





# VENTZONE® SYSTEMS

## VENTZONE® VZ ZONED INTERMITTENT BATH EXHAUST ACCESSORY KITS

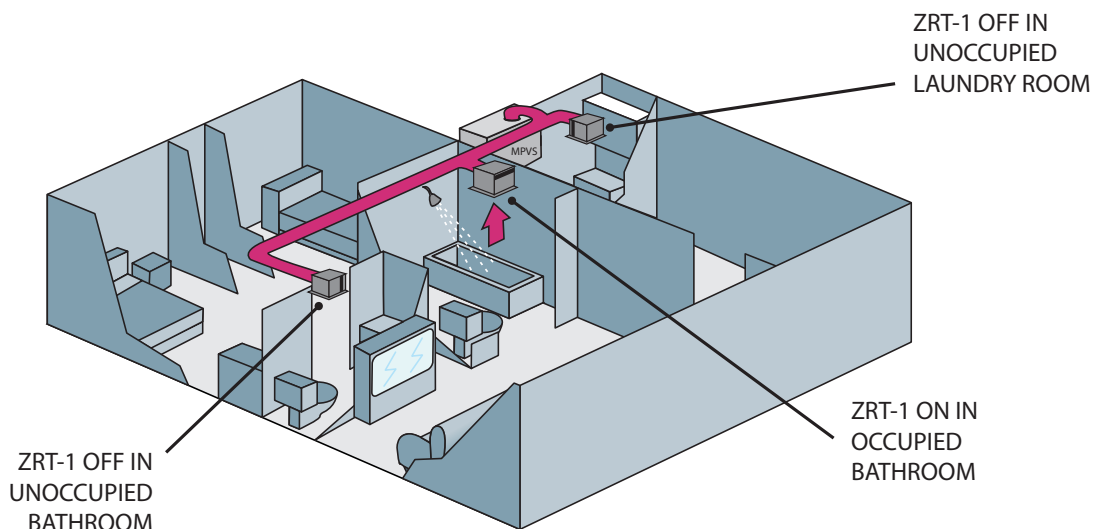
### RESIDENTIAL SYSTEM SOLUTIONS

## Product Description

ALDES North America VentZone® Systems VZ Zoned Bath Exhaust Kits\* are the most advanced zoned central exhaust ventilation kits on the market. The Zone Register Terminals (ZRT-1) provides powerful-yet-silent zone controlled exhaust ventilation from bathrooms that are in use. Each VZ kit can support 2-5 bathrooms, and an expansion kit is available for up to 3 additional bathrooms. \* Recommended Fan MPVS150 sold separately.

Number of Bathrooms	6" ZRT-1 (120 VAC)	4" ZRT-1 (120 VAC)	RECOMMENDED FAN Sold separately ENERGY STAR Certified* Ventilator
			
2	1	1	MPVS150
3	1	2	MPVS150
4	1	3	MPVS150

Additional Accessory	
<b>28 550</b>	Zone Terminal Fan Control Center (ZTC) Controls up to (8) 24 VAC ZRT (50 VA Class II Transformer)* <i>*ZRTs will be converted to 24V units instead of the standard 120V.</i>



For more information, contact your Aldes sales advisor, visit [aldes-na.com](http://aldes-na.com), call 1.800.255.7749, or find us on





# ZRT-R

## ZONE REGISTER TERMINALS

### AIRFLOW & ZONE CONTROL

Made in  
USA

WARRANTY  
3 YEARS

Patent  
pending



## Product Description

Aldes patented Zone Register Terminal (ZRT-R)\* are designed to introduce flexibility and demand control to central ventilation systems. The multi-zone ZRT® regulates ventilation without need for individual fans. Each ZRT-R 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. To ensure the proper calibration of the damper assembly, do not exceed 1.0 in. w.g. (250 Pa) of differential pressure across the damper door.

When used in central systems, the ZRT-1 model provides on-off control for on-demand ventilation. This allows fan downsizing and promotes energy savings by minimizing necessary fan horsepower and ventilation-induced heating and cooling loads on the building. The optional Constant Airflow Regulator (CAR3) can be installed in the ZRT-1's extended duct collar to place a maximum flow limit on each terminal when activated. The automatic operation of the CAR3 will provide precise balancing to each terminal, compensating for intermittent use of other ZRTs around the building, as well as factors like stack-effect.

