

Switch power ON and OFF with Auxiliary Switch

The ZRF113 can also be controlled from an AS101 auxiliary switch in another location. A second AS101 (maximum is two) can be wired in parallel with the first to create 4-way control. An infinite amount of AS001 auxiliary switches can be wired in parallel with the ZRF113 (see wiring diagram on first page for details)

Other functions

The button on the ZRF113 also plays a role as a reset in addition to including the module in groups and scenes. This is described in more detail in the Wireless Controller instructions.

Over-current protection

The ZRF113 is protected by an internal fuse. This internal fuse is factory serviceable only. Check your home circuit breakers before concluding that the product must be returned to manufacturer for repair at a nominal charge.

Button (Local Control)

The button on the ZRF113 allows the user to

- Turn the load attached ON or OFF.
- Include or exclude the module in the Z-Wave system
- Configure the ZRF113 for a specific type of auxiliary switch.

When a controller prompts you to “Send Node ID” or to “Press Button on Unit”, quickly tap the button once to satisfy those instructions.

- Tapping button toggles the load attached.

If attached, the auxiliary switch can also be used to Include or Exclude the module from the Z-Wave system. When a controller prompts you to “Send Node ID” or to “Press Button on Unit”, quickly tap any auxiliary switch once to satisfy those instructions. Tap any auxiliary switch 4 times to accomplish the same thing without changing the state of the ZRF113.

If child protect mode is enabled, the ZRF113 auxiliary switch must be pressed 3 or 4 times to send the switch ID.

LED indication

The LED on the ZRF113 will turn on when the load attached is ON. The LED is user configured however to turn ON when the load attached is OFF, if so desired.

Accessory Switch

The ZRF113 supports the AS101 and AS001 auxiliary switch.

Remote Control

The ZRF113 will respond to BASIC and BINARY commands that are part of the Z-Wave system. Refer to your controller’s instructions as to whether your controller can transmit those commands.

See the information in the section titled **Version** for a complete list of commands the ZRF113 will support.

INTEROPERABILITY WITH Z-WAVE™ DEVICES

A Z-Wave™ network can integrate devices of various classes, and these devices can be made by different manufacturers. The ZRF113 can be incorporated into existing Z-Wave™ networks.

The button on the face of the ZRF113 can be used to carry out inclusion, association, or exclusion.

ADVANCED OPERATION

Protection

The ZRF113 supports the Protection Command.

The protection command will only affect the auxiliary switch if one is attached to the ZRF113.

The ZRF113 can be set to 1 of 3 **Protection** modes by a wireless controller. Refer to your controller for information on how to set the various modes of **Protection**. Some controllers may only be able to set certain settings of Protection.

There are 3 modes of **Protection** and they are the following:

- No Protection
- Child Protection
- Auxiliary Switches totally disabled

When **Protection** is set to “*No Protection*” mode, the ZRF113 works normally.

When **Protection** is set to “*Child Protection*” mode, the local button on the ZRF113 will continue to work normally. If you have an auxiliary switch attached, you will have to press it three (3) times rapidly to control the attached load. The ZRF113 operates normally when controlled by a wireless controller.

When **Protection** is set to “*No Operation Possible*” mode, the local button and auxiliary switches will not work. You will only be able to turn the load on and off with a wireless controller. The switches can still be used to access the Z-Wave network.

All On/All Off

The ZRF113 supports the ALL ON/ ALL OFF commands.

The ZRF113 can be set to respond to ALL ON and ALL OFF commands 4 different ways.

Refer to your controller for information on how to set the ZRF113 to operate in the manner you desire. Some controllers may be only able to set certain settings of ALL ON/ALL OFF response.

The 4 different ways the ZRF113 can be setup to respond to ALL ON and ALL OFF commands are:

- ZRF113 will not respond to ALL ON or the ALL OFF command.
- ZRF113 will respond to ALL OFF command but will not respond to ALL ON command.
- ZRF113 will respond to ALL ON command but will not respond to ALL OFF command.
- ZRF113 will respond to ALL ON and the ALL OFF command.

Association

The ZRF113 supports the Association command.

Groups 1, 2, and 3 are not valid for the local button on the ZRF113. An auxiliary switch must be used.

The ZRF113 can be set to control other Z-Wave devices. You can turn on and off, and even dim other Z-Wave devices once they are “**associated**” into 1 of 4 groups within the ZRF113.

Each group is turned on or off (or dimmed) by tapping or holding the auxiliary switch a differing amount of times.

