

Vari-Green® Controls

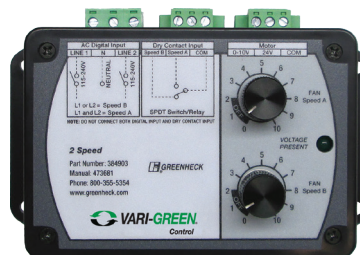
Solving ventilation challenges

Greenheck's Vari-Green controls have been developed to maximize the efficiency of ventilation systems in a wide variety of applications when used with Vari-Green fans. By choosing a Vari-Green control with the Vari-Green motor or drive, compatibility issues are eliminated and installation is simplified.

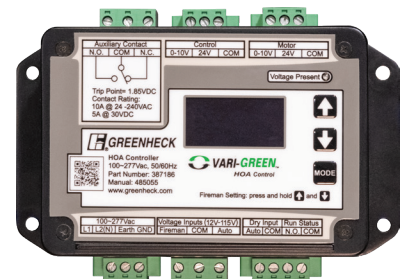
These controls are designed to meet the needs for manual or automated operation in demand controlled ventilation systems.

For your next ventilation project, choose one of these Vari-Green control options and realize worry-free savings.

Two-Speed Controller



HOA Controller



IAQ VOC Controller



Remote Dial



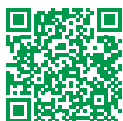
Touch Remote

Hand/Off/Auto (HOA)

makes turning on/off the fan way easier. The HOA has both dry and voltage (12-120V) inputs to enable your fan.

The HOA has an Override terminal that when powered provides a second speed that takes precedence over all other modes or functions.

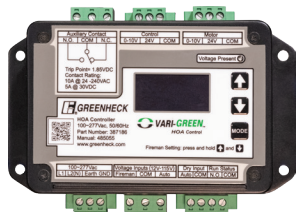
- Set two usable speeds or modulate through the motor's entire range of operation.
- Recommended for use in schools, warehouses, or any other situation where the Vari-Green fan is interlocked to another system.



APPLICATIONS



WIRING



Two-Speed Control

allows motor RPM (fan speed) to operate between two discrete speeds (A or B). There are two methods for switching between speeds:

1. SPDT switch or relay connected to the dry contact input.
2. A voltage (115-230VAC) applied to the digital input terminal with the following logic:
Voltage on L1 or L2 = Speed B; Voltage on L1 and L2 = Speed A.

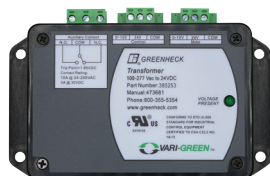


The two-speed control includes a 24VDC transformer and accepts an input voltage of 115-277VAC.

- For manual or demand controlled ventilation applications requiring high and low speed operation.
- An accurate test, adjust, balance is possible at both speeds, unlike a traditional two-speed motor.
- Recommended for use in schools, restaurants, multifamily structures, and condos.

Transformer

provides a 24-volt power source from the existing line voltage at the fan to the controls. It also has a dry auxiliary contact available to signal a motorized damper or interlock with other devices. The switch will change "states" when the motor is commanded to run. The transformer is factory mounted to the fan eliminating the need for field wiring.



Remote Dial or Touch Remote

allows the user to manually adjust a fan's speed from a remote location and mounts to a wall using a 2x4 junction box. A wall cover plate is supplied.

- The Touch Remote includes a count down timer to automatically turn the fan off after 10, 30, 60 or 90 minutes.
- Recommended for use in commercial buildings and restaurants.



Indoor Air Quality - Temperature / Humidity

monitors the temperature and/or relative humidity in a space and will automatically adjust the ventilation rate by increasing or decreasing the speed of the fan.

- For applications where temperature or humidity sensitive electronics are housed, attics, shop floors, boiler rooms where high moisture and/or mold growth is a concern, or in areas where a comfortable atmosphere is necessary.
- Recommended for use in assisted living facilities, schools, or offices.



SETUP

Indoor Air Quality - VOC

senses the level of Volatile Organic Compounds (VOCs) in a space and automatically adjusts the ventilation rate based on the level of VOCs present. Ventilating based on the VOC concentration assures the space will not be over or under ventilated.

- For applications experiencing intermittent human traffic including bathrooms, conference rooms, classrooms, cafeterias, or any other space where air quality is of concern.
- Recommended for use in schools, office buildings, hotels, and prisons.



Constant Pressure Control

manages energy consumption in your building by controlling the environment. Reduce the amount of conditioned air that is exhausted by maintaining a specific airflow or modulating the exhaust rate to keep a given pressure.

Constant Static Pressure

Maintain static pressure within a room or duct. This control will automatically adjust the fan speed to maintain a specified set point. Easily mounts to a wall or duct.