The ZRT-2 model is used for combination low-flow continuous indoor air quality ventilation and on-demand high-flow spot ventilation using the same central fan system. This is achieved by integrating a minimum Constant Airflow Regulator (CAR3) directly into the damper assembly. When the ZRT-2 is powered on, the control damper powers open, bypassing the low-flow CAR3 to allow the boost ventilation rate set by the maximum flow CAR3 (when equipped).

## Construction

- Gasketed damper blade ensures a tight seal preventing unwanted air leakage and noise in closed position.
- Constructed of 24-gauge galvanized steel housing for durability.
- 24 VAC, 120 VAC, or 230 VAC actuator motor with spring return damper assembly.
- Painted white extruded aluminum grille; blades fixed at 38°.
- Optional CAR3 constant airflow regulator.

## Key Features

- Provides on-off control for on-demand ventilation.
- Combination low-flow continuous ventilation and on-demand high-flow spot ventilation using the same central fan system (ZRT-2).
- All access for service through grille; no additional access panel required.

## APPLICATIONS

- Occupancy-based control systems for hotels, dormitories and high-rise residential.
- Large and small commercial systems.
- Intermittent ventilation for bathrooms and kitchens.
- ALDES VentZone Systems.

\*U.S. Pat. No. 7,766,734

# How to Specify Aldes: ZRT-R

**Step 1:** Reference the model code below and performance details within this specifications sheet to select the appropriate ZRT-R.

**Step 2:** Determine the **SERIES** required for your specific project.

**NOTE:** The ZRT is available with or without a minimum flow option for application requiring low volume continuous airflows. The minimum flow control equips a CAR3 to provide a balanced minimum airflow rate. Factory calibration of the minimum flow CAR3 is available on request.

**Step 3:** Select the required **SIZE**.

**Step 4:** Select the required motor based on available **POWER**.

**Step 5:** If equipped, select the **MAXIMUM FLOW CONTROL**.

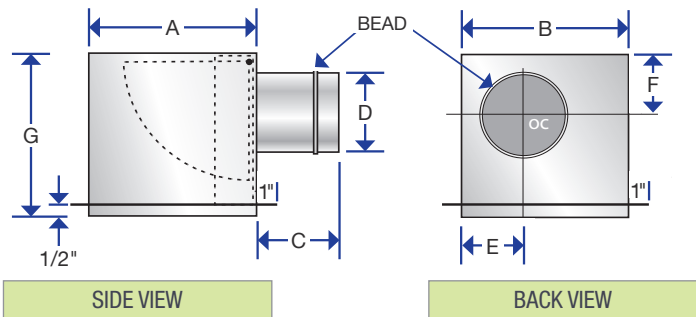
**NOTE:** The different size models have different airflow ranges. See *Airflow Settings and Performance Data* for additional details. Factory calibration of the maximum flow CAR3 is available on request.

## Model Code Example

**ZRT-R-2-4-24**

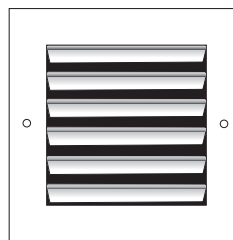
<b>PARENT MODEL</b>	Zone Register Terminal
<b>APPLICATION</b>	R: Exhaust
<b>SERIES</b>	1: No Minimum Flow Control 2: With Minimum Flow Control
<b>SIZE</b>	4: 8" x 8" Grille w/ 4" collar 6: 10" x 10" Grille w/ 6" collar
<b>POWER</b>	24: 24 V/60Hz 120: 120 V/60Hz 230: 230 V/50Hz

## ZRT-R Dimensions



Size	A	B	C	D	E	F	G
4" (100 mm)	8" (203 mm)	8" (203 mm)	4-1/2" (114 mm)	3-7/8" (98 mm)	2-1/2" (64 mm)	3-1/2" (89 mm)	7" (177 mm)
6" (150 mm)	10" (254 mm)	10" (254 mm)	5-1/2" (140 mm)	5-7/8" (149 mm)	3-1/2" (89 mm)	4-1/2" (114 mm)	8-1/2" (216 mm)

### EXHAUST GRILLE



Optional Finishes: anodized or black.  
Contact Aldes representatives for additional colors.

## Warranty

The entire unit is guaranteed for 3 years, from date of shipment, against all manufacturing defects, provided the material has been installed & operated per manufacturer's instructions & under normal conditions. Warranty is limited to the repair or replacement of the material upon its return freight paid to our factory. This warranty is not transferable & limited to the original end user.

