



AIRFLOW & ZONE CONTROLS

ZRT-1 & ZRT-2

Zone Register Terminal

INSTALLATION
OPERATION
MAINTENANCE

READ AND SAVE THESE INSTRUCTIONS

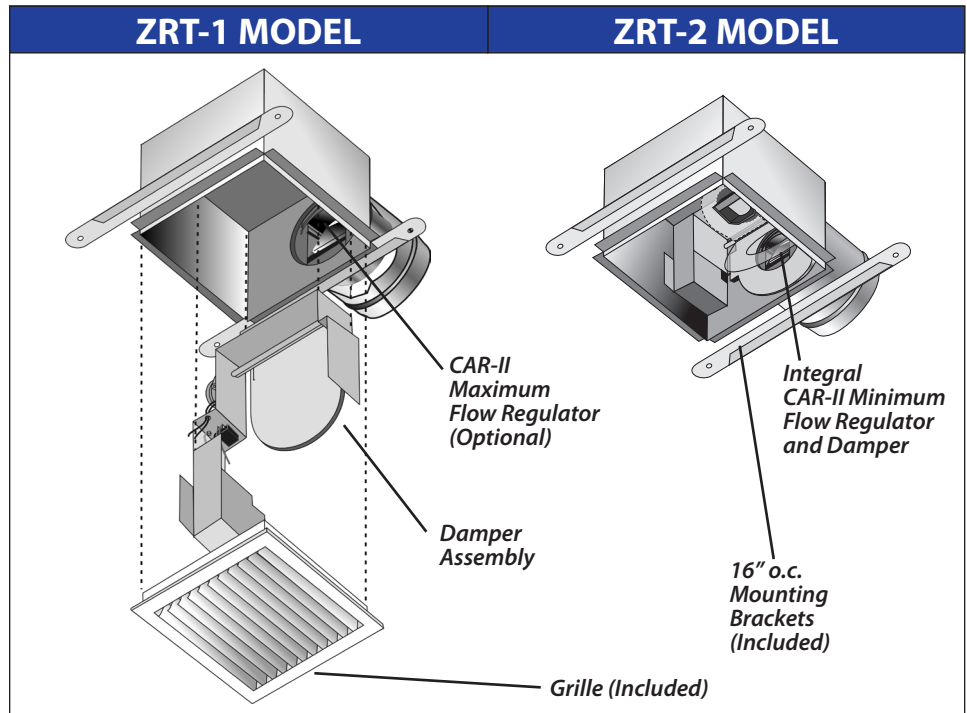
WARNING

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

1. Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
2. Before servicing or cleaning the unit, switch power off at service panel and lock service panel 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.
3. To reduce the risk of fire and electric shock, the integral damper end switch should only be used to switch ventilation equipment rated: Maximum 10A, 1/2 HP.
4. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel-burning equipment to prevent backdrafting. Follow the heating equipment manufacturer's guidelines and safety standards, such as those published by the National Fire Protection Association (NFPA), and the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
5. In addition to the following manufacturer's instructions, it is necessary to comply with federal, state, and local government codes. Your purchase of this American ALDES ventilation system represents an investment in the health and comfort of the occupants, as well as an investment in the protection of the building from the damaging effects of excessive indoor humidity.

CAUTION

1. For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.
2. Automatically operated device. To reduce the risk of injury, disconnect from power supply before servicing.
3. ZRT is acceptable for use over tub



or shower when installed in a GFCI-protected circuit. If wired directly to the fan or ZRTs, a single Ground Fault Protector on the 120V common power supply must be used to protect all devices on the same circuit.

SYSTEM DESIGN

Satisfactory performance of a central ventilation system requires the proper integration of all the components, compatible grilles, and wall/roof caps; proper duct design for friction losses; consideration of acoustic and vibration properties of the fan and its mounting; acoustic properties of the grilles; consideration of the mode of operation, whether continuous or automatically controlled by dehumidistat, timer, or occupancy sensor; installation in a heated or unheated space, with consideration for the potential of condensation in the ducting or fan housing.

Inspect the carton upon receipt to ensure the terminal has not been damaged in transit. If damaged, it is the responsibility of the recipient to file a damage claim with the carrier. American ALDES Ventilation Corporation is not responsible for damage incurred during shipment.

Handle the unit with care to prevent damage to the housing and other components. Store the unit indoors if possible. If outdoor storage is required, protection against moisture and dirt is necessary.

