

# BROAN NuTone DT100W DELAY-OFF TIMER

## 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
- 6A Max. Total Load (3A Fan + 3A Lamp)
- When used in combination with fan/light fixtures that are switched together, the device is rated for the following lamps: 300W Incandescent, 150W LED, 150W CFL, or 200VA Inductive Ballasted Fluorescent Lamps
- Typical Wire Sizes: 12AWG (MAX) or 14AWG solid or stranded copper wire, suitable for at least 167°F (75°C)
- Operating temperature: 32°F-122°F (0°C-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 with a minimum volume of 24.0 in<sup>3</sup> (393 cm<sup>3</sup>), unless otherwise specified in installation instructions.
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 DT100W may require approximately 30 seconds to boot up and be ready to function.

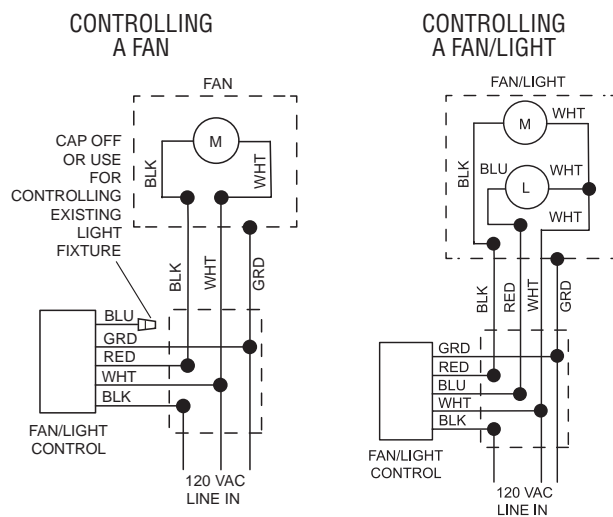
Warranty is void if miswired.

## INSTALLATION

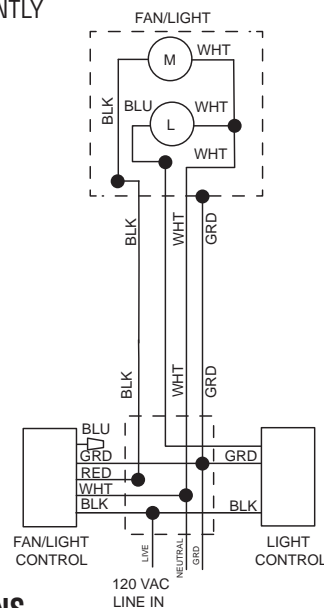
NOTE: This control requires a 120 VAC source (hot and neutral) in the switch box to operate the wall control.

1. Turn off the power and lockout the service panel before wiring the control.
2. Install the wall control in at least a 22 cubic inches switch box for #14 AWG wire or at least a 24 cubic inches switch box for #12 AWG wire. The control can be installed in either a metal outlet box or a plastic outlet box.
3. 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.
4. Make electrical connections following the diagrams provided. Use wire nuts. Make sure both the control and the ventilator are properly grounded.
5. 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.
6. Attach switch plate (not included) following the manufacturer's instructions.

NOTE: The control's off-delay is adjustable from 5 to 60 minutes but has been pre-set to approximately 30 minutes. This is the recommended setting for a properly-sized fan/ventilator to fully exhaust and restore the outdoor air quality. See DELAY-OFF / VENTILATION ADJUSTMENT" to change settings for a specific application.



## CONTROLLING LIGHT AND FAN INDEPENDENTLY



## COVER PLATE REMOVAL AND INSTALLATION

Removal: Grasp sides of the cover and pull straight outward.  
Installation: Align tabs on the cover with holes in metal panel and push straight inward.

## OPERATING INSTRUCTIONS

The Delay-Off timer will control the connected ventilator and light. To turn on the ventilator and light, press the top button. Press the bottom button to turn off the light and to start the delay-off timer for the ventilator. The ventilator stays on for the user-adjustable DELAY time. Pressing the bottom button again will turn off the ventilator immediately, regardless of the DELAY or VENTILATION setting. CAUTION: This setting is not a power disconnection and should never be used as a disconnecting means for service, maintenance, or cleaning.

