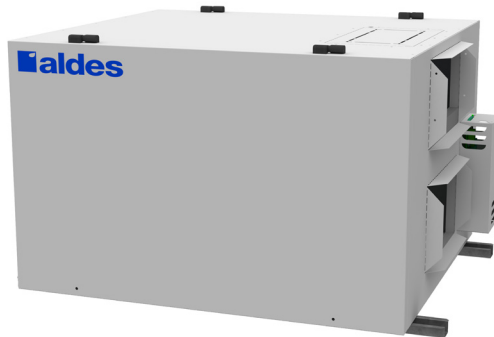




## INSTALLATION AND OPERATING GUIDE



Air exchanger with heat and/or energy recovery core

**H/E240-Ri**

**H/E650(A)-Fi(P) - H/E650(A)-Ri**

**H/E1100(A)-Fi(P) - H/E1100(A)-Ri**

**H/E1800(A)-Fi(P) - H/E1800(A)-Ri**

**AERS-1250i**

**Read carefully and save for future reference**

20161109

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---

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**b Introduction**

---

You are now the proud owner of an ALDES air exchanger. ALDES thanks you for purchasing this unit, which will provide years of comfort if you carefully follow the instructions in this guide.

First fill in the product information section at the end of this guide. This data is necessary for any warranty claim.

**c Air Exchanger with Heat Recovery**

---

This unit is specially designed to exchange the air in your office or small business. This air exchanger will ensure continuous ventilation on request. In winter, it will dehumidify the ambient air to the level set on the control. Odors will also be exhausted with the proper wall-mounted accessory.

**a Box Contents**

---

Verify that all parts are included in the package:

- Air exchanger
- Parts included
  - (2)  $\frac{3}{8}$  &  $\frac{1}{2}$  Universal drain
  - (2) Seal grommets
  - (2) Nuts
  - (1) Drain hose "T" connector
  - (1) 11' Drain hose

**b Installation Kit Contents**

---

Additional parts can be purchased to complete the installation. The following parts are recommended for a standard installation:

- |                 |                          |
|-----------------|--------------------------|
| • Humidistat    | (P/N 611224 & 611242-FC) |
| • Timer         | (P/N 611228)             |
| • Wall Controls | (P/N 611229 & 611230)    |

**a Of the Unit**

---

The ALDES unit should be installed in an area where the temperature is always above the freezing point.

The best location for the unit would minimize the total duct length and the number of elbows. The shorter the ducts and the fewer elbows there are, the higher the airflow will be.

**b Of Inlet Grilles**

---

The ambient air inlet grilles should be mounted close to areas with higher humidity levels. Most of the time they are located on the main floor, in the corridor between the kitchen and the washroom, and in the basement, close to the washroom. They should not be located in a room containing a combustion appliance like a furnace or a fireplace. The grilles can be installed on the ceiling or a wall. Place the grille within 12" (30 cm) of the ceiling.

**c Of Diffusers**

---

The diffusers are normally installed in corridors as far from the ambient air intake as possible. This forces the air to circulate through most of the building.

The diffuser can be installed on a wall or the ceiling. If it is located in an occupied area, mounting the diffuser on the ceiling is recommended. This allows the fresh air to be mixed with the ambient air before reaching the occupants, thus improving the comfort level on a cold winter day. A wall-mounted diffuser should be located within 12" (30cm) of the ceiling.

**d Of the Humidity Control**

---

The control has to be installed where excess humidity is more likely to be detected. On the main floor, it is generally located between the kitchen and the bathroom.

If you wish to control the humidity level mainly in the basement, you should install the control in this area. Avoid placing the control in an area with stagnant air (ex. behind a door).

The installation of the air exchanger must be in accordance with the applicable codes in your area.

## 4

## INSTALLATION

### a Cabinet

---

The unit is designed to be installed on a shelf or suspended from the building. When the unit is on a shelf, it is necessary to have some vibration insulators under its casing to prevent noise propagation.

The air exchanger must be leveled horizontally. This is necessary to drain the condensation from the unit. Connect 2 hoses to the bottom of the casing (see illustration at right). The main drain should be connected to the building's drainage system.