DESCRIPTION

The ZRT Series Zone Register Terminals by American ALDES are designed to introduce flexibility and dynamic control to central ventilation systems. Used in both large and small systems, the ZRT controls ventilation where it is required without the need for individual fans. Each ZRT is a combination grille, register box, control damper, and optional flow regulator(s). This unique combination provides up to four different control schemes without the need for expensive pneumatic, electronic, or DDC control systems.

The ZRT can be ordered in a supply or exhaust ventilation configuration. To ensure the proper operation of the damper assembly, do not exceed 1.0" w.g. of differential pressure across the damper door. ZRT 6" supply models require a minimum airflow Constant Airflow Regulator (CAR-II).

By replacing static grilles in large central systems, the ZRT-1 model provides on-off control for on-demand ventilation. This allows central fan downsizing and promotes energy savings by minimizing necessary fan horsepower and ventilation-induced heat and cooling loads on the building. The optional model CAR-II Constant Airflow Regulator can be installed in the ZRT-1's extended duct collar to place a maximum flow limit on each terminal. The automatic operation of the CAR-II will prevent noise and excessive energy consumption caused by over-ventilation, as well as fluctuations in airflow rates as total system pressure varies.

The ZRT-2 model can also be used for combination low-flow indoor air quality ventilation and on-demand high-flow spot ventilation using the same central fan system. This is achieved by integrating a CAR-II minimum airflow controller directly into the damper sub-assembly. With the damper completely closed, the factory calibrated CAR-II will still allow steady low continuous ventilation during fan operation. Even as other terminals are opened for on-demand control of spot ventilation, the closed ZRT-2s will maintain the specified low continuous rate through the CAR-II minimum flow control. By opening the ZRT-2's control damper, the low-flow regulator is removed from the air stream, which allows either controlled (using optional second CAR-II) or full maximum-boost ventilation.

The ZRT series terminals can themselves activate fans used in smaller central ventilation systems. Through the use of an integral damper end-switch, the ZRT can trigger the remote fan to start. This provides the distinct advantage of allowing the fan to only ventilate specific spaces when called upon, without the need for separate fans in each space. This is especially important in residential bath applications using popular inline and multi-port fans, where low noise and a single exterior vent penetration are desired.

MOUNTING

ZRT Zone Register Terminals are available with mounting brackets to accommodate new or existing construction. Spanner brackets that allow mounting to joists up to 16" on center are provided and should be secured using the screws provided (See Figure 1). Install additional blocking or use a single joist bracket if spacing is greater than 16" on center.