NOTE: When fan is "ON", Indicator Light on Switch will be "ON".

- The VENTILATION time ranges from 0 to 60 minutes. This setting is how long, each hour, the ventilator will operate. When in VENTILATION mode, the ventilator will run for the specified time every hour, including manual usage. For more information, please see the examples below.
- The DELAY time ranges from 5 to 60 minutes. This setting is how long, after each occupation, the ventilator will operate. When in DELAY mode, the ventilator will run for the specified time after the light is turned off. For more information, please see the examples below.

## DELAY-OFF / VENTILATION ADJUSTMENT

1. Remove the cover plate.
2. Locate DELAY and VENTILATION adjustment dials (recessed in the lower portion of control). The settings are indicated by the flat edges of the dials.
3. Use a screwdriver to rotate the dial clockwise (CW) to increase the DELAY and VENTILATION time and counter-clockwise (CCW) to decrease the DELAY and VENTILATION time.
4. When dials are set to the desired settings, replace the cover plate.

## DETERMINING VENTILATION TIME

This control provides a pre-set VENTILATION time for meeting continuous ventilation codes. After the initial VENTILATION time is set by manually turning the fan ON, the control will provide continuous activation cycles every hour.

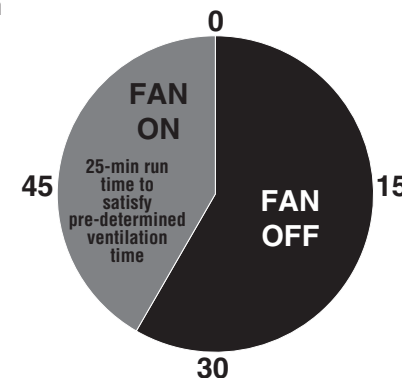
To calculate the applicable VENTILATION time setting, use the following formula: VENTILATION time = (required CFM<sup>1</sup> ÷ ventilator CFM) x 60

<sup>1</sup> from ASHRAE 62.2 formula/table (based on square footage and number of bedrooms)

## HOUR OF OPERATION WITH NO OCCUPANCY

Homeowner wants the fan to ventilate the bathroom 25 minutes out of every hour with a 10-minute delay-off after every time the bathroom is used.

- VENTILATION dial is set at 25 minutes, meaning that the fan will run for 25 minutes per hour to fully ventilate the room.
- DELAY dial is set at 10 minutes, meaning that the fan will run for 10 minutes after every occupancy.
- The control will determine when the fan needs to start by using the following formula:
  - 60 minutes – VENTILATION setting (25 minutes) = starting ventilation time (35 minutes). Meaning that 35 minutes into an hour with no occupancy, the fan will start and run for the remaining 25 minutes.
  - 35 minutes into the hour, the control will start the fan to satisfy the VENTILATION requirement of 25 minutes.



## HOUR OF OPERATION WITH 10-MIN. OF OCCUPANCY

Homeowner wants the fan to ventilate the bathroom 25 minutes out of every hour with a 10-minute delay after every time the bathroom is used.

- VENTILATION dial is set at 25 minutes, meaning that the fan will run for 25 minutes per hour to fully ventilate the room.
- DELAY dial is set at 10 minutes, meaning that the fan will run for 10 minutes after every occupancy.
- 10 minutes into the hour, the bathroom is occupied, and the fan is used for 10 minutes. The control documents the 10 minutes of usage.
- The fan continues to run for 10 minutes after the control is switched off to satisfy the pre-determined DELAY time of 10 minutes.
- 20 minutes of VENTILATION time is subtracted from the pre-determined 25 minutes, leaving 5 more minutes of VENTILATION time for the hour.
- With 5 minutes left in the hour, the control will start the fan to satisfy the VENTILATION requirement of 25 minutes.