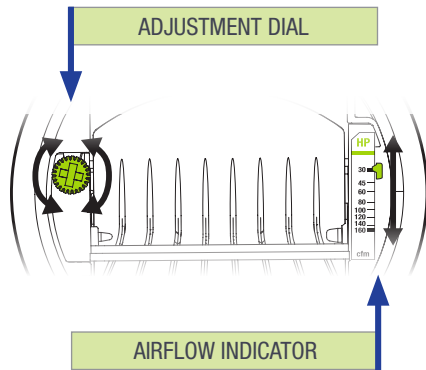
## Maintenance

The ZRT-R needs no maintenance when used in normal conditions. If the intended application includes air heavily loaded with grease or dust, access to all components of the assembly is through the removable grille for cleaning.

# Control

The ZRT-R is a normally-closed, spring-return damper mechanism which can be powered by any on-off control device(s). When powered, the control damper will fully open. Upon disconnecting the power, the ZRT integral spring will return the damper to the closed position. The included confirmation switch can be used to monitor ZRT status, or power other devices. Any on-off control device(s) will signal the damper to open fully, providing maximum ventilation control.

Optional Constant Airflow Regulator used to regulate airflows to constant levels in response to duct pressure. Use the CAR3 to control for both maximum and minimum flow rates.



## Airflow Settings & Performance Data

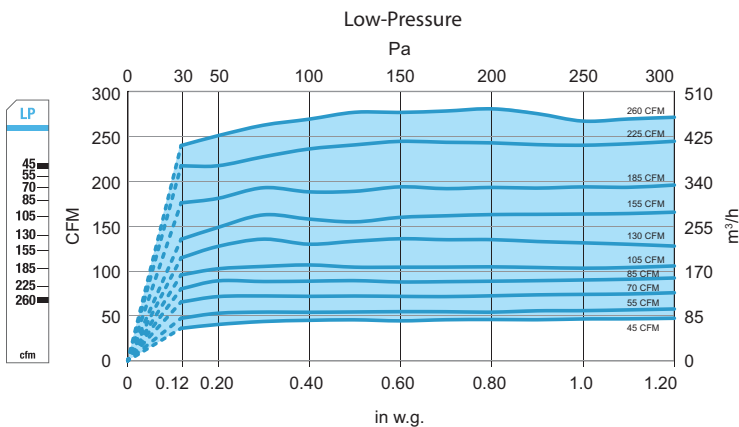
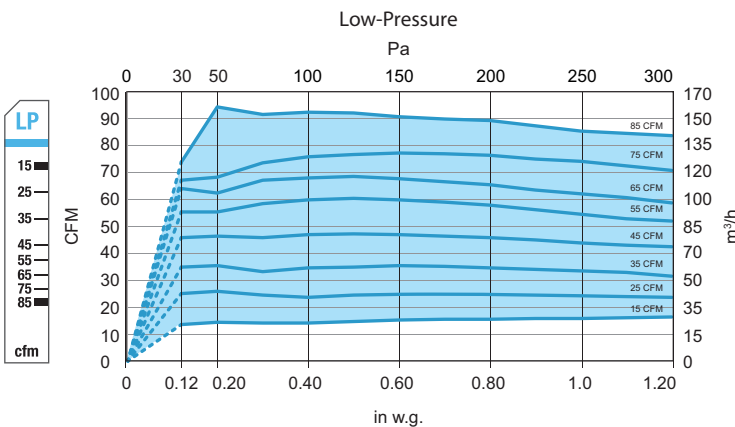
When equipped, the CAR3(s) installed in the ZRT can be factory calibrated, or field set as necessary per the specified airflow rates. The ZRT-2 is equipped with a minimum flow low-pressure, 4" CAR3 (model CAR3L4R4) as standard for both the 4" and 6" ZRTs. When equipped, the maximum flow regulator on the 4" ZRT is a low-pressure, 4" CAR3 (model CAR3L4R4), and the 6" ZRT is a low-pressure, 6" CAR3 (model CAR3L6R6).

Airflow rate can be set or adjusted by rotating the dial from either side. The airflow indicator will move to show the selected CFM. The airflow label has multiple defined setpoints, but the unique adjustment mechanism of the CAR3 allows for infinite adjustability between the minimum and maximum limits.

