

Yale 22161 - PRS2-ZBS Power Relay Switch

Introduction

PRS2-ZBS is a ZigBee Power Switch. It is capable of receiving wireless signals from the coordinator in the Zigbee network to toggle On/Off of appliances that are attached to it.

The Power Relay Switch utilizes ZigBee technology for wireless signal transmission. ZigBee is a wireless communication protocol that is reliable and has low power consumption and high transmission efficiency. Based on the IEEE802.15.4 standard, ZigBee allows a large amount of devices to be included in a network and coordinated for data exchange and signal transmission.

The Power Relay Switch serves as an end device in the ZigBee network. It can be included in the ZigBee network to transmit or receive signal, but cannot permit any other ZigBee device to join the network through the Power Relay Switch.

Parts Identification

1. Function Button

The function button is used to control the Power Relay Switch:

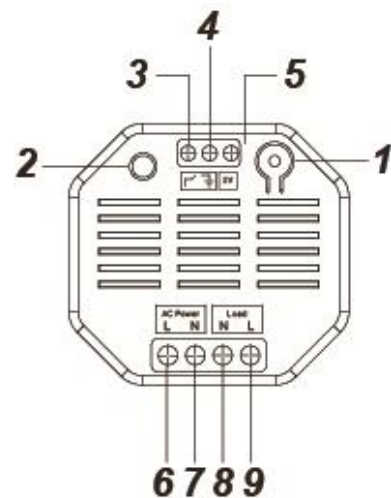
Function Button Usage:

- Press the button to toggle on/off the Power Relay Switch
- Press and hold the button for 10 seconds then release to reset the Power Relay Switch.
- Press and hold the button for 3 seconds then release to bind with a controller

2. LED indicator

The LED indicator is used to indicate Power Relay Switch status:

- On:
The Power Relay Switch is turned on.
- Off:
The Power Relay Switch is turned off.
- Flashes twice:
The Power Relay Switch has successfully joined a ZigBee network.
- Flashes three times
The Power Relay Switch has successfully bound with a controller
- Flashes five times
The Power Relay Switch was unable to bind with a controller
- Flashes once every 20 minutes:
The Power Relay Switch has not joined into any ZigBee network, or has lost connection to its current ZigBee network.



3. External Switch Control

4. External Switch Control / 3V Reference

5. DC Power Supply Output

- 6. AC Line Power Input
- 7. AC Neural Power Input
- 8. AC Neutral Power Load Output
- 9. AC Line Power Load Output

ZigBee Network Setup

● ZigBee Device Guideline

ZigBee is a wireless communication protocol that is reliable, has low power consumption and has high transmission efficiency. Based on the IEEE802.15.4 standard, ZigBee allows a large amount of devices to be included in a network and are coordinated for data exchange and signal transmission.

● Joining the ZigBee Network

As a ZigBee device, the Power Relay Switch needs to join a ZigBee network to receive commands and transmit energy consumption information. Please follow the steps below to join the Power Relay Switch into a ZigBee network.

1. Connect the Power Relay Switch to power cable.
2. Press and hold the function button for 10 seconds as the Power Relay Switch resets and starts searching for existing ZigBee network. Please make sure the permit-to-join feature on the router or coordinator of your ZigBee network is enabled.
3. If the Power Relay Switch successfully joins a ZigBee network, the LED Indicator will flash twice to confirm.
4. After joining the ZigBee network, the Power Relay Switch will be registered in the network automatically. Please check the ZigBee network coordinator, system control panel or CIE (Control and Indicating Equipment) to confirm if joining and registration is successful.
5. If registration and joining to the network is unsuccessful, the Power Relay Switch LED indicator will flash every 20 minutes to indicate the situation. Please check your ZigBee network coordinator, system control panel or CIE setting to ensure the permit-to-join function is available, and then use the Factory Reset function below to join the ZigBee network.

● Binding with Controller

After joining the ZigBee network, the Power Relay Switch can bind itself with a controller device which can be used to turn on/off the Power Relay Switch. To bind the Power Relay Switch and the device:

1. Press and hold the Function Button for 3 seconds, then release the button. The Power Relay Switch will send binding request to the coordinator.
2. Refer to your controller manual to send binding request for the device within 16 seconds.
3. If binding is successful, the Power Relay Switch LED indicator will flash 3 times to confirm. You can now use the controller to toggle the Power Relay Switch between On and Off.
4. If binding is unsuccessful, the Power Relay Switch LED indicator will flash 5 times. Please retry the binding process.

