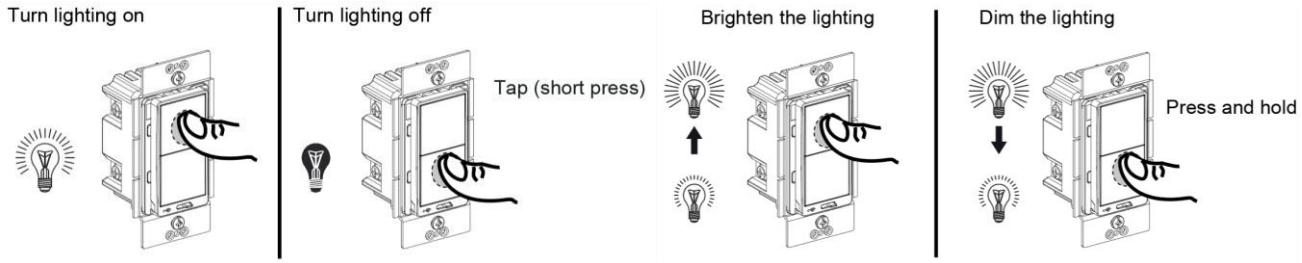
   This dimmer has an air gap switch on the lower side to completely disconnect power to the load. Slide the air gap switch to left to disconnect the power while replacing light bulbs and slide it to right for normal operation.

   The air gap switch must be all the way in for the dimmer to function and control the lighting.



2. Local control:

   NOTE: After a power failure, the dimmer returns to the off state.



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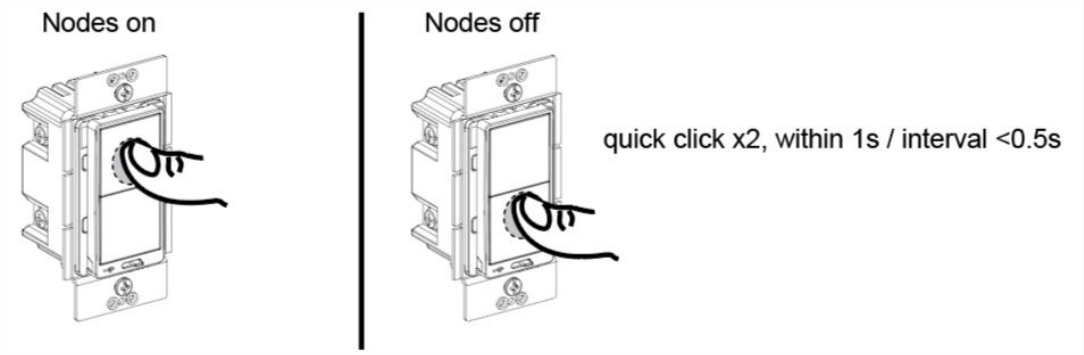
3. Group control the nodes of association group 2:

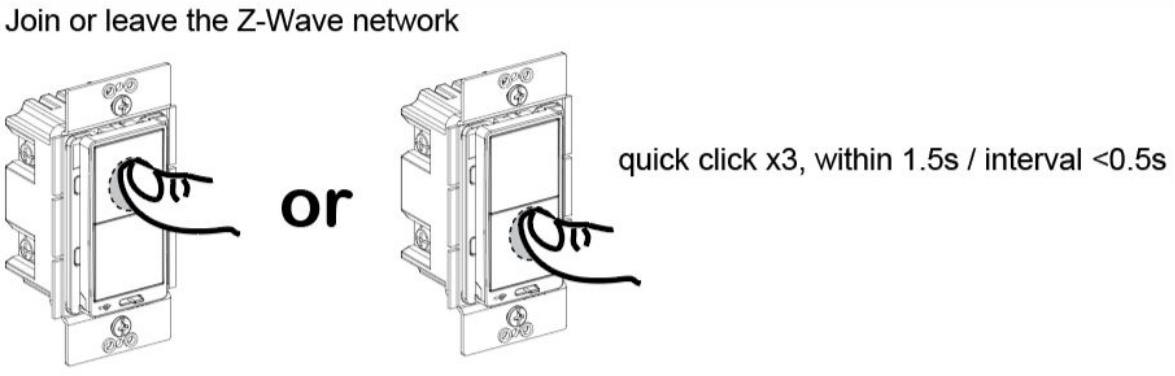
NOTE: Please refer to association setting for nodes group 2 setup. This requires a gateway with advanced features and assumes the device is included in a network.



4. Inclusion to a Z-Wave network:

NOTE: The device supports S2-authenticated & S2-unauthenticated inclusion method, It is highly recommended to only select S2-authenticated or the highest inclusion method for inclusion, and deselect other methods. This ensures the highest security level during Z-Wave service. During S2-authenticated inclusion, users may be asked to scan the QR code or enter a 5-digit pin code attached on the device.

A. SmartStart inclusion: The feature assumes the gateway has implemented SmartStart. Users could use the APP of the gateway or the gateway camera to scan the QR code on device or on device package before powering on the device, and then when the device is powered on, it shall be automatically added to the gateway.
B. Manual inclusion: When the gateway is in adding mode (please refer to the instruction of the Z-Wave gateway for the operations on gateway itself).



5. Exclusion from a Z-Wave network: When the gateway is in removing mode (please refer to the instruction of the Z-Wave gateway for the operations on gateway itself).
6. Remote control: After the device is included in a Z-Wave gateway, the gateway can provide control of an individual device, groups of devices and scenes, and offers flexibility in setting up the lighting control network. Please refer to the gateway instructions for details.

