

ENGLISH

9540-N SMART DIMMER, SINGLE-POLE/MULTI-LOCATION- 300W DIMMABLE LED/CFL- 600W INC/DIMMABLE ELV/HALOGEN/DIMMABLE FLR 600VA MLV - 120V/AC, 60 Hz REQUIRES NEUTRAL CONNECTION IN WALLBOX

SPECIFICATIONS

- For dimmable LED/CFL, Incandescent (INC), Magnetic Low Voltage (MLV), Electronic Low Voltage (ELV), Halogen or dimmable fluorescent light fixtures.
- Ability to set Min/Max dimmer level for maximum compatibility with different loads.
- Rapid start feature which allows the light to come on instantly in the case of LED/CFL loads and the ability to disable that feature.
- One Master Dimmer works with up to five (5) Accessory Dimmers.
- **NOTE** - A Neutral Connection is required in the wallbox where the Master Dimmer will be installed.
- Compatible with Mark 10® Powerline, AmbiStar® and Tu-wire® dimmable ballasts.

OPERATION INSTRUCTIONS

- Press ON/OFF button once to turn lights ON at the previously selected level.
- Press again to turn lights OFF.
- When lights are OFF, press and hold for 2 seconds for full brightness.
- To activate delay off feature, when lights are ON, press and hold for 2 seconds until the green LED flashes then release. After 10 seconds, the lights will begin fading to OFF. This allows you time to exit the room before the lights turn off.
- Amber LED indicates that the dimmer is turned on.

DIMMING LEVEL ADJUSTMENT

For maximum compatibility with different loads types, 9540-N allows the user to set the minimum level. Also to save on power consumption 9540-N allows the user to set the maximum level.

1. After installing the dimmer and restoring power:
 2. Press on/off button to turn on the light.
 3. Press and hold on/off button for five seconds until the green dimmer LEDs begin to cycle rapidly (NOTICE- after two seconds green dimmer LEDs will start to flash indicating activation of the delay off feature. Continue holding the ON/OFF button for three additional seconds until the green dimmer LEDs begin to cycle rapidly.)
 4. Release the button. Dimmer will set the light to the previously saved minimum level (that may cause the light to flicker or turn off). During initial setup, the light will set to the factory minimum default.
 5. Press either the dim or bright buttons to change the minimum level until the light output is acceptable.
 6. Press ON/OFF button. Green dimmer LEDs will start to cycle rapidly again and the dimmer light will go to previously saved maximum level.
 7. Press either the dim or bright buttons to change the maximum level until the light output is acceptable.
 8. Press ON/OFF button, LED will flash indicating completion of programming
- **NOTE** - To restore the default min/max, repeat the steps above and adjust light levels to full min/max settings by pressing dim/bright buttons until the light output no longer changes.
 - **NOTE** - User could ignore setting max or min by pressing on/off button without changing the dimmer level.

Rapid start feature

This feature ensures that LED/CFL lights turn on when the dimmer preset level is low. With this setting enabled, the lights may momentarily be brighter than the preset level (less than one second) and then dim down to the preset level.

Depending on the type of light used, this feature may not be needed.

To enable/disable the feature, turn lights on. Press and hold the on/off button for 10 seconds until the green dimmer LEDs flash for the third time, then release the button.

INSTALLATION INSTRUCTIONS

WARNING:

- Turn OFF circuit breaker or remove fuse(s) and verify that power is off before wiring.
- Never wire any electrical device with power turned on. Wiring the dimmer with power on may cause permanent damage to the dimmer and void the warranty.
- If you are unsure about any part of these instructions, or if the wiring does not match the descriptions given, you should call a qualified electrician.

CAUTION:

1. Do not exceed maximum rating of the dimmer as indicated in Table 1.
2. Must be installed and used in accordance with electrical codes.
3. If a bare copper or green ground connection is not available in the wallbox, contact a licensed electrician for installation. Do not install without proper ground connections.
4. To avoid overheating and possible damage to other equipment, do not use to control receptacles, motor-driven appliances, transformer supplied appliances, etc.
5. Use only #14 or #12 copper wire rated for at least 75° C with these devices. Do not use with aluminum wire.
6. Be sure to read and follow all instructions associated with the specific lamp that you are using with the dimmer.
7. The Smart Dimmer will not work or will become damaged if wired incorrectly, and the warranty will be voided. Refer to wiring instructions in this document.

