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- › [Eaton](#) /
- › [Eaton RF9540-NDW Aspire Smart Dimmer System Master Instruction Manual](#)

### Eaton RF9540-NDW

# Eaton RF9540-NDW Aspire Smart Dimmer System Master Instruction Manual

Model: RF9540-NDW

## 1. INTRODUCTION

The Eaton RF9540-NDW Aspire Smart Dimmer System Master is designed to replace standard light switches, offering both local and remote control over various lighting loads. This device is compatible with incandescent, magnetic low-voltage, electronic low-voltage, LED, CFL, and fluorescent (FLR) lighting. It integrates into Z-Wave compliant systems, allowing for advanced programmable functions such as scenes, events, and device association.

This manual provides essential information for the safe installation, operation, and maintenance of your RF9540-NDW dimmer.





**Figure 1:** Front view of the Eaton RF9540-NDW Aspire Smart Dimmer, showing the main push pad, dim/bright bar, and LED indicator.

## 2. SAFETY INFORMATION

### **WARNING: RISK OF ELECTRIC SHOCK.**

- Always turn off power at the circuit breaker or fuse box before installing or servicing this device.
- Installation must be performed by a qualified electrician or trained personnel in accordance with all national and local electrical codes.
- Do not use this device with loads exceeding its specified wattage.
- Ensure all wire connections are secure to prevent fire or shock hazards.
- This device is for indoor use only.

Read all instructions carefully before installation and operation.

### 3. PACKAGE CONTENTS

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- One (1) Eaton RF9540-NDW Aspire Smart Dimmer System Master

### 4. INSTALLATION AND SETUP

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The RF9540-NDW dimmer is designed to fit into standard wallboxes and utilizes existing 120V/AC 60Hz standard house wiring. A neutral wire is required for installation.

#### 4.1 Wiring Requirements

- **Voltage:** 120V AC, 60Hz
- **Load Compatibility:** Incandescent, MLV, ELV, LED, CFL, FLR (600W max for INC/ELV/FLR, 300W max for LED/CFL, 500VA for MLV)
- **Neutral Wire:** Required for operation.

#### 4.2 Installation Steps

1. **Turn Off Power:** Locate the circuit breaker or fuse that supplies power to the switch you are replacing and turn it OFF. Verify power is off using a voltage tester.
2. **Remove Existing Switch:** Carefully remove the wall plate and unscrew the existing switch from the wallbox. Disconnect the wires.
3. **Identify Wires:** Identify the Line (hot), Load, Neutral, and Ground wires. The RF9540-NDW requires a neutral wire.
4. **Connect Wires:**
  - Connect the dimmer's Line wire to the Line (hot) wire from the wallbox.
  - Connect the dimmer's Load wire to the Load wire leading to the light fixture.
  - Connect the dimmer's Neutral wire to the Neutral wire from the wallbox.
  - Connect the dimmer's Ground wire to the Ground wire from the wallbox.





Figure 2: Side view of the dimmer, illustrating the screw terminals for wiring connections.





Figure 3: Side view showing the integrated green ground wire for safety.

5. **Mount Dimmer:** Carefully push the wired dimmer into the wallbox and secure it with the mounting screws.
6. **Install Wall Plate:** Attach the decorative wall plate (not included) over the dimmer.
7. **Restore Power:** Turn the power back ON at the circuit breaker.

## 5. OPERATION

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The RF9540-NDW dimmer offers both manual and remote control capabilities.

### 5.1 Manual Control

- **On/Off:** Press the large electro-mechanical push pad to turn the connected lights ON or OFF.
- **Dim/Bright:** Use the separate dim/bright bar located next to the push pad to adjust the light level. Press the top of the bar to brighten and the bottom to dim.
- **Full Brightness:** Press and hold the main push pad for 2 seconds to bring the lights to full brightness, regardless of any preset levels.

### 5.2 LED Display

A seven-step blue LED display is located alongside the push pad. This display indicates the selected light level. When the lights are off, the LEDs reduce brightness, functioning as a nightlight feature.

### 5.3 Remote Control (Z-Wave)

The dimmer can be controlled remotely by commands sent from an Aspire RF Controller (e.g., RFTDCSG, RFHDCSG, RFTCP) or other Z-Wave compatible controllers or programs. Refer to your Z-Wave controller's instructions for pairing and remote operation.

