



Command Class Mapping

Z-Wave Certification requires that the Basic Command Class be mapped to one of the supported command classes in each device. Below is the mapping list for each Cooper AspireRF device.

Catalog Number	Command class to which the Basic Command Class is mapped
RF9500	Multilevel Switch Command Class
RF9501	Binary Switch Command Class
RF9505	Binary Switch Command Class
RF9505-T	Binary Switch Command Class
RF9517	Indicator Command Class
RF9518	Binary Switch Command Class
RF9534	Multilevel Switch Command Class
RF9534-N	Multilevel Switch Command Class
RF9535-N	Multilevel Switch Command Class
RF9536	Multilevel Switch Command Class
RF9536-N	Multilevel Switch Command Class
RF9537-N	Multilevel Switch Command Class
RF9542-Z	Indicator Command Class
RFAPM	Binary Switch Command Class
RFLDM	Multilevel Switch Command Class
RFTDCSG	Not Applicable – This product is a controller
RFHDCSG	Not Applicable – This product is a controller
RFUSB	Not Applicable – This product is a controller
RFUSB-PRO	Not Applicable – This product is a controller
RFWDC	Not Applicable – This product is a controller
RFMCC	Not Applicable – This product is a controller

Device Configuration Parameters

Cooper Z-Wave devices can be configured to operate in various ways.
The configuration parameters are shown for each configurable device.

RF9501 Light Switch		
Parameter	Description	Value Range
1	Delayed Off	* 0 to 127 -128 to -1
2	Panic On Time	* 0 to 127 -128 to -1
3	Panic Off Time	* 0 to 127 -128 to -1
4**	Basic Set Value	* 0 to 127 -128 to -1
5	Power Up State	1=OFF 2= ON 3 = Last State
6	Panic Mode Enable	0=Off_1=On
7	Not Used	Not Used

RF9534, RF9534-N, RF9535-N, RF9536, RF9536-N, and RF9537-N Dimmers		
Parameter	Description	Value
1	Delayed Off	* 0 to 127 -128 to -1
2	Panic On Time	* 0 to 127 -128 to -1
3	Panic Off Time	* 0 to 127 -128 to -1
4**	Basic Set Value	* 0 to 127 -128 to -1
5	Power Up State	1=OFF 2= ON 3 = Last State
6	Panic Mode Enable	0=Off_1=On
7	Dimmer Ramp Time	* 0 to 127 -128 to -1

RF9517 Remote Switch		
Parameter	Description	Value
1	Delayed Off	* 0 to 127 -128 to -1
2	Panic On Time	Not Used
3	Panic Off Time	Not Used
4**	Basic Set Value	** 0 to 127 -128 to -1
5	Power Up State	Not Used
6	Panic Mode Enable	Not Used
7	Not Used	Not Used

RF9518 Light Switch		
Parameter	Description	Value Range
1	Delayed Off	0 to 127 -128 to -1
2	Panic On Time	0 to 127 -128 to -1
3	Panic Off Time	0 to 127 -128 to -1
4**	Basic Set Value	* 0 to 127 -128 to -1
5	Power Up State	1=OFF 2= ON 3 = Last State
6	Panic Mode Enable	0=Off_1=On
7	Not Used	Not Used

RF9542-Z Remote Dimmer Accessory		
Parameter	Description	Value
1	Delayed Off	* 0 to 127 -128 to -1
2	Panic On Time	Not Used
3	Panic Off Time	Not Used
4**	Basic Set Value	* 0 to 127 -128 to -1
5	Power Up State	1=OFF 2= ON 3 = Last State
6	Panic Mode Enable	0=Off 1=On
7	Dimmer Ramp Time	* 0 to 127 -128 to -1

RF9505, RF9505-T Receptacle		
Parameter	Description	Value Range
1	Delayed Off	Not Used
2	Panic On Time	* 0 to 127 -128 to -1
3	Panic Off Time	* 0 to 127 -128 to -1
4**	Not Used	Not Used
5	Power Up State	1=OFF 2= ON 3 = Last State
6	Panic Mode Enable	0=Off_1=On
7	Not Used	Not Used

*The configuration value is a signed single byte number This value may represent a value with no units or may represent a value such as time. 0 to 127 (decimal) represents 0 to 127 seconds of time. -128 to -1 (negative decimal numbers) represents 128 to 255 seconds as calculated by this formula:

config value = desired time in seconds (or desired value) – 256
For an example of 172 seconds: config value = 172 – 256 = -84 (decimal) or 0xAC (hex)

For Parameter 4, this value is the value that will be sent in a Basic Set command as a result from association to another device.