Performance charts found in the specifications sheet reflect this data, with the available range (shaded) and marked setpoints (lines). The CAR3 will maintain the airflow accurately to within +/- 10% of the indicated lines below for each marked setpoint. At the higher airflow rates, the minimum pressure required to achieve the selected airflow may exceed 0.12 in. w.g.

ZRT with CAR3 4" DIAMETER (100 mm)

ZRT with CAR3 6" DIAMETER (150 mm)



Airflow measurements taken at 68°F (20°C) at 1 atmosphere pressure.

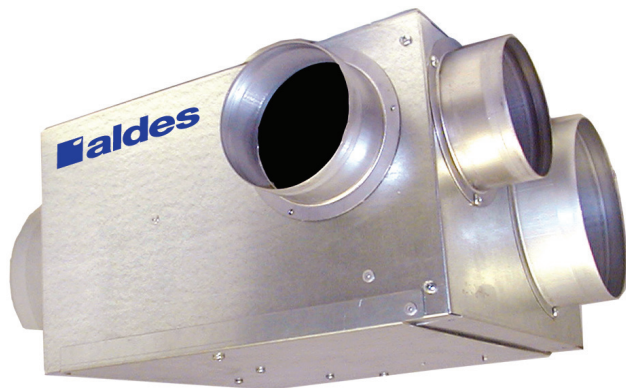
## Recommended Specification

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Furnish and install model ZRT-R Zone Register Terminals by ALDES North America. The exhaust terminals shall be of sizes and capacities as scheduled, and located per the drawings. The terminal casing shall be minimum 24-gauge G90 galvanized steel with an integral steel duct collar that allows attachment of both rigid and flexible ducting. The collar shall be sized to allow full insertion of a model CAR3 Constant Airflow Regulator for maximum flow control, but without the regulator extending into attaching duct. All terminals must be listed per UL 507 standards and carry the UL or ETL mark indicating compliance. Each ZRT-R shall include painted aluminum grille and all necessary mounting brackets and hardware.

The primary air volume mechanism shall be a single-blade damper operated by a long-life 24VAC, 120VAC, or 230VAC disconnecting-type drive motor with permanently lubricated bearings and normally closed spring-return closure. When fully open, the damper shall rotate out of the air stream as a single piece. A permanently fixed perimeter gasket seal shall be provided to prevent air noise and leakage at the closed position. The ZRT-R must be capable of overcoming a minimum of 1.0 in. w.g. (250 Pa) of differential pressure across the damper door. The entire damper assembly and all operable components shall be accessible or capable of being removed for maintenance or cleaning through the grille and without disconnecting the duct.

Where indicated on the drawings or schedule, a minimum airflow CAR3 shall be incorporated into the damper assembly. The control device shall respond to changes in duct pressure to maintain the specified flow rate at a constant level. Mechanical damper stops for balancing are not acceptable. Where a maximum flow is indicated, a CAR3 shall be installed in the terminal's duct collar. Adjustment of airflow setpoint on either the minimum or maximum flow CAR3 shall be possible without removal from the assembly. Installation shall be per all applicable codes and manufacturer's instructions.



# MPVS150 & MPVS200

## MULTI-PORT EXHAUST VENTILATORS

### VENTERGY® SERIES FANS



## Product Description

Ventergy® Series Multi-Port Ventilators (MPVS) are highly versatile, continuous-duty rated fan units for residential and light commercial applications. They meet ENERGY STAR efficiency criteria for low energy consumption. The most popular use for the fan is central exhaust ventilation of bathrooms, kitchens, laundry rooms, and other rooms where humidity is a controlling factor since the fan has a single exhaust discharge duct directly to the outdoors.

The principal advantage of the MPVS is the elimination of standard noisy bath fans, with the benefits of quiet operation and reduced penetrations to the exterior of the building. With the increasingly tight construction of energy-efficient buildings, there is a growing need for mechanical ventilation of indoor air quality. These fans are designed to serve this purpose by providing effective bathroom ventilation with the ability to run intermittently or continuously. The quiet, energy-efficient, permanent-split-capacitor type of external-rotor motor has permanently sealed bearings that provide many years of maintenance-free performance.