Tools needed for Installation:

- Screwdriver (Slotted/Phillips) • Pliers • Cutters

SINGLE OR MULTI-LOCATION APPLICATION

Determine which type of installation it is.

- Single Location – Controlled from one location.
- Multi-Location – Controlled from more than one location. One location is the Master Dimmer and the other location(s) are the Accessory Dimmers.

- Turn off the power and remove wallplate.
- **NOTE** – The Smart Dimmer is not compatible with standard 3-way switches.
- **NOTE** – A neutral wire must be available in the wallbox.

SINGLE LOCATION INSTALLATION

Disconnect the existing switch, remove it and connect as per FIGURE 1 using the wire nuts provided:

- Connect the Dimmer black wire to the hot wire (black) in the wallbox.
- Connect the Dimmer red wire to the wire that goes to the light fixture (black).
- Connect the Dimmer white wire and yellow wire to the neutral wire (white) in the wallbox.
- Connect the Dimmer green wire to the ground wire in the wallbox.

- Install the Dimmer loosely using the mounting screws provided.
- Apply power temporarily and verify that one of the green dimmer LED's is on. Push the ON/OFF button to verify the lights turn ON and OFF. If the lights do not work, then turn off the power and swap the dimmer red and black wires.
- Apply power again and verify that the dimmer works by pushing the ON/OFF button to verify the lights turn ON and OFF.
- Turn power OFF. Refer to **COMPLETING THE INSTALLATION**.

IMPORTANT – HOW TO IDENTIFY COMMON WIRES

For Two and Three location installations you must first identify the Common Wires.

TWO LOCATION:

On a 3-way switch the common wire is identified by a marking on the switch indicating COM, or the screw color is Black, and is different than the other two screws. Tag this wire before disconnecting the wires from the switch.

THREE LOCATION:

- Two of the existing switches will be 3-Way. The 3-way switches will be located at each end of the circuit with a 4-way switch in between. Tag the two 3-way switches as in the Two Location section.
- The 4-way switch has four insulated wires connected to four terminal screws. Two wires should be Red and two should

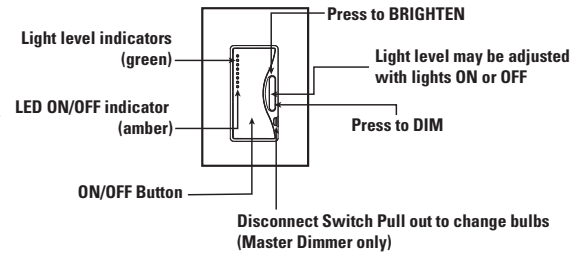


FIGURE 1: SINGLE LOCATION WIRING DIAGRAM

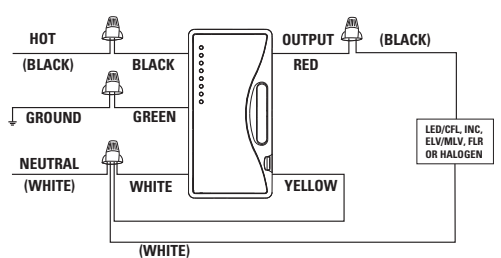
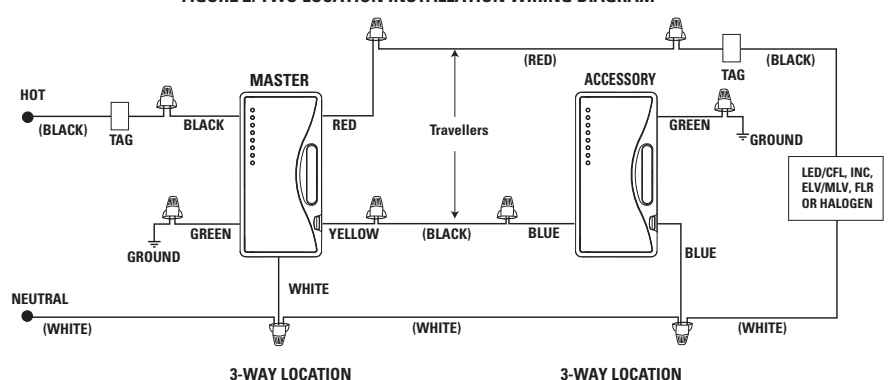


