



# BROAN DIGITAL DEHUMIDISTAT DD500W INSTALLATION GUIDE

## BROAN NuTone MODEL DD500W LINE VOLTAGE DEHUMIDISTAT

### INCLUDED

Wall Control  
Instruction Sheet  
Note: Wall plate not included – Use Broan Part No. S97012925 (or equivalent)

### CONTROL SPECIFICATIONS

- cULus Listed
- 120 VAC 60 Hz Line Power
- 9A Max. Total Load (Fan + Lamp)
- When used in combination with fan/light fixtures that are switched together, the device is rated for the following lamps: 600W Incandescent, 150W LED, 150W CFL, or 400VA Inductive Ballasted Fluorescent Lamps
- Typical Wire Sizes: 12AWG (MAX) or 14AWG solid or stranded copper wire
- Operating temperature: 32-122°F (0-50°C)

### SAFETY

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

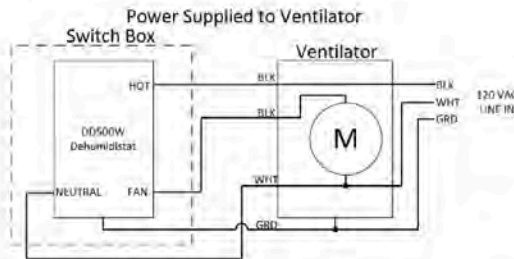
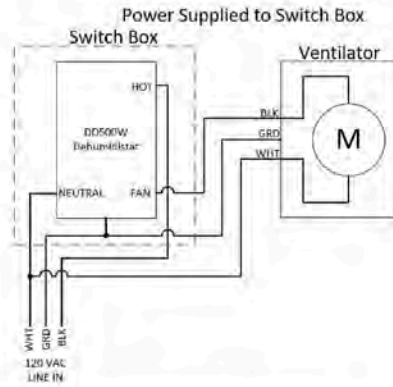
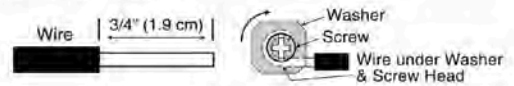
1. Before installing the wall control, switch power off at the service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel. **CAUTION: Risk of Electric Shock** – More than one disconnect switch may be required to de-energize the equipment before servicing.
2. All electrical work must be done in accordance with local codes, ordinances, or National Electrical Code, as applicable, including fire-rated construction codes and standards. **FOR SAFETY, THIS PRODUCT MUST BE GROUNDED.** If you are unfamiliar with methods of installing electrical wiring, secure the services of a qualified electrician.
3. Use copper wire only.
4. **WARNING:** This device shall not be used in combination with a wall switch controlling a receptacle.
5. Install only in a UL Listed junction box sized 2.0 x 3.0 x 3.0 in. (50.8 x 76.2 x 76.2 mm) or larger, with a minimum volume of 18.0 in<sup>3</sup> (295 CM<sup>3</sup>).
6. This control requires a neutral wire for operation.
7. When cutting or drilling into wall or ceiling, do not damage electrical wiring or other hidden utilities.
8. To prevent serious injury from electrical shock or damage to electrical components – **DO NOT WIRE HOT!**
9. Note: When power is applied, the Model DD500W may require approximately 30 seconds to boot up and be ready to function.

Warranty is void if miswired.

### INSTALLATION

**NOTE:** This control requires a 120 VAC source (hot and neutral) in the switch box to operate the wall control.

1. Turn off the power and lockout the service panel before wiring the control.
2. Location Notes:
  - a. For bathroom applications, the control should be placed at a level to detect humidity. Placing the control directly above a heater or near drafts is NOT recommended.
  - b. It is recommended that in large spaces, the control be placed in close proximity to the shower/tub/sink (the main source of humidity/steam) to most effectively detect and measure excess humidity.
3. Install the wall control in at least a 3" deep switch box for #14 AWG wire or at least a 3 1/2" deep switch box for #12 AWG wire. The control can be installed in either a metal outlet box or a plastic outlet box.
4. Attach the incoming power line and ventilator power line to switch box. It may be necessary to use two side knockouts for some applications. Use proper connectors. Provide 6" leads inside box and ventilation product.
5. Make electrical connections following the diagrams provided. Use wire nuts. Make sure both the control and the ventilator are properly grounded. Wire terminals accept up to #12 AWG MAX solid and stranded wire.
  - a. Loosen combination screw/washer from the terminals.
  - b. Wrap the stripped end of the wire around the screw thread, under the washer.
  - c. Tighten the screw/washer, making sure wire remains under the washer. Torque the terminal screws to 15.9 - 19.5 in-lbs (1.8 - 2.2 N-m).
  - d. Note: The screw/washer is not designed for straight insertion of stripped wire. Use only wire formed into a "J" loop and wrapped around screw thread for proper mechanical and electrical connection.
6. Tuck wires in and fasten control to switch box using attached screws. Verify wall control orientation before installation. Note "TOP" direction shown on the wall control label.
7. Attach switch plate (not included) using color-matched oval head screws.



### OPERATING INSTRUCTIONS

#### AUTOMATIC OPERATION MODE

The control has an AUTOMATIC OPERATION MODE that senses increasing changes in humidity level. Once the threshold is met, the ventilator will activate within 2 minutes with the device located within 8 feet from the humidity source (e.g. shower head or faucet). Ventilator activation may take longer if the control is located further than 8 feet from the humidity source. The ventilator will remain ON until the humidity sensed has dropped back below the set threshold.

#### RH% THRESHOLD ADJUSTMENT

To set or change the humidity threshold, turn the dial clockwise to lower the threshold and counter-clockwise to raise the threshold to the desired humidity setting. RH% is user adjustable from 20-80% in 10% RH increments. It may take several adjustments to achieve desired results, based on the specific environment of use.

#### MANUAL OPERATION MODE

The control has a manual operation mode with the ability to turn the fan ON or into STANDBY at the user's discretion. To turn the fan on manually, turn the RH% dial all the way clockwise (CW). To turn the fan back to AUTOMATIC OPERATION MODE, return the dial to the previously set humidity threshold. To turn the fan into STANDBY, turn the dial counter-clockwise (CCW) past the 20% RH mark to the STANDBY indicator. This will turn off the AUTOMATIC OPERATION MODE, and the fan will not turn on automatically. **CAUTION:** This setting is not a power disconnection and should never be used as a disconnecting means for service, maintenance, or cleaning.

The manual mode will override the AUTOMATIC OPERATION MODE / RH% whenever they are active. This mode setting will turn OFF all user adjustable set points until the dial is manually turned back to the desired humidity threshold.

Note: Regardless of all other settings, the front panel blue LED will always be ON when the fan is ON, and OFF when the fan is in OFF or STANDBY.

For Warranty Statement, Service Parts, Technical Support, or to Register your product, please visit our website or call: In the United States - Broan.com 800-637-1453 or NuTone.com 888-336-6151. In Canada - Broan.ca or NuTone.ca 877-896-1119

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