## Construction

The MPVS is constructed of heavy-gauge galvanized steel to prevent corrosion caused by moisture. The cabinet is internally lined with acoustic, closed-cell foam insulation that acts as a vapor barrier. This allows installation directly above living spaces or in unheated plenum spaces without concern for noise or condensation.

## Controls

The fans can be operated manually or automatically by a programmable timer or dehumidistat. They may also be operated in conjunction with a variable speed control.

## Fan and Motor

The fan motor is an energy-efficient, permanent-split-capacitor type of external-rotor design. Totally sealed to protect against moisture and contaminants, it is approved for removing steam and moisture from kitchen and bath areas. The motor incorporates permanently lubricated and sealed bearings and automatic-reset thermal-overload protection. It is designed and certified for continuous duty or intermittent operation.

The fan uses a backward-inclined impeller design that prevents dust from collecting on the blades. Each fan is statically and dynamically balanced in the factory to eliminate vibration and ensure quiet operation. The entire motor and fan assembly is mounted on a drop-down hinged access panel for simple service and inspection, and it can be removed from the fan without disassembling the duct connections.

## Locating and Installing

The compact dimensions and versatile mounting options permit installation above drop ceilings, between ceiling joists, or within a small soffit location. They can be installed horizontally or vertically.

## Accessories

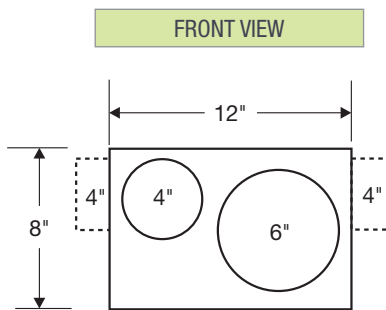
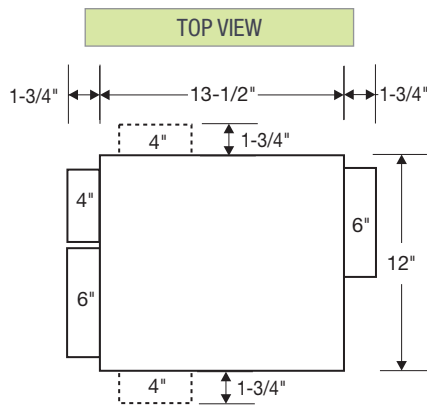
Accessory kits are available to facilitate installation and enhance operation. Accessories kits are sold separately. Please visit [aldes-na.com](http://aldes-na.com), or contact your local Aldes distributor for details.

## Performance

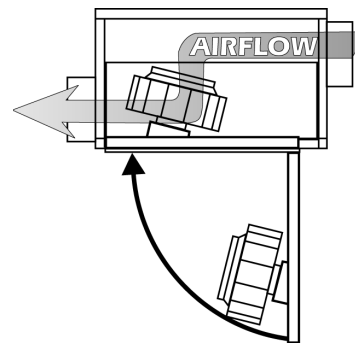
Fan airflow and energy performance shall be tested in accordance with HVI procedures.



## Dimensions & Performance



NOTE: Location(s) of field-installed 4" side-tab collar(s) shown as dashed lines.



Drop-down hinged access panel for simple service and inspection

ELECTRICAL AND AIRFLOW PERFORMANCE*											
Model	Watts at 0.2" Ps	CFM vs. Static Pressure									ENERGY STAR Certified
		0"	0.2"	0.4"	0.6"	0.8"	1.0"	1.2"	1.4"	1.6"	
MPVS150	39.9	212	170	133	101	71	49	17	--	--	✓
MPVS200	62.5	287	250	227	198	168	136	100	65	24	✓

\*Certified airflow rating at 0.2" w.g. is derated from actual test results per HVI Certification procedure 920. The HVI Certified Rate for MPVS150 = 170 CFM, MPVS200 = 250 CFM.

**ELECTRICAL DATA**

MPVS150: 115 V, 60 Hz, 41 W, 0.34 A, 2200 RPM  
 MPVS200: 115 V, 60 Hz, 59 W, 0.53 A, 2960 RPM

*Above ratings are intended for sizing electrical wiring only. Actual consumption will be lower.*

## Recommended Specification

**GENERAL** The fan shall be continuous-duty type with a backward-inclined centrifugal blower housed in a multi-port enclosure specifically designed for residential and commercial use. The fan shall be safety tested per UL standards and bear the agency listing certified mark, and be approved for use over cooking areas and tub/shower enclosures when used with GFCI branch circuiting. The fan must meet ENERGY STAR performance criteria for energy efficiency and bear the ENERGY STAR mark.

