

# Z-Wave wireless smart master dimmer

Project Name:	Prepared By:
Project Number:	Date:
Catalog Number:	Type:

## Description

Single-pole, 3-way, 4-way  
120V/AC, 60Hz  
LED, CFL, incandescent, magnetic low-voltage, electronic low voltage, fluorescent, halogen

## Design features

- Adjustable low-level trim setting helps prevent flickering
- Adjustable high-level trim setting for additional energy savings
- Programmable rapid start feature ensures lamp start-up even at low dim levels
- Compatible with Z-Wave accessory dimmer (RF9542-Z) for wireless 3-way control, eliminating the need for traditional 3-way wiring or dedicated traveller wire
- Can be associated with up to 5 other devices
- Air-gap switch disconnects power from load forcing an OFF condition
- Neutral wire required for installation
- Decorator and designer series products offer the same functionality with two distinct styles
- Electro-mechanical push pad for ON/OFF operation with separate DIM/BRIGHT bar
- Seven step blue LED display alongside push pad indicates selected light level and reduces brightness when OFF (nightlight feature)
- Programmable rapid and delayed fading up to 4 minutes (default is 10 seconds)
- Adjustable ramp rate (up to 4 minutes)
- Child lockout feature
- Pressing and holding push pad for 2 seconds brings light to full brightness without affecting preset levels



RF9540-NAW  
Aspire series



RF9540-NDW  
Decorator series

**Table 1. Z-Wave wireless smart dimmer master**

Catalog No.	Description	Compatible			Designer	Decorator
		Lamp Types	Watts	V/AC	Color Suffix	Color Suffix
□ RF9540-N_	Z-Wave master dimmer, all-load, single-pole/multi-location with presets (neutral required)	Dimmable LED/CFL	300	120	AW, DS, SG, WS	DBK, DLA, DW
		INC, HAL, FLR, MLV, ELV	600	120		

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## Applications

Z-Wave dimmers replace regular switches to provide local and remote ON/OFF/DIM/BRIGHT control. These are compatible with most common light types including LED, CFL, INC, HAL, FLR, ELV, and MLV loads. Z-Wave master dimmers provide other programmable features such as scenes, events, associations when used with Z-Wave compliant controllers.

**Table 2. Specifications**

Catalog No.	Wireless smart dimmer master RF9540-N
<b>Performance</b>	Rating: 120V/AC, 60Hz Derating is required in multi-gang installations (See multi-unit installation chart listed below) Uses 300 Series Z-Wave Chip @ 40Kbs
<b>Performance Consideration</b>	A Z-Wave enabled device must be within 60 feet of another Z-Wave enabled device to participate in a Z-Wave wireless mesh network. Any one dimmer or switch can be associated with up to 5 devices (dimmers, switches, receptacles, or plug-in modules)
<b>Installation &amp; Programming</b>	Please reference the Instruction Sheet included with the product for wiring installation. For programming of the device, see the Z-Wave User Manual, which is provided with compatible Z-Wave controllers
<b>Testing &amp; Code Compliance</b>	cULus Listed 6B28. NOM Certified. Complies with FCC Part 15, Class B. Z-Wave Compliant Certified
<b>Terminations</b>	Dimmers have four 6" pre-stripped wire leads for line, load, ground and neutral
<b>Material Characteristics</b>	<b>Flammability:</b> Meets UL94 requirements; V2 rated <b>Temperature Rating:</b> 32°F to 104°F (0°C to 40°C)
<b>Warranty</b>	2-year limited product warranty

**Table 3. Multi-Unit Installation Chart**

Catalog No.	Load Type	1-Gang	2-Gang	3 or more Gangs
<b>RF9540-N</b>	INC/ELV/FLR/Halogen/MLV	600W/VA	550W/VA	500W/VA
	LED/CFL	300W	300W	300W

**Table 4. Color Ordering Information**

For ordering devices, include Catalog No. followed by the Color Suffix: AW (Alpine White), DS (Desert Sand), Silver Granite (SG), WS (White Satin), DBK (Decorator Black), DLA (Decorator Light Almond), DW (Decorator White).

**Designer series color options:**

AW	AW	DS	DS	SG	SG	WS	WS
(Alpine White)		(Desert Sand)		(Silver Granite)		(White Satin)	

**Decorator series color options:**

DBK	DLA	DW
(Decorator Black)	(Decorator Light Almond)	(Decorator White)

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**Table 5. Device Configuration Parameters**

Parameter	Description	Value range
1	Delayed OFF time	*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
8	Kickstart enable/disable	0 disables, 1 enables
9	Reset max/min levels to factory default	0
11	Set minimum dimming level	*** 4 to 99
12	Set maximum dimming level	*** 4 to 99

\*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)

\*\*Normally this parameter will not be changed and should be left at factory default unless specific associated devices require a fixed value. It is included to ensure Z-Wave® certification requirements. If a value other than 0 is configured, then the device will send the configured value rather than the actual value of the dim level to associated devices. Changing this value from 0 will result in undesired operation in most cases.

\*\*\*Please note that these values are not normally used except for possible technical support troubleshooting in the case of attempting to set the dimming level to determine solutions to lamp incompatibility issues. The minimum level must always be at least 13 below the maximum level.