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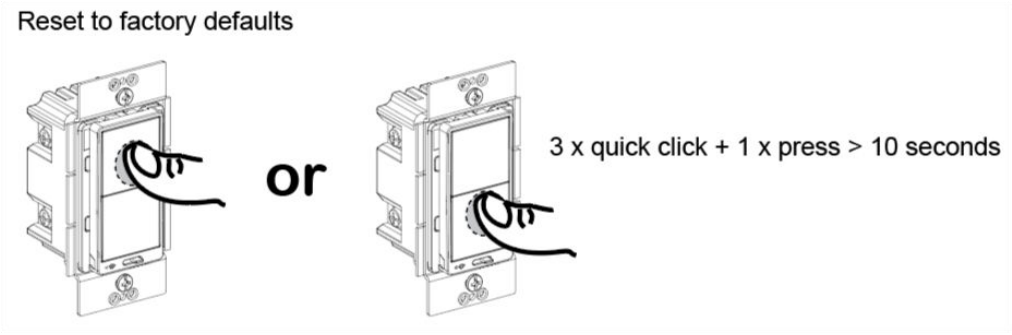
Wireless Range Conditions

The wireless range is the effective distance of remote control and it will be impacted by the following conditions:

- Each wall or obstacle (e.g., refrigerator, TV, etc.) between the remote or Z-Wave dimmer and the destination device will reduce the wireless range.
- Brick, tile, or concrete walls block more of the wireless signal than walls made of wooden studs and plasterboard (drywall).
- The angle of direction between the remote or Z-Wave dimmer and the destination device will also impact the wireless range; normally, placing the Z-Wave dimmers face-to-face will get the best wireless range.
- Wall-mounted Z-Wave dimmers installed in metal junction boxes may suffer a significant loss of range since the metal box blocks a large part of the wireless signal.

7. Reset to factory defaults:



NOTE:

- Use this procedure only when the Z-Wave gateway is missing or otherwise inoperable.
- Reset the dimmer to factory default settings will set the dimmer to not in Z-Wave network state, delete the association setting and restore the configuration setting to the default.
- When the paddle is pressed and held, the LED will blink quickly for 10 seconds and then the paddle can be released after the LED change to solid on, the LED will blink quickly for 3 seconds when factory reset succeeds.

Advanced Setting

The advanced setting requires an advanced gateway. Basic gateway does not support this setting. Users can do the setting through the interface of the advanced gateway.

All configuration parameters can be restored to factory default settings by the gateway or by manual reset.

Configuration				
Parameter No.	**Size**	**Description**	**Valid Value**	**Default Value**
1	1 byte	Synchronization of load power and LED indicator	0 = Power ON, LED OFF Power OFF, LED ON 1 = Power ON, LED ON Power OFF, LED OFF	Default = 1

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Association		
Grouping ID	**Max. No. of Nodes**	**Description**
1	5	Lifeline: Send device reset locally notification MultiLevelReport: Dimming percentage report MeterReport: Power metering report
2	5	AssGroupSet: send on/off set command
LED Indication		
Blue LED flashing	LED blinking slowly for 3 minutes: device not in network LED blinking fast: adding/leaving network LED stays on for 1 minute: adding/leaving network successfully LED blinking fast for 3s: factory reset success	
Blue LED on	Dimmer is turned on (default setting, can be configured)	
Blue LED off	Dimmer is turned off (default setting, can be configured)	

Trouble shooting

Issue	**Possible Cause/Solution**
SmartStart inclusion taking too long	Power cycle the dimmer to escalate the inclusion.
Inclusion is unsuccessful	Move the dimmer closer to the gateway and repeat the inclusion operation.
Lights flickering	● Lamp has bad connection. ● Wires not secured firmly with wire connectors.
LED flickers at low end of dimming range	Increase the low end of the dimming range.
LED bulb flickers throughout dimming range	● Ensure the bulbs are marked dimmable. ● Please refer to recommended dimmable LED bulbs at www.se.com
Light does not turn ON	● Circuit breaker or fuse has tripped. ● Lamp is burned out. ● Lamp or dimmer neutral connection is not wired.

FCC Compliance Statement

Federal Communication Commission Interference Statement

The 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 uses, generates and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. 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.

FCC Radiation Exposure Statement:

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

RF Exposure: A distance of 20 cm shall be maintained between the antenna and users, and the transmitter module may not be co-located with any other transmitter or antenna.

Non-modification Statement:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Supplier's Declaration of Conformity

Product Name: Z-Wave Dimmer

Model Number: SQR22101WHZ, SQR22101LAZ, SQR22101BKZ

Suppliers Name: Schneider Electric

Suppliers Address (USA): 800 Federal Street Andover, MA 01810 USA

Suppliers Website: www.schneider-electric.us

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FCC Compliance Statement

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.

ISED Statement

This Class [B] digital apparatus complies with Canadian CAN ICES-3(B).
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.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-3(B)du Canada.
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 ettoutes les personnes.

Model number: SQR22101WHZ, SQR22101LAZ, SQR22101BKZ

Warranty Information

Schneider Electric warranties its products to be free of defects in materials and workmanship for a period of two (2) years. There are no obligations or liabilities on the part of Schneider Electric for consequential damages arising out of or in connection with the use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation.

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