TABLE 1			
Load Type	One Gang	Two Gang	Three Gang
INC/ELV/FLR/Halogen	600W	550W	500W
MLV	600VA	550VA	500VA
CFL/LED	300W	300W	300W

FIGURE 2: TWO LOCATION INSTALLATION WIRING DIAGRAM



3-WAY LOCATION

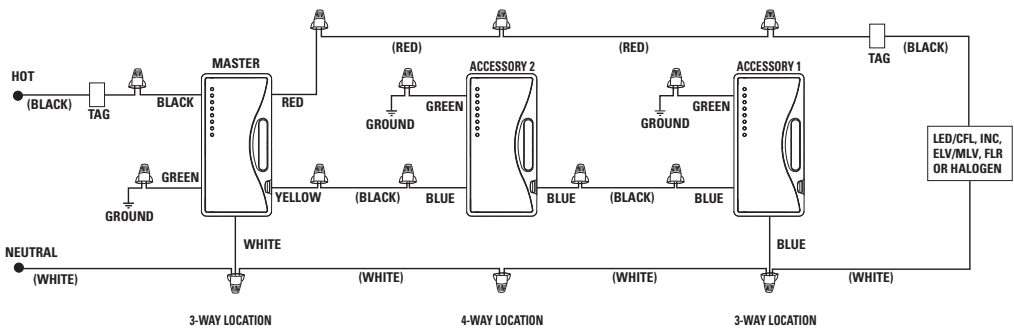
3-WAY LOCATION

be Black.

TWO LOCATION INSTALLATION:

- For the existing wiring identify the common wires for both 3-way switches, and tag these wires by following the instructions "How to Identify Common Wires". Refer to FIGURE 2.
- The Master Dimmer must be installed in the 3-way location that is connected to Power.
- If you are unsure how to determine this, consult a qualified electrician.
- Connect the Master Dimmer** as follows using the wire nuts provided:
 - Connect the Dimmer Black wire to the tagged Hot wire (Black).
 - Connect the Dimmer White wire to the two white wires (Neutral).
 - Connect the Dimmer Red wire to the Red Wire (Traveler).
 - Connect the Dimmer Yellow wire to other Black Wire (Traveler).
 - Connect the Dimmer Green wire to the Ground wire in the wallbox.
- Connect the Accessory Dimmer** as follows using the wire nuts provided:
 - Connect the Black wire from the light fixture to the Red Traveler wire.
 - Connect either of the Dimmer blue wires to the Black Traveler wire.
 - Connect the two white wires to the other Dimmer Blue wire.
 - Connect the Dimmer Green wire to the Ground wire in the wallbox.

FIGURE 3: THREE LOCATION INSTALLATION WIRING DIAGRAM



THREE LOCATION INSTALLATION:

- For the existing wiring identify the common wires for both 3-way switches, and tag these wires by following the instructions provided above. Refer to FIGURE 3.
- The Master Switch must be installed in the 3-Way location that is connected to Power.
- If you are unsure how to determine this, consult a qualified electrician.
- Connect the Master Dimmer** as follows in the location of the 3-way switch that was connected to Power, using the wire nuts provided:
 - Connect the Dimmer Black wire to the tagged Hot wire (Black).
 - Connect the Dimmer White wire to the two white wires (Neutral).
 - Connect the Dimmer Red wire to the Red Wire (Traveler).
 - Connect the Dimmer Yellow wire to the other Black Wire (Traveler).
 - Connect the Dimmer Green wire to the Ground wire in the wallbox.
- Connect Accessory Dimmer 1** in the location of the other 3-way Switch as follows using the wire nuts provided:
 - Connect the Black wire from the light fixture to the Red Traveler wire.
 - Connect either of the Dimmer blue wires to the Black Traveler wire.
 - Connect the two white wires to the other Dimmer Blue wire.
 - Connect the Dimmer Green wire to the Ground wire in the wallbox.
- Connect Accessory Dimmer 2** in the location of the 4-way Switch as follows using the wire nuts provided:
 - Connect the two Red wires together.
 - Connect either of the Blue Dimmer wires to either of the Black traveler wires.
 - Connect the other Blue Dimmer wire to the other Black traveler wire.
 - The two White wires should already be connected in the wallbox.
 - Connect the Dimmer Green wire to the Ground wire in the wallbox.