## 6. PROGRAMMING FEATURES

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When used with Aspire RF or other Z-Wave compliant controllers, the RF9540-NDW dimmer supports various programmable functions:

- **Scenes:** Integrate the dimmer into custom lighting scenes.
- **Events:** Trigger lighting changes based on specific events.
- **Association:** The dimmer can be associated with up to 5 other Z-Wave devices for synchronized control.
- **Child Lockout:** A programmable feature to prevent unauthorized operation.
- **Rapid and Delayed Fading:** Customize the fade-up and fade-down times for lights. The default setting is 10 seconds, with options up to 4 minutes.
- **Adjustable Low-Level Trim:** Helps prevent flickering with certain lighting loads by setting a minimum dimming level.
- **Adjustable High-Level Trim:** Allows for additional energy savings by setting a maximum dimming level.
- **Programmable Rapid Start:** Ensures lamps start up reliably even at low dimming levels.

## 7. MAINTENANCE

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The Eaton RF9540-NDW dimmer requires minimal maintenance.

- **Cleaning:** To clean the device, wipe it with a soft, damp cloth. Do not use abrasive cleaners, solvents, or harsh chemicals, as these may damage the finish or internal components.
- **Air-Gap Switch:** The dimmer features an air-gap switch that disconnects power from the load, forcing an off condition. This can be used for maintenance or to completely de-energize the circuit for safety.

## 8. TROUBLESHOOTING

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If you experience issues with your RF9540-NDW dimmer, refer to the following common solutions:

Problem	Possible Cause / Solution
Lights do not turn ON/OFF or dim.	<ul style="list-style-type: none"> <li>◦ Ensure power is ON at the circuit breaker.</li> <li>◦ Check all wiring connections for security and proper polarity.</li> <li>◦ Verify the load does not exceed the dimmer's wattage rating.</li> <li>◦ Confirm a neutral wire is properly connected.</li> </ul>
Lights flicker at low dimming levels.	<ul style="list-style-type: none"> <li>◦ Adjust the low-level trim setting. Refer to the programming section or your Z-Wave controller's manual for instructions on adjusting trim levels.</li> <li>◦ Ensure the connected bulbs are dimmable and compatible with the dimmer type.</li> </ul>
Dimmer does not respond to Z-Wave controller.	<ul style="list-style-type: none"> <li>◦ Ensure the dimmer is properly included (paired) with your Z-Wave network.</li> <li>◦ Try excluding and re-including the device from your Z-Wave controller.</li> <li>◦ Perform a reset by pulling out the air-gap switch (small tab at the bottom of the dimmer) for a few seconds, then push it back in.</li> <li>◦ Ensure the Z-Wave controller is within range.</li> </ul>
LED display is not working.	<ul style="list-style-type: none"> <li>◦ Check power supply to the dimmer.</li> <li>◦ If the dimmer is functioning otherwise, contact customer support.</li> </ul>

## 9. SPECIFICATIONS

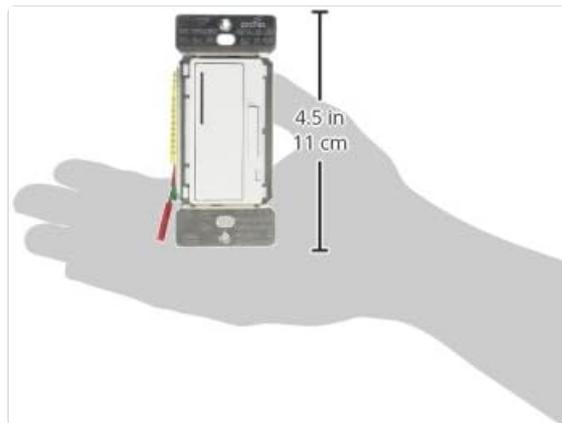


Figure 4: Approximate dimensions of the Eaton RF9540-NDW dimmer.

Specification	Detail
Model Number	RF9540-NDW
Operating Voltage	120 Volts AC, 60Hz
Wattage (INC/ELV/FLR)	600 Watts

Specification	Detail
Wattage (LED/CFL)	300 Watts
Wattage (MLV)	500 VA
Connectivity Protocol	Z-Wave
Control Method	Remote, Manual
Dimensions (L x W x H)	2.75 x 2 x 4.36 inches
Item Weight	5.9 ounces
Material	Copper, Brass
International Protection Rating	IP54
Circuit Type	1-way
Color	White
Neutral Wire	Required

## 10. WARRANTY AND SUPPORT

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### 10.1 Warranty Information

This Eaton RF9540-NDW Aspire Smart Dimmer System Master comes with a **Limited 2 Year Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. For specific warranty terms and conditions, please refer to the documentation included with your product or visit the official Eaton website.

### 10.2 Customer Support

If you require technical assistance, have questions about installation, or need to report a warranty claim, please contact Eaton customer support. Contact information can typically be found on the Eaton website or on the product packaging.

When contacting support, please have your product model number (RF9540-NDW) and proof of purchase readily available.