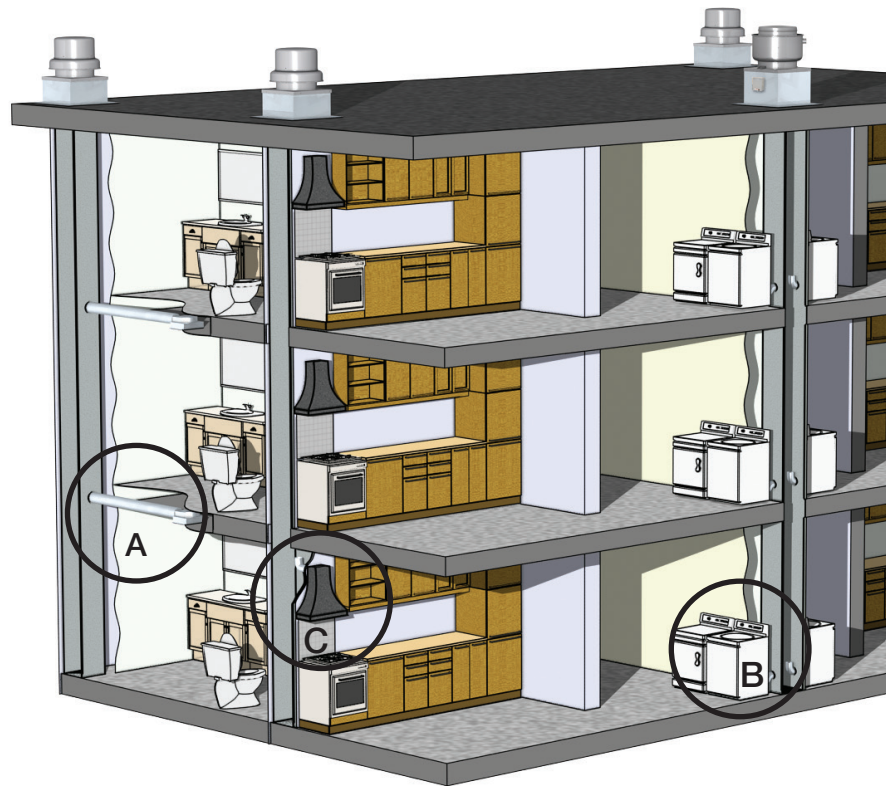
- Use for demand controlled ventilation applications with multiple pressure changes, such as bathroom exhaust (A), dryer exhaust (B), or residential cooking exhaust (C).
- Recommended for use in multifamily structures, hotels, hospitals, and schools.

Constant Airflow

Maintain a constant CFM level through a duct by monitoring velocity pressure. Controller monitors the airflow within a duct and changes the fan speed to maintain the specified set point. Two duct pressure taps are included with the control.

Use for ventilation applications where the airflow needs to remain constant when filters or coils become dirty.

- Recommended for use in schools, office buildings, and hotels.



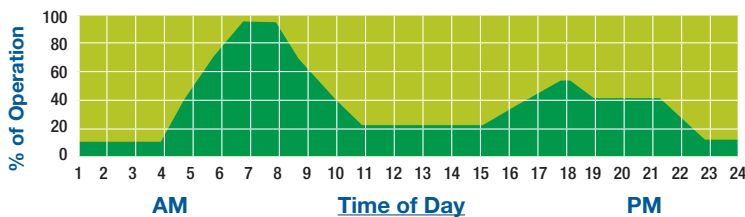
SETUP



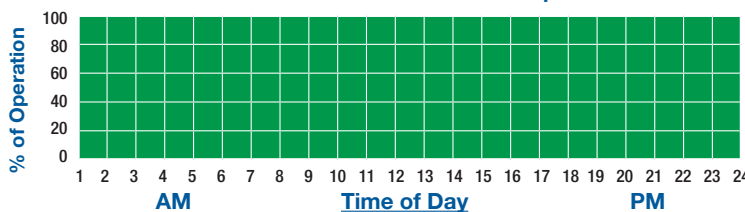
OVERVIEW



Hypothetical (Hotel Bathroom) Variable Volume - Load Shape



Constant Volume - Load Shape



Graphs show how variable volume reduces energy consumption based on use throughout the day

Control Specifications

Vari-Green Control – HOA

The Hand/Off/Auto control shall be a Vari-Green Control specifically designed to allow the Vari-Green Motor to start or stop remotely using the industries most common signals (dry or voltage). The motor's speed can be balanced on the HOA or be sent to the HOA via a 0-10V signal from other devices. The HOA also has a second speed called Fireman's Override that is toggled by a voltage input and takes precedence over all other functions. Hand mode also allows the motor to be controlled right from the HOA device.

Vari-Green Control - Two-Speed

Two-speed control shall be a Vari-Green Control specifically designed to allow the Vari-Green Motor to operate at two discrete speeds. Two-speed control shall include two dials that may be set at any point between 0 and 10 volts DC and an integral transformer capable of reducing 115-277 volt AC power to 24 volt DC power.

Vari-Green Control - Remote Dial

Remote Dial shall be a Vari-Green Control specifically designed to provide 0-10 volt DC signal to Greenheck's Vari-Green Motor.

Vari-Green Control – Indoor Air Quality – Temperature / Humidity

Control to be a packaged indoor air quality control designed to regulate fan speed based on level of temperature and/or relative humidity in a space. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have labeled terminal strips for easy wiring. Fan shall be direct drive including an electronically commutated (EC) Vari-Green Motor. Control package shall be Vari-Green Indoor Air Quality – Temperature / Humidity Control.

Vari-Green Control – Indoor Air Quality – VOC (Volatile Organic Compound)

Control to be a packaged indoor air quality control designed to regulate fan speed based on level of VOC concentration in a space. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have labeled terminal strips for easy wiring. Fan shall be direct drive including an electronically commutated (EC) Vari-Green Motor. Control package shall be Vari-Green Indoor Air Quality – VOC Control.

Vari-Green Control – Constant Pressure

Control to be a packaged constant pressure control designed to regulate fan speed based on demand. Control shall include a Proportional Integral Derivative (PID) feedback loop and shall have all components prewired to labeled terminal strips for easy wiring. System shall include the appropriate pressure tap and preset pressure transducer. Fan shall be direct drive including an electronic commutation (EC) Vari-Green Motor. Control package shall be Vari-Green Constant Pressure Control.

Indoor installations shall include pressure tap (duct or room) and control box with integral pressure transducer.

Additional information: Installation Operation Manuals, videos, and wiring diagrams are available on [greenheck.com](https://www.greenheck.com).

Specify with Confidence. Specify Greenheck.
Connect with your local mechanical representative to learn more.