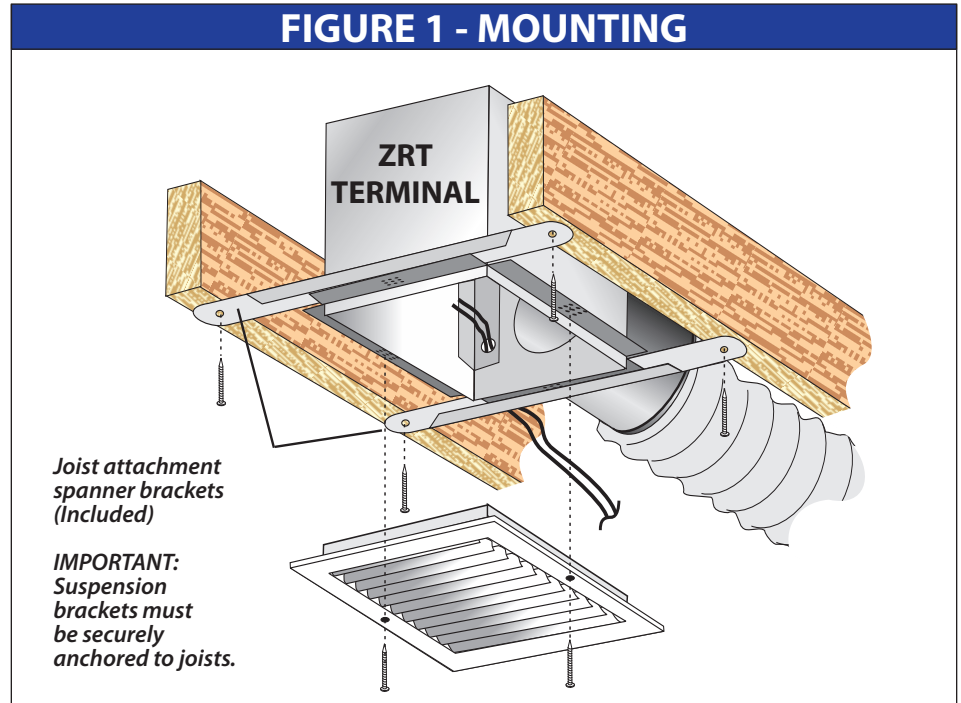


TABLE 1 - SERVICE PARTS

Description	Part Number
Damper End Switch	84 084
Return Grille for Models with 4" Duct Collar	53 224
Return Grille for Models with 6" Duct Collar	53 225
Models with a Manufacture Date of December 2013 or Earlier	
Damper Motor 24V	85 690
Damper Motor 120V	85 691
Damper Assembly 24V for Models with 4" Duct Collar	36 114
Damper Assembly 24V for Models with 6" Duct Collar	36 116
Damper Assembly 120V for Models with 4" Duct Collar	36 115
Damper Assembly 120V for Models with 6" Duct Collar	36 117
Models with a Manufacture Date of January 2014 or Later	
Damper Motor 24V	85 695
Damper Motor 120V	85 696
Damper Assembly 24V for Models with 4" Duct Collar	36 134
Damper Assembly 24V for Models with 6" Duct Collar	36 136
Damper Assembly 120V for Models with 4" Duct Collar	36 135
Damper Assembly 120V for Models with 6" Duct Collar	36 137

MAINTENANCE

Clean the grilles and filters monthly, if so equipped. Service parts are available. See Table 1.

WIRING

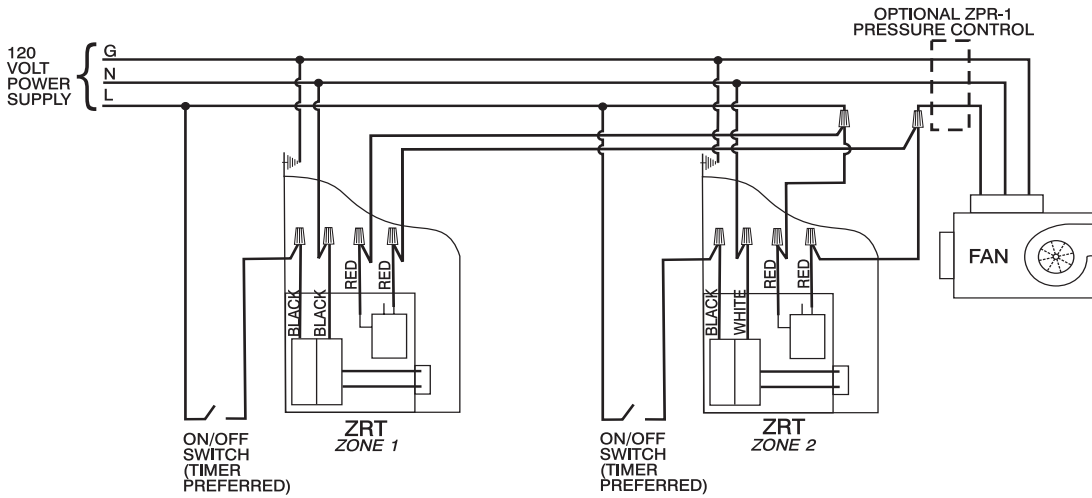
Zone Register Terminals are available with 120V or 24V actuator motors. 120V wiring

options are shown in Figures 2-4, and 24V wiring options using the ZTC Zone Terminal Low-Voltage Control Center are shown in Figures 5 and 6.

WARRANTY

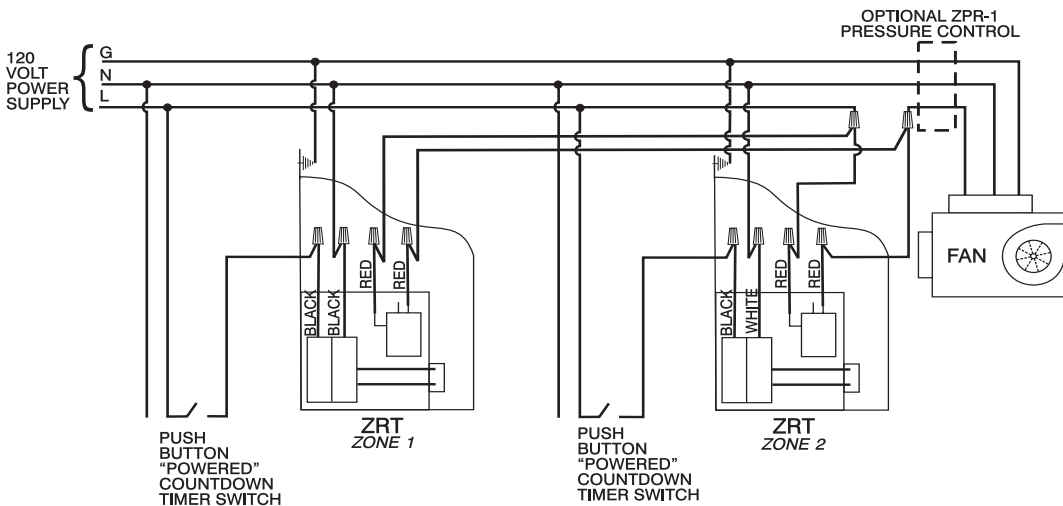
See enclosed warranty document.