If you **associate** a Z-Wave device into Group 1, you can turn that device on and off by tapping the top or bottom **of the auxiliary switch once**. You can brighten or dim devices by holding down the top or bottom **of the auxiliary switch** (only the bottom on the AS001, tap once again to reverse the dimming). The load attached to the ZRF113 will also turn on or off.

If you **associate** a Z-Wave device into Group 2, you can turn that device on and off by tapping the top or bottom **of the auxiliary switch twice**. You can brighten or dim devices by tapping the top or bottom **of the auxiliary switch** once and then holding the switch down. The load attached to the ZRF113 is not affected.

If you **associate** a Z-Wave device into Group 3, you can turn that device on and off by tapping the top or bottom **of the auxiliary switch three times**. You can brighten or dim devices by tapping the top or bottom **of the auxiliary switch twice** and then hold the top down for brighten or bottom for dim (bottom only if AS001). The load attached to the ZRF113 is not affected.

Only **associate** transmitters or controllers into Group 4. Group 4 should be used only to update a transmitter or controller on the status of the ZDW120 which might have been controlled from another device.

You can **associate** up to **5** Z-Wave devices into **each** of these groups.

For instructions on how to “**associate**” a Z-Wave device into one of these groups, refer to your wireless controller instructions. (If you are using the ZTH100 controller, refer to the Setup Menu, Association section).

A note about dimming: If you combine Z-Wave enabled dimmers and other types of Z-Wave devices in a group, place a Z-Wave enabled dimmer into the empty group 1st to ensure that the dimming operates correctly.

Routing Support

The ZRF113 is a routing slave

The Z-Wave devices that are “**associated**” into Group 2 or Group 3 can be commanded from the ZRF113 via repeater nodes. In other words, the command can be routed through nodes that are in between the Z-Wave device

you are trying to control and the ZRF113.

This routing via repeater nodes only needs to occur when the Z-Wave device you are trying to control and the ZRF113 are not within direct range of each other. You will be able to determine this is the case, if, after “**associating**” a Z-Wave device into a group you cannot control it with the ZRF113.

For Group 2 and Group 3, if you cannot control the Z-Wave device directly from the ZRF113, you must tell the ZRF113 what other Z-Wave devices are in between it and the Z-Wave device you are trying to control. You must use a controller to do this, so refer to your controller’s instructions on how to tell the ZRF113 this information. This is sometimes called “Assigning Routes”. Caution: you do not want to do this unnecessarily because the ZRF113 is limited to communicating to **5** Z-Wave devices via repeater nodes. So first, be sure to determine you cannot control the device directly from the ZRF113 because you can communicate up to **20** Z-Wave devices (**5** in each group) from the ZRF113 *without* the use of repeater nodes.

Z-Wave devices that you **associate** into Group 1 **cannot** be commanded through repeater nodes.

Z-Wave devices that you **associate** into Group 2 **can** be commanded through repeater nodes.

Z-Wave devices that you **associate** into Group 3 **can** be commanded through repeater nodes.

Z-Wave devices that you **associate** into Group 4 **cannot** be commanded through repeater nodes.

There can be up to 4 nodes between the ZRF113 and the Z-Wave device you are trying to command.

Configuration

The ZRF113 supports the Configuration command.

The ZRF113 can be configured to operate slightly differently than how it works when you first install it. Using the Configuration command you can configure the following:

- Set Ignore Start Level Bit When Transmitting Dim Command
- Suspend Group 4

You can use a ZTH100 to send Configuration commands. (Refer to the Setup Menu, Configuration section)

Set Ignore Start Level Bit When Transmitting Dim Commands

Parameter No: 1

Length: 1 Byte

Valid Values = 0 or 1 (default 0)

The ZRF113 can send Dim commands to Z-Wave enabled dimmers. The Dim command has a start level embedded in it. A dimmer receiving this command will start dimming from that start level. However, the command also has a bit that indicates whether the dimmer should ignore the start level. If the bit is set to 1, the dimmer will ignore the start level and instead start dimming from its current level. To set this bit, configure this parameter to the value of 1.

Suspend Group 4

Parameter No: 2

Length: 1 Byte

Valid Values = 0 or 1 (default 0)

You may wish to disable transmitting commands to Z-Wave devices that are in Group 4 (the group that “cannot be commanded through repeater nodes”) without “disassociating” those devices from the group. Setting parameter 2 to the value of 1 will stop the ZRF113 from transmitting to devices that are “associated” into Group 4.

Each Configuration Parameter can be set to its default setting by setting the default bit in the Configuration Set command. See your controller’s instructions on how to do this (and if it supports it).