**Not available in earlier versions of the device. Call Cooper Wiring Devices with any questions.

RFAPM – Appliance Plug-In Module		
Parameter	Description	Value
1	Delayed Off	* 0 to 127 -128 to -1
2	Panic On Time	* 0 to 127 -128 to -1
3	Panic Off Time	* 0 to 127 -128 to -1
4**	Basic Set Value	* 0 to 127 -128 to -1
5	Power Up State	1=OFF 2= ON 3 = Last State
6	Panic Mode Enable	0=Off_1=On
7	Not Used	Not Used

RFLDM - Dimmer Plug-In Module		
Parameter	Description	Value
1	Delayed Off	* 0 to 127 -128 to -1
2	Panic On Time	* 0 to 127 -128 to -1
3	Panic Off Time	* 0 to 127 -128 to -1
4**	Basic Set Value	* 0 to 127 -128 to -1
5	Power Up State	1=OFF 2= ON 3 = Last State
6	Panic Mode Enable	0=Off_1=On
7	Dimmer Ramp Time	* 0 to 127 -128 to -1

*The configuration value is a signed single byte number This value may represent a value with no units or may represent a value such as time. 0 to 127 (decimal) represents 0 to 127 seconds of time. -128 to -1 (negative decimal numbers) represents 128 to 255 seconds as calculated by this formula:
 $\text{config value} = \text{desired time in seconds (or desired value)} - 256$
 For an example of 172 seconds: $\text{config value} = 172 - 256 = -84$
 (decimal) or 0xAC (hex)

For Parameter 4, this value is the value that will be sent in a Basic Set command as a result from association to another device.

**Not available in earlier versions of the device. Call Cooper Wiring Devices with any questions.

Device Association Information

Cooper Z-Wave devices can be associated to other Z-Wave devices for the purpose of sending commands to these other devices when a button, for example an ON/OFF button, is pressed. Cooper Z-Wave devices can hold a maximum of 5 associations to other nodes. One device can send commands to a maximum of 5 other nodes total in all association groups. If an association is made in group 255, then only 4 associations can be made in group 1, so the total number of associated nodes is 5 maximum.

For the devices that support the HAIL command, if an association is made in group 255, then a HAIL command is sent out to the associated node, usually a controller. The HAIL command, when received by the associated node, can be acted upon and result in any action desired by the associated node software. For example, this can be used to initiate a query of the source node to get status.

A device sends a Basic Set command to the associated node. Normally the value sent reflects the state of the source node (On, Off, or Level) which is the default behavior. However, this behavior can be overridden by configuring the device with configuration parameter 4 to any value between 1 and 255. When this is done, then a Basic Set with the configured value will be sent instead of the state of the device when the device is turned ON. When the device is turned off, a Basic Set value of 0 will be sent. A configuration value of 0 in parameter 4 restores the default behavior as described above. Please note that in earlier version of software, this parameter may not be configurable. Please contact Cooper Wiring Devices with any questions.

**Cooper devices reports the following association information in these products:
RF9501, RF9505, RF9505T, RF9518, RF9534, RF9534-N,
RF9535-N, RF9536, RF9535-N, RF9537, RFAPM, RFLDM**

Association Group 1 - 5 nodes maximum
Association Group 2 through 254 - 0 nodes maximum
Association Group 255 - 1 node maximum

**Cooper devices reports the following association information in these products:
RF9500, RF9517, RF9542-Z**

Association Group 1 - 5 nodes maximum
Association Group 2 through 255 - Not supported

Scene Transfer Protocol for the RFWDC Wall Mount Scene Controller

The following protocol is used when transferring scenes from a PC based Z-Wave controller. It allows the use of devices that are scene capable as well as non-scene capable devices.

Association Remove All (for a new scene)

Association_Remove, Grouping Identifier (1, 2, 3, 4, or 5 for Button 1 - 5), empty node ID list

For non scene capable devices:

Association Command Class, Association Set (with group ID and node IDs)

Association_Set, Grouping Identifier (1, 2, 3, 4, or 5 for Button 1 - 5), Node ID list (for all nodes that have the SAME level value in the scene. The levels can be 0x00, 0x01 - 0x63, or 0xFF)

Configuration Command Class, Configuration Set (the value is applied to the list of node IDs in the previous association set)

Configuration_Set, Parameter Number (1, 2, 3, 4, or 5 for Button 1 - 5), Configuration Value 1 (this value, 0x00, 0x01 - 0x63, or 0xFF, is the level value for all the nodes listed in the previous Association_Set command)

Repeat sending association/configuration sets as required for nodes of different level values. The first Association_Set command is for all devices with some given level. The second Association_Set command is for all devices with another level. The third Association_Set command is for all devices with yet another level. And so on. There will be as many Association/Configuration pairs as there are different levels in the scene.

The above is followed by this for scene capable devices:

Scene Controller Configuration Command Class Set (with Group ID and Scene ID)

Scene_Controller_Conf_Set, Group ID (1, 2, 3, 4, or 5 for Button 1 - 5), Scene ID, Dimming Duration

Association Set

Association_Set, Grouping Identifier (1, 2, 3, 4, or 5 for Button 1 - 5), Node ID list for all scene-capable nodes in the scene.

Slave Device Panic Mode Access

To set a device into Panic Mode (On-Off flashing at time intervals determined in the device configuration), send a Command_Class_Alarm, ALARM_REPORT command to the device with an Alarm Type of 1 and a value of 255. To turn off panic mode, send the same command as above with an Alarm Type of 1 and a value of 0.