COMPLETING THE INSTALLATION

- Gently push the dimmers into their wallbox and secure mounting screws.
- Install the wallplate(s).
- Make sure that the disconnect switch on the Master is fully pushed in. Turn ON power.

TROUBLESHOOTING GUIDE

If you have a problem with your dimmer, first follow this guide. If the problem persists, call the customer service hotline at 1-866-853-4293 between 8 A.M. and 6 P.M. EST weekdays.

Symptom	Possible Cause	Possible Solution
Light does not turn on and/or no LED's turn on.	<ol style="list-style-type: none"> Circuit breaker is off or tripped. The disconnect airgap switch on the Master Dimmer is pulled out to the OFF position. Improper wiring. Defective dimmer. 	<ol style="list-style-type: none"> Turn on the circuit breaker. Push in the disconnect airgap switch on the dimmer. Check and correct wiring. Replace dimmer.
Erratic operation or flickering LEDs.	<ol style="list-style-type: none"> Loose wiring connections. Low dim setting. 	<ol style="list-style-type: none"> Check and correct wiring. Set minimum brightness to a higher level.
Lights turns on after long delay.	<ol style="list-style-type: none"> Rapid start feature is disabled. Low dim setting. 	<ol style="list-style-type: none"> Enable rapid start feature. Set minimum brightness to a higher level.
Functions normally from the Master Dimmer but not from the Accessory Dimmer.	<ol style="list-style-type: none"> Improper wiring. Defective accessory dimmer. 	<ol style="list-style-type: none"> Check and correct wiring. Replace accessory dimmer.
Dimmer is warm to touch.	<ol style="list-style-type: none"> This is normal. Some increase in temperature is normal. 	<ol style="list-style-type: none"> No action required. Confirm the load controlled by the dimmer doesn't exceed the dimmer rating.

EATON WIRING DEVICES LIMITED 2 YEAR WARRANTY

Eaton Wiring Devices (EWD) warrants its Smart Dimmer System to be free of defects in materials and workmanship in normal use and service for a period of two years from date of original purchase. THIS TWO (2) YEAR LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS, OR LIABILITIES, EXPRESSED OR IMPLIED (INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE THAT IS IN DURATION IN EXCESS OF TWO YEARS FROM THE DATE OF ORIGINAL CONSUMER PURCHASE). NO AGENT, REPRESENTATIVE, OR EMPLOYEE OF EWD HAS AUTHORITY TO INCREASE OR ALTER THE OBLIGATIONS OF EWD UNDER THIS WARRANTY.

To obtain warranty service for any properly installed EWD Smart Dimmer System that proves defective in normal use send the defective Smart Dimmer System prepaid and insured to Quality Control Dept., Eaton Wiring Devices, 203 Cooper Circle, Peachtree City, GA 30269, in Canada: Eaton Wiring Devices, 5925 McLaughlin Road, Mississauga, Ontario L5R 1B8. EWD will repair or replace the defective unit, at its option. EWD will not be responsible under this warranty if examination shows that the defective condition of the unit was caused by misuse, abuse, improper installation, alteration, improper maintenance or repair of damage in shipment to EWD. EWD SHALL HAVE NO RESPONSIBILITY FOR INSTALLATION OF THE SMART DIMMER SYSTEM, OR FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR ANY SPECIAL, INCIDENTAL, CONTINGENT, OR CONSEQUENTIAL DAMAGES OF ANY KIND, RESULTING FROM DEFECTS IN THE SMART DIMMER SYSTEM OR FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT.

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Read enclosed instructions carefully. If you have any questions concerning use or care of this product, please write: Consumer Service Division, Eaton Wiring Devices, 203 Cooper Circle, Peachtree City, GA 30269.