### b Exhaust Louver

---

The exhaust louver should be installed through an exterior wall at a minimum of 18" (46 cm) above ground. Attach the intermediary sleeve to the plastic louver collar with a screw. Seal the gap between the sleeve and the wall.

### c Inlet Louver

---

The inlet louver is installed through an exterior wall, at least 6' (185 cm) from the exhaust louver and more than 18" (46 cm) above ground. Make sure the inlet louver is installed so the insulated vent duct, joining it to the cabinet, is as straight as possible.

### d Humidity Control

---

The control should be mounted on the wall 5' (150 cm) above the floor.

Drill a hole through the wall so you can pass a wire from the control to the unit. This wire contains 4 wires of different colors. Connect them to the front terminal. Follow the color code. There are 24 volts of electric tension passing through the wires.

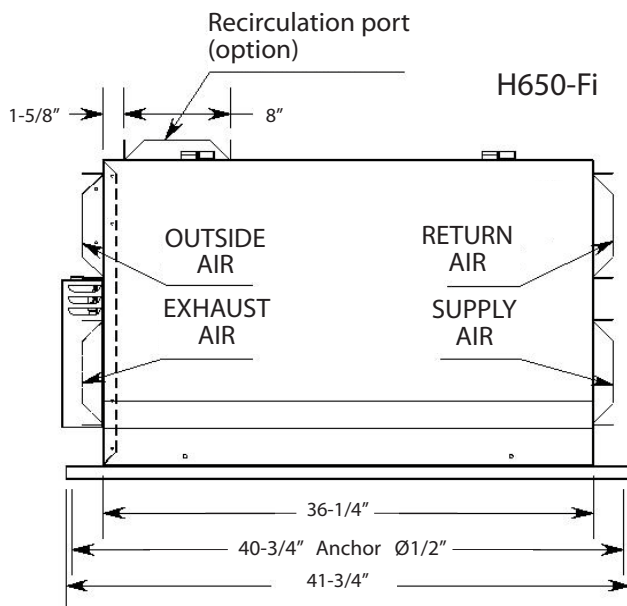
Attach the backplate of the control to the wall. Respect the color code. Install the plastic cover with the help of the fixing screw and the control button, if needed.

## 4

## INSTALLATION

## e Ducts

To maximize the air exchanger airflow, install the ducts as straight as possible. We recommend galvanized steel ducts for long ductwork because of their ease of cleaning and low flow resistance. Refer to the drawing below to connect ducts to the unit.



You can run ducts through floors, ceilings, walls or closets and cover them afterwards with gypsum board. Ducts in unheated areas must be insulated. The last 3' (1 m) of the exhaust duct adjacent to the exhaust louver should be insulated and covered with a vapor barrier.

Slide the end of the flexible duct over the unit port. Use 2" duct tape to wrap the flexible duct to the unit port. If necessary, the gaps between ducts and walls or ceilings can be hidden with the rubber strips.

**Electrical Connection**

When the humidity controller and all the ducts are installed, plug the unit **directly** into a 120V power outlet on 230V.

**DO NOT USE AN ELECTRIC EXTENSION CORD.**

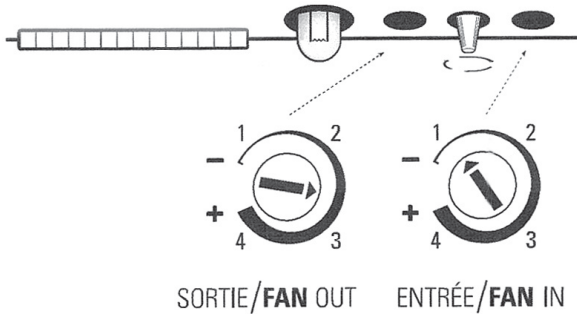
# 4

## INSTALLATION

### f Air Balancing

The difference between the exhaust and supply airflow rates should be negligible (below 10%). Airflow balancing is especially important in houses with combustion appliances or in areas where radon gas has been a problem. Use airflow measuring stations and a magnehelic gage to measure the airflow rates.

The speed of each blower can be adjusted independently by turning the adjustment knob located on the top of the electrical box.