FIGURE 2



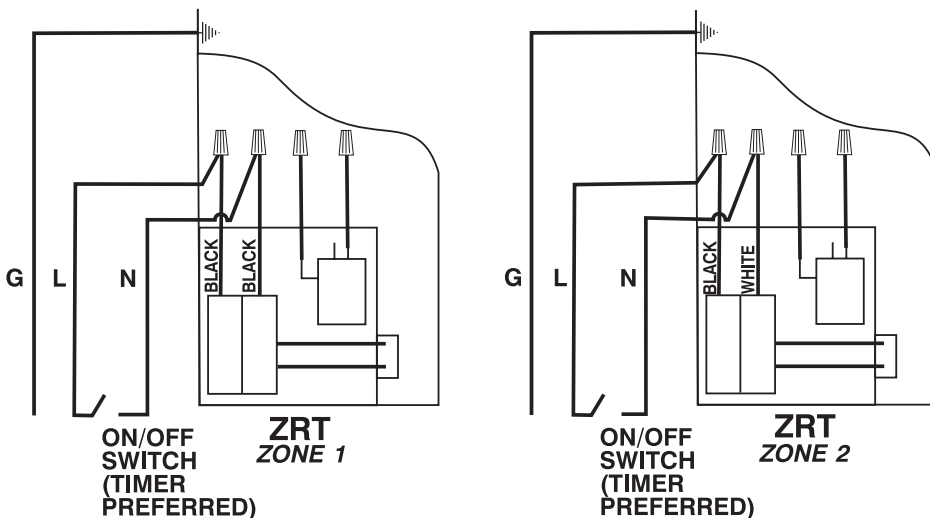
Intermittent fan operation using 120 VAC power supply to ZRT-1 terminals. SPST convenience switches, such as manually operated switches, mechanical timers, or dehumidistats, may be used to control each ZRT and fan in this configuration.

FIGURE 3



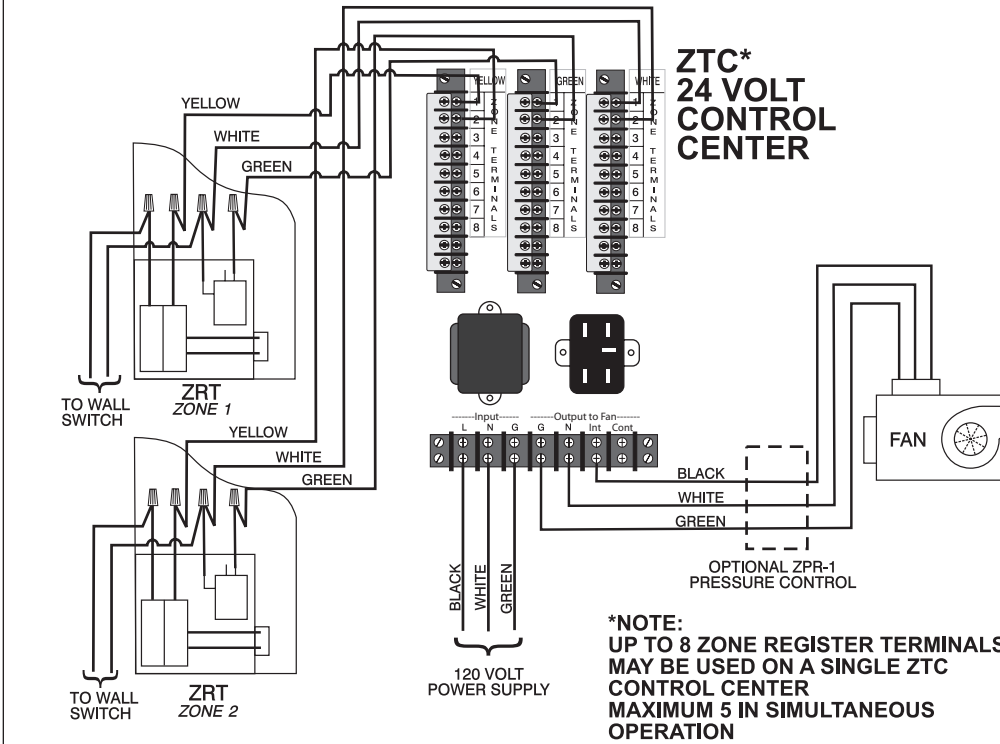
Intermittent fan operation using 120 VAC power supply to ZRT-1 terminals. SPST convenience switches, such as push-button timers or motion sensors, may be used to control each ZRT and fan in this configuration.