● Factory Reset

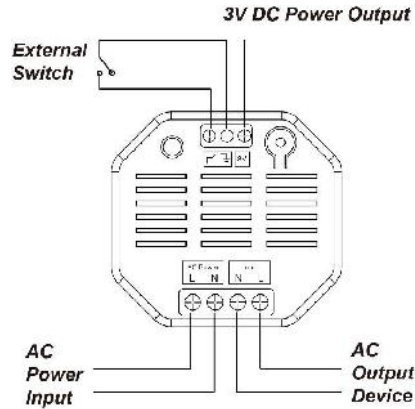
If you want to remove the Power Relay Switch from current network and join a new network, you need to use the Factory Reset function to clear the Power Relay Switch from its stored setting and information first before it can join another network. To perform Factory Reset:

1. Press and hold the switch button for 10 seconds, release the button when the LED Indicator flashes once.
2. The Power Relay Switch has been reset to factory default setting with all its previous network information removed. It will now actively search for available ZigBee network again and join the network automatically.
3. If the Power Relay Switch successfully joins a ZigBee network, the LED Indicator will flash twice to indicate.
4. If the Power Relay Switch cannot find an available ZigBee network, the LED Indicator will flash every 20 minutes to indicate.

Operation

● Wire Connection Diagram

- Refer to the diagram to connect your home lighting to the Power Relay Switch.



● Installation

- Connect the Power Relay Switch to power cable.
- Connect the power cable to your home lighting. The lighting must be in ON status.
- You can connect an external switch to the Power Relay Switch according to the diagram above to turn on/off the Power Relay Switch

● Appliance Control

- After the Power Relay Switch has successfully joined a ZigBee network, the coordinator can remotely turn on/off the Appliance.
- You can also press the button on the Power Relay Switch to toggle on/off the light.
- You can turn on/off the Power Relay Switch with an external switch.
- If you have bound a controller with the Power Relay Switch, you can also use the controller to turn on/off the Power Relay Switch.
- If the AC Power input is disconnected from the Power Relay Switch, its previous on/off status will be restored within 1 minute after reconnecting the AC Power input to the Power Relay Switch.

● Maximum Operation Load

- For 110V: the maximum operation load is 1100W and 10A.
- For 230V: the maximum operation load is 2300W and 10A.

Appendix (For developers only)

● Power Relay Switch Cluster ID

Device ID: On Off Output :0x0002	
Endpoint:0x0A	
Server Side	Client Side
Mandatory	
Basic (0x0000)	<i>None</i>
Identify(0x0003)	
Groups(0x0004)	
Scenes(0x0005)	
On/Off(0x0006)	
Optional	
<i>None</i>	<i>None</i>

- **Attribute of Basic Cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>ZCLVersion</i>	Unsigned 8-bit integer	0x00 –0xff	Read only	0x01	M
0x0001	<i>ApplicationVersion</i>	Unsigned 8-bit integer	0x00 –0xff	Read only	0x00	O
0x0003	<i>HWVersion</i>	Unsigned 8-bit integer	0x00 –0xff	Read only	0	O
0x0004	<i>ManufacturerName</i>	Character String	0 – 32 bytes	Read only	Climax Technology	O
0x0005	<i>ModelIdentifier</i>	Character String	0 – 32 bytes	Read only	PSS_00.00.00.14TC	O
0x0006	<i>DateCode</i>	Character String	0 – 16 bytes	Read only		O
0x0007	<i>PowerSource</i>	8-bit	0x00 –0xff	Read only		M
0x0010	<i>LocationDescription</i>	Character String	0 – 32 bytes	Read / Write		O
0x0011	<i>PhysicalEnvironment</i>	8-bit	0x00 –0xff	Read / Write	0x00	O
0x0012	<i>DeviceEnabled</i>	Boolean	0x00 –0x01	Read / Write	0x01	M

- **Attributes of the Groups cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>NameSupport</i>	8-bit bitmap	x0000000	Read only	-	M

- **Attributes of the Scenes cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>NameSupport</i>	8-bit bitmap	x0000000	Read only	0x00	M
0x0001	<i>CurrentScene</i>	Unsigned 8-bit integer	0x00 – 0xff	Read only	0x00	M
0x0002	<i>CurrentGroup</i>	Unsigned 16-bit integer	0x0000 – 0xffff7	Read only	0x00	M
0x0003	<i>SceneValid</i>	Boolean	0x00 – 0x01	Read only	0x00	M
0x0004	<i>NameSupport</i>	8-bit bitmap	x0000000	Read only	-	M

- **Attribute of Identify Cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>IdentifyTime</i>	Unsigned 16-bit integer	0x00 –0xffff	Read / Write	0x0000	M

- **Attribute of On/Off Cluster Information**

Identifier	Name	Type	Range	Access	Default	Mandatory / Optional
0x0000	<i>OnOff</i>	Boolean	0x00 –0x01	Read only	0x00	M



Tel : 1300 663 904

Email : sales@csmerchants.com.au

Web: www.csmerchants.com.au