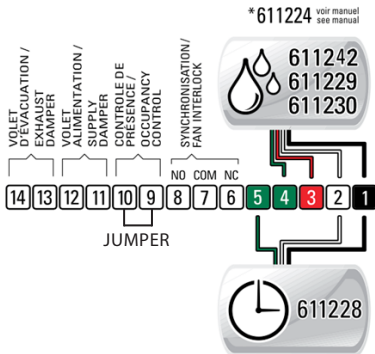


### g Unit connection

It is recommended to use 22-gauge wire. Always have a jumper between 9 & 10.

#### Wall-Mounted Accessories

Wall-mounted accessories must be installed at approximately 5' (150 cm) from the floor and connected to the device according to the following illustration.



|    |             |
|----|-------------|
| 14 | BLANC WHITE |
| 13 | BLANC WHITE |
| 12 | BLANC WHITE |
| 11 | BLANC WHITE |
| 10 | BLANC WHITE |
| 9  | BLANC WHITE |
| 8  | BLANC WHITE |
| 7  | BLANC WHITE |
| 6  | BLANC WHITE |
| 5  | VERT GREEN  |
| 4  | VERT GREEN  |
| 3  | ROUGE RED   |
| 2  | BLANC WHITE |
| 1  | NOIR BLACK  |

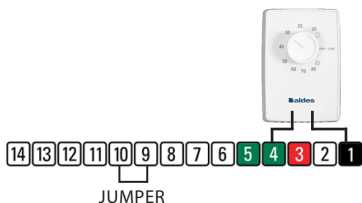


# 4

## INSTALLATION

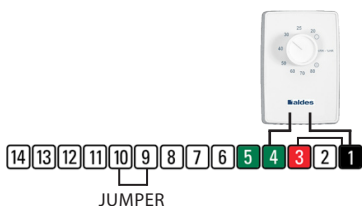
For the connection of the Humidistat 611224 or DRY CONTACT, see the following illustrations according to the installation needs.

### WITHOUT Recirculation Option

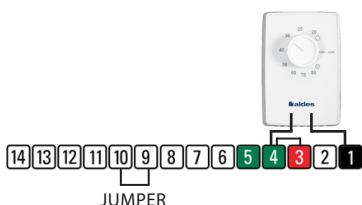


### WITH Recirculation Option

Option 1: the unit is in EXCHANGE mode at DEFAULT SPEED

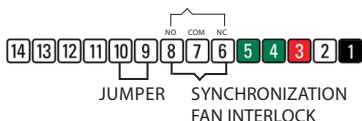


Option 2: the unit is in RECIRCULATION mode at DEFAULT SPEED



### Synchronization Contact

The unit disposes of a dry contact, either normally open (NO) or normally closed (NC) for synchronization fan interlock, with a pulsated air system or other.

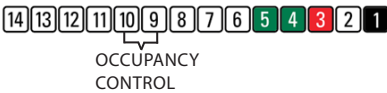


# 4

## INSTALLATION

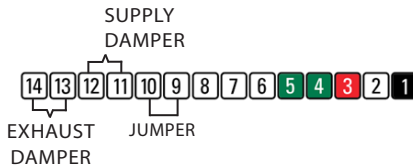
### Occupancy Control

This dry contact offers priority control operation. It can be used to connect a programmable timer or a motion detector to limit the unit's operation periods. When this contact is activated, the unit functions normally according to the wall-mounted accessory. **A jumper should be between 9 & 10.**

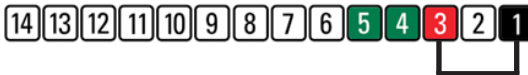


### Supply and Exhaust Damper

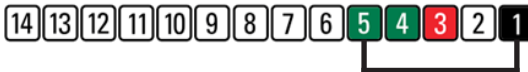
These contacts make it possible to feed two damper actuators, one for the supply airstreams and one for the exhaust airstreams (24VAC and 10VA max each).



Alternately, if you want the unit in exchange mode at the lowest speed, put a jumper from 1 to 3.