All Configuration commands will be reset to their default state when the ZRF113 is reset from the Z-Wave system.

Three Way Switch Setup

The ZRF113 supports auxiliary switches. You have to configure the ZRF113 for either the AS101 or AS001 auxiliary switch. By default, the ZRF113 supports the AS101.

To configure the ZRF113 for the type of auxiliary switch you are using, do the following:

To configure for an AS101:

Press button for 3 seconds. The LED will flicker while you do this. After 3 seconds the flickering will stop and

the LED will flash once. This indicates that the AS101 has been configured as the auxiliary switch.

To configure for an AS001:

Tap the button once and then press button for 3 seconds. The LED will flicker while you do this. After 3 seconds the flickering will stop and the LED will flash twice. This indicates that the AS001 has been configured as the auxiliary switch.

Alternatively, you can also configure the ZRF113 for either the AS101 or AS001 using the Configuration Command:

Accessory Switch
Parameter No: 16
Length: 1 Byte
Valid Values = 0 or 1 (default 0)

Setting the value to 0 configures the ZRF113 for the AS101. Setting the value for anything other than 0 configures the ZRF113 for the AS100.

Powerlevel

The ZRF113 supports the Powerlevel command.

The Powerlevel command allows controllers to set and get the RF transmit power level of a node and test specific links between nodes with specific RF transmit power. Refer to your controller's instructions for more information, (if it supports this command). This command is typically used by professional installers.

Version

The ZRF113 supports the Version command.

The ZRF113 can return version information about itself and the commands it supports. Refer to your controller's instructions on how to get this information from the ZRF113. The following is the version information for the ZRF113.

COMMAND_CLASS_SWITCH_BINARY	Version 1
COMMAND_CLASS_SWITCH_ALL	Version 1
COMMAND_CLASS_PROTECTION	Version 1
COMMAND_CLASS_ASSOCIATION	Version 1
COMMAND_CLASS_POWERLEVEL	Version 1
COMMAND_CLASS_CONFIGURATION	Version 1
COMMAND_CLASS_VERSION	Version 1
COMMAND_CLASS_MANUFACTURER_SPECIFIC	Version 1
COMMAND_CLASS_MARK	Version 1
COMMAND_CLASS_BASIC	Version 1
COMMAND_CLASS_SWITCH_MULTILEVEL	Version 1

Z-Wave Library Type	ZW_LIB_SLAVE_ROUTING
Z-Wave Protocol Version	1
Z-Wave Protocol Sub Version	59
Application Version	1
Application Sub Version	0

Manufacturer Specific

The ZRF113 supports the Manufacturer Specific command.

The ZRF113 can return Manufacturer Specific information about itself. Refer to your controller's instructions on how to get this information from the ZRF113. The following is the manufacturer specific information for the ZRF113.

Manufacturer ID 1	0x00
Manufacturer ID 2	0x01
Product Type ID 1	'R' or 0x52
Product Type ID 2	'F' or 0x46
Product ID 1	'1' or 0x31
Product ID 2	'3' or 0x33

SUC Support

There must be a Static Update Controller in your Z-Wave system for this feature to work.

You can assign an “SUC Route” to the ZRF113. Refer to your controller’s instructions on how to do this (if it supports it). Assigning an SUC Route to the ZRF113 allows the ZRF113 to request an update of the Z-Wave devices that are in between it and the Z-Wave device it was trying to transmit to. The ZRF113 will only request an update when a transmission fails.

WARRANTY

For warranty and general product information visit our web site at www.act-solutions.com

ABOUT ZRF113’S CERTIFICATION

The ZRF113 has been thoroughly tested by the ETL SEMCO division of Intertek, a nationally recognized testing laboratory. This product was found to be in compliance with safety standards ANSI/UL STD 244A and CAN/CSA C22.2 No. 177.

In addition to compliance with product safety standards, the ZRF113 is also certified to comply with applicable FCC and IC rules and regulations governing RF and EMI emissions.

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.

FCC NOTICE

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:

- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

IC NOTICE

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Power	120 VAC, 50/60 Hz
Signal (Frequency)	908.42 MHz
Maximum Load	Isolated Contacts: 20 amps G.P. maximum, 277 VAC, 10FLA, 60LRA, 250VAC, Motor: 1 H.P. maximum, 120/240 VAC Incandescent: TV8 (Tungsten), 120 VAC, 960W maximum
Range	Up to 100 feet line of sight between the Wireless Controller and /or the closest HomePro Receiver Module