FIGURE 4



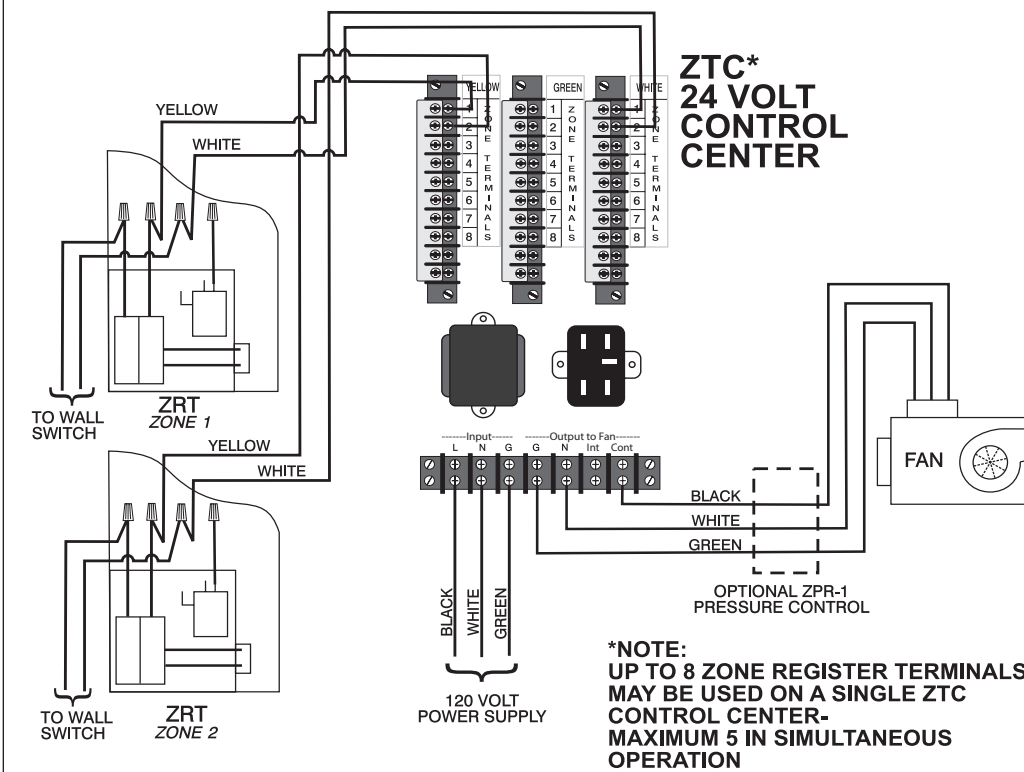
Continuous fan operation using 120 VAC power supply to ZRT-2 terminals. The fan and ZRT terminals may be wired independently.

FIGURE 5



Intermittent fan operation using 24V ZTC Zone Terminal Control Center and ZRT-1 terminals. SPST convenience switches, such as manually operated, mechanical timers, or dehumidistats, may be used to control each ZRT and fan in this configuration. The fan is controlled by the ZTC.

FIGURE 6



Continuous fan operation using 24V ZTC Zone Terminal Control Center and ZRT-2 terminals. SPST convenience switches, such as manually operated, mechanical timers, or dehumidistats, may be used to control each ZRT in this configuration. The fan may be wired independently or to the ZTC.

© 2014 American ALDES Ventilation Corporation. Reproduction or distribution, in whole or in part, of this document, in any form or by any means, without the express written consent of American ALDES Ventilation Corporation, is strictly prohibited. The information contained within this document is subject to change without prior written notice.