**CONSTRUCTED** The housing shall be of a minimum 22-gauge steel with a G90 galvanized coating or baked enamel paint finish. All interior surfaces of the housing shall be lined with non-porous, closed-cell foam insulation to allow installation above ceilings and in unheated spaces without concern for condensation or absorption of water. The unit shall not exceed 8-1/2" in total height and 14-1/2" in width to allow mounting within ceiling/floor joist spaces. The blower shall be external-rotor motor centrifugal type with backward-inclined impeller blades. The motor and blower assembly shall be mounted on a drop-down hinged access panel so as to permit removal from the housing without disassembly of the ducting connections. The intake duct connections shall be dimensioned so as to accept constant airflow regulators with a secure fit. The intake duct dimensions shall be nominal 4" or 6" depending on model. The discharge duct dimension shall be nominal 6" round. The fan housing and intake duct collar(s) shall be designed to allow removal and repositioning in the field to accommodate different installation requirements. Mounting brackets shall be provided for attachment to the fan housing, allowing vertical or horizontal installations.

**MOTOR** The motor shall be direct-drive, external-rotor, high-efficiency, PSC type with permanently lubricated and sealed ball bearings. The motor shall have automatic thermal-overload protection and must be totally sealed to protect against contaminants and moisture. Naturally vented air-over motors are not acceptable.

**ELECTRICAL:** The fan will operate on 115V, 50/60Hz, and single-phase current. The motor will be listed for use with a solid-state speed control.

**3 YEAR WARRANTY** for entire unit, from date of shipment, against all manufacturing defects, provided the material has been installed and operated per manufacturer's instructions and under normal conditions. Warranty is limited to the repair or replacement of the material upon its return freight paid to our factory. This warranty is not transferable and is limited to the original end user.

For more information, contact your Aldes sales advisor, visit [aldes-na.com](http://aldes-na.com), call 1.800.255.7749, or find us on

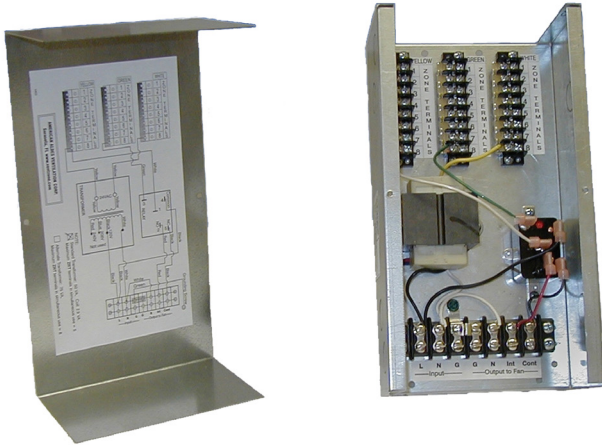




# ZTC

## FAN CONTROLS

ZONE TERMINAL CONTROL  
(P/N 28 550)



## Product Description

The Zone Terminal and Fan Control Center (ZTC) provides low-voltage control of the line-voltage circuits and can be used to control blower motors and auxiliary circuits in ventilating equipment. The ZTC can control up to (8) 24V ALDES North America patented\* Zone Register Terminals (ZRT®).

## Specifications

### Input Ratings:

Voltage: 120VAC 60Hz  
Power: 8A MAX

### Mounting:

Mounts with four 1-1/4" #10 screws (provided) through holes in base. Wall anchors are provided.

### Wiring:

18-gauge for low-voltage connections to ZRT terminals;  
14-gauge for power and equipment connections

### Wiring Connections:

ZRT: Y, G, W  
Equipment: G, N, Cont or Int.  
Power: L, N, G

\*U.S. Pat. No. 7,766,734

## FEATURES

- Class II (50 VA) inherently energy-limiting transformer.
- (Alternate) Class II 75 VA inherently energy-limiting transformer (Special order only).
- Non-resettable, non-replaceable over-current protection.
- For general use in Class II ventilating applications.
- Low-voltage terminal strips with standard terminal designation for easy wiring.
- 14-gauge lead wires.
- Secure mounting method from inside the control box cover.

For more information, contact your Aldes sales advisor, visit [aldes-na.com](http://aldes-na.com), call 1.800.255.7749, or find us on