The customer may change this level by following the instructions in the instruction sheet for the product. These instructions tell the customer to press and hold the ON/OFF button for a specified period of time, observe the LEDs, and take certain actions to be able to make these adjustments.

**Table 6. Device Association Information**

**Association Groups for RF9540-N**

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

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### Product Dimensions

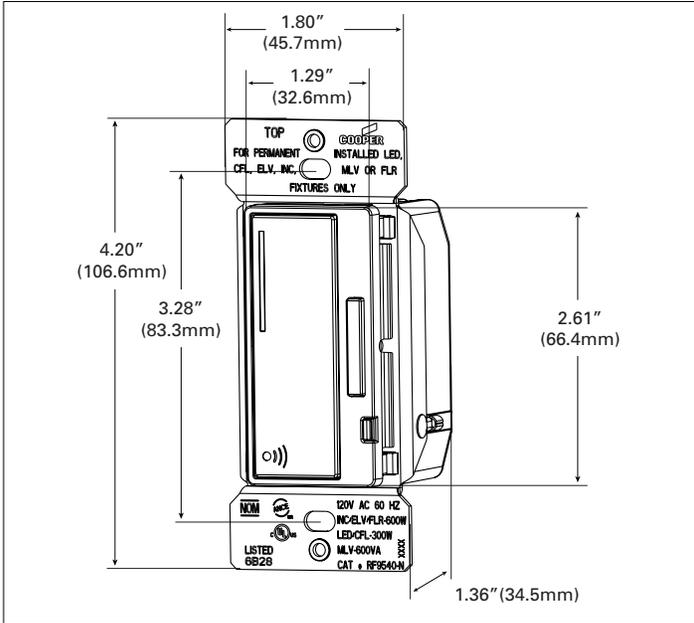
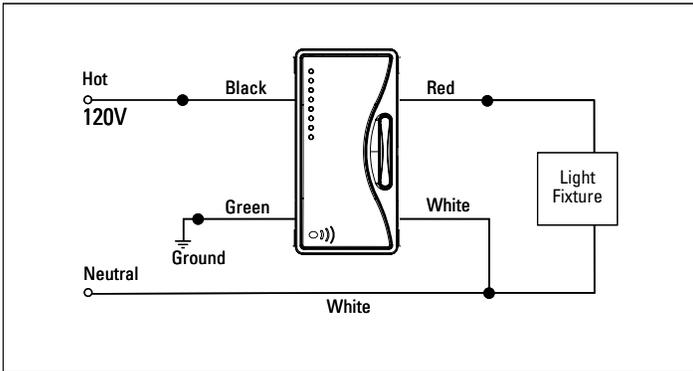
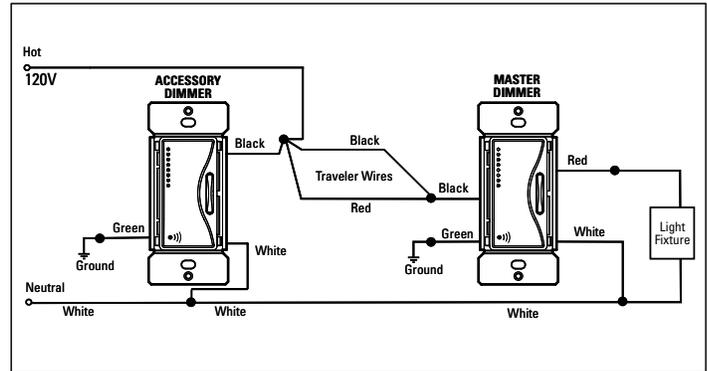


Figure 1. RF9540-N

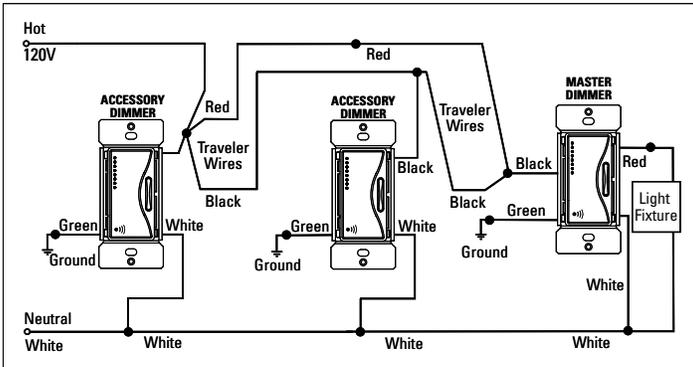
### Single-Pole Location Wiring Diagram



### 3-Way Location Wiring Diagram



### 4-Way Location Wiring Diagram



**Note:** Accessory dimmer in diagram is RF9542-Z. For multi-location control, use Z-Wave smart dimmer masters direct wired to light along with Z-Wave accessory. The Z-Wave accessory does not require direct connections to the light (use Z-Wave association function).

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### Certifications & Compliances

<b>Catalog No.</b>			
RF9540-N	•	•	•

**KEY:**  cULus  NOM  FCC

### Related Products

#### Z-Wave controllers



RFTDCSG, RFWC5WS

#### Z-Wave wireless products



RF9542-NDW, RF9501DW, RFTR9505-T

#### Aspire products



9566TRWS, 9544DS, 9521WS

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