If you use the unit **without a control**, depending on the use of the unit, you have to put a jumper from 1 to 5 if you want to be in exchange mode at HIGH speed.

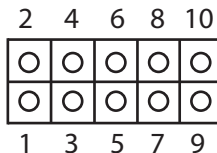
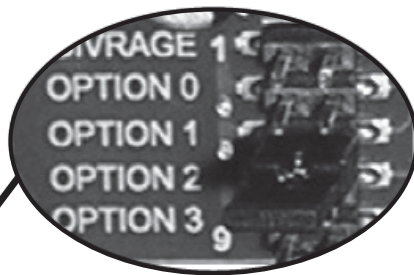
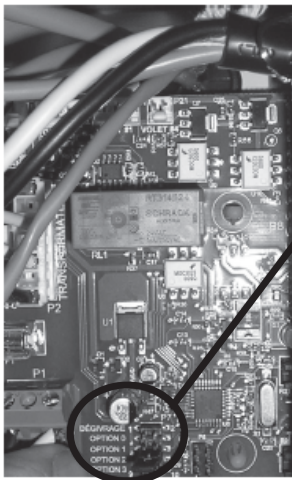


# 4

## INSTALLATION

### h Unit Configuration

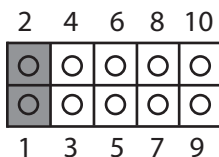
It is possible to change the defrost parameters and speed range using the jumper on the configuration port. The configuration port is located on the control board, as indicated in the figure below.



Configuration port

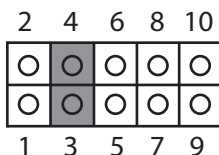
#### EXTENDED DEFROST Option

For severe applications, in colder areas, it is possible to extend the defrost period in order to prevent ice build-up in the unit. To activate the extended defrost option, add a jumper on the configuration port between terminals 1 and 2 (DEGVIRAGE position).



#### REDUCED SPEED Option

To operate the unit according to the REDUCED speed range (see model spec sheet for performance), add a jumper on the configuration port between terminals 3 and 4 (OPTION 0 position).





# 5

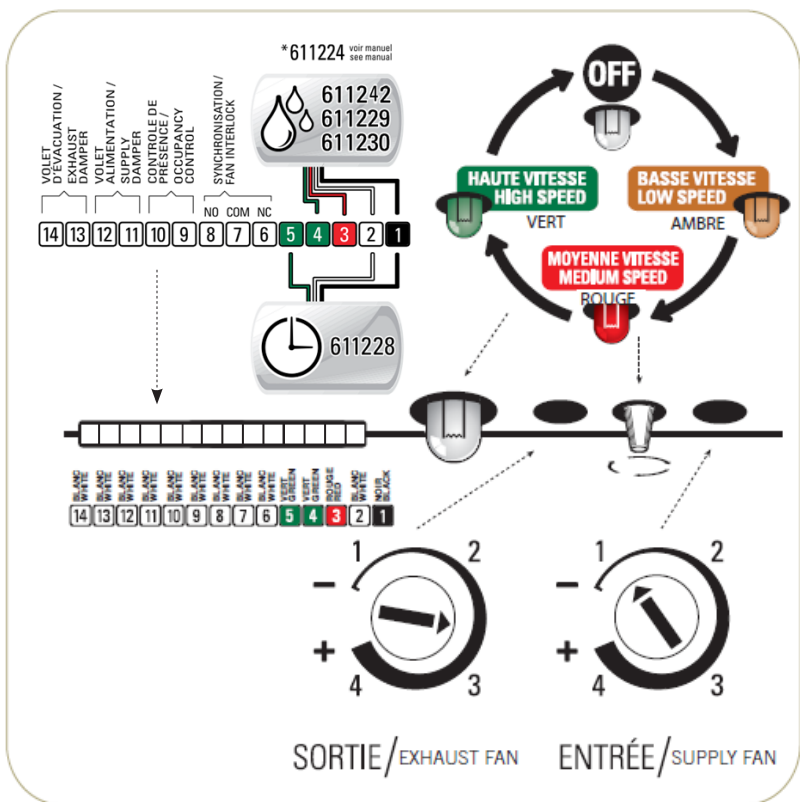
## OPERATION

### a Unit

This heat/energy recovery unit is the ideal unit for spacious homes, businesses, daycare centers, clinics, bars, restaurants, etc.

The unit will function according to the speed selected using the button located on the side of the device (see figure below). A pilot light indicates selected speed. This speed is called **DEFAULT SPEED** or speed .

It is the speed at which the unit operates when no signal is emitted by the wall-mounted accessories (humidistat, timer, etc) connected on terminals 1 to 5. When a signal is emitted by one of the wall-mounted accessories, the unit is activated at HIGH SPEED or speed .



## b Humidistat

The humidistat controls the relative humidity rate. Equipped with a humidity sensor and a electronic system, it efficiently controls your air exchanger to keep the humidity rate in your home below the desired setting.

This feature allows you to set the functioning mode of your air exchanger according to your needs. You can create a continuous air exchange with the outside, recirculate ambient air, or maintain a constant flow of fresh air when there are more people in the house.

The humidistat is designed to quickly evacuate all excess humidity. When the humidity content exceeds the desired setting, this feature causes air to be exchanged with the outside at a high speed until the humidity rate has returned to the desired rate. Afterwards, it will automatically come back to the chosen operating mode.

ASHRAE\* standards recommend maintaining a relative humidity rate between 30% and 60%.

\*(American Society of Heating, Refrigerating, and Air-Conditioning Engineers)

| <b>RECOMMENDED HUMIDITY RATE TO PREVENT INDOOR CONDENSATION**</b> |                                  |
|---|----------------------------------|
| <b>Outside Air Temperature</b>                                    | <b>Recommended Humidity Rate</b> |
| 10°C / 50°F   | Between 55% and 60%              |
| 0°C / 32°F  | Between 50% and 55%              |
| -10°C / 14°F  | Between 45% and 50%              |
| -20°C / -4°F  | Between 50% and 45%              |
| -30°C / -22°F   | Between 30% and 40%              |

\*\*These rates may vary according to the type of construction and fenestration of the building.

# 5

## OPERATION

### Humidistat Model 611224

The mechanical humidistat controls excess humidity. When the rate of humidity is greater than the value indicated on the adjustment knob, activate the high speed switch, and if needed, the interior-exterior exchange switch. When the appropriate humidity rate is reached, the humidistat will return to its pre-selected ventilation mode.

Turn the adjustment knob from the humidity's higher value toward its lower value. When you hear a click, look at the value indicated. This value represents the rate of ambient moisture in the air.

You may also wish to operate the appliance at high speed. To do so, adjust the knob to its lowest rate of humidity (20%). This setting is recommended for a room full of guests or an extended period of cooking.



## Digital Multifunction Control 611242-FC

The Digital Multifunction Controller controls the relative humidity rate. Equipped with a high-accuracy, fast-response humidity sensor and an electronic system, it efficiently controls your air exchanger to keep the humidity rate in your home below the desired setting.

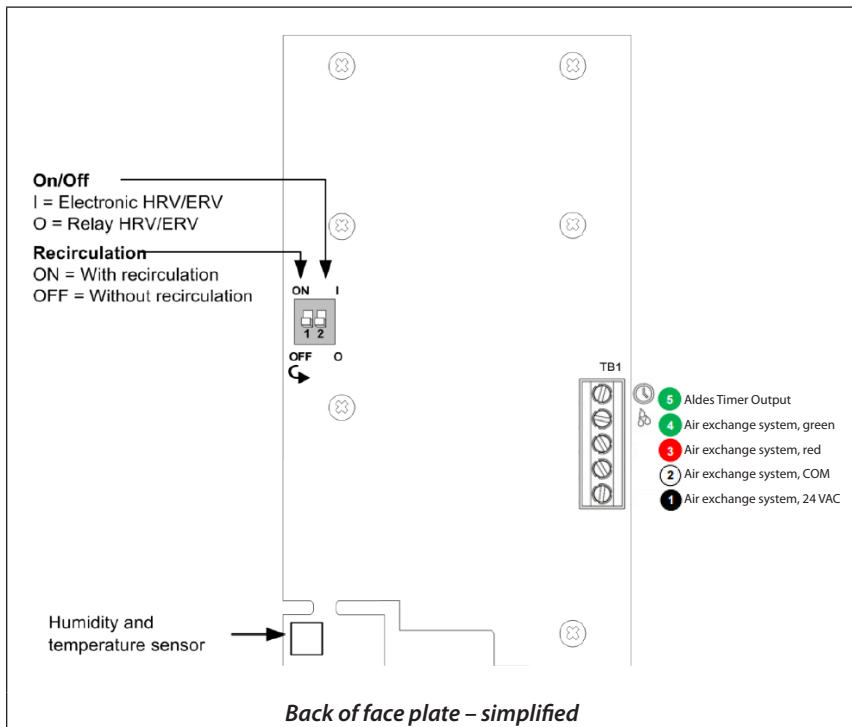
When the humidity content exceeds the desired setting, air will be exchanged with the outside at a high speed until the humidity has returned to the desired rate. Afterwards, it will automatically revert to the chosen operating mode. It can be adapted to units with or without recirculation, as well as electronic or relay logic units.

The controller should be installed in the place where excess humidity is most likely to be detected. This would generally be between the bathroom and the kitchen. If you wish to control humidity in a basement, the control should be placed there. Ensure good air circulation around the controller. Do not place it behind a door, for example.



# 5

## OPERATION





# 5

## OPERATION

### c Timer Model 611228

When you push the button, the unit will continuously exchange air at high-speed for a period of:

- 20 minutes
- 40 minutes
- 60 minutes

This control overrides the mode of operation selected on the humidistat.



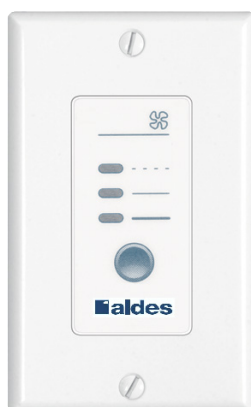
### d Wall Controls Models 611229 & 611230

These simple and easy-to-use controls allow you to loop a variety of modes at the push of a button.

#### Speed Control Model 611229

Function: Provides the ventilation unit with 4 modes of operation:

- Intermittent mode; successive cycles, low-speed 20-minute exchange, 40-minute stop mode
- Low-speed exterior exchange mode
- High-speed exterior exchange mode
- Stop mode (when the lights are off)



## Mode Control Model 611230

Function : Provides the ventilation unit with 4 modes of operation:

- Recirculation mode
- Low-speed exterior exchange mode
- High-speed exterior exchange mode
- Stop mode (when the lights are off)



## e Maintenance

**WARNING: Always disconnect the air exchanger from its power source before attempting any operation inside the unit**

Regularly check that the inlet screen and the exhaust screen are not obstructed by ice or particles.

In winter, check every month that the condensate drain opening is not blocked.

The filter has to be cleaned with soapy water 3 times a year or more if needed.

**ATTENTION: Optional high-efficiency and carbon filters are NOT washable.**

Clean the heat recovery core once a year or when needed. Carefully pull out the core from the unit. Wear gloves when you handle the core since it can have sharp edges.

Vacuum the cabinet interior at least once a year, preferably at the beginning of fall.

## **a** Warranty

---

The warranty period for light commercial ventilation units begins on the date of manufacture indicated on the serial number (modelYYMMXXX where YY is the year and MM the month).

Recovery core of an HRV, polypropylene or aluminum, is covered by a limited warranty of 15 years. The enthalpy recovery core of an ERV is covered by a limited warranty of 3 years. Any other component of the unit is covered by a limited warranty of 2 years.

This warranty plan does not cover any defect resulting from improper installation, misuse, acts of God and/or other similar causes beyond the control of the manufacturer. It is excluded from this warranty, the possibility of a request for damages or indemnity.

Nor should ALDES be responsible for any injury or damage to the property caused directly or indirectly by our ventilation units (breakdown).

### **How to Claim**

If any part proved defective, it will be replaced by another piece or repaired according to the judgment of the company.

ALDES takes in charge only the component; all other expenses are the responsibility and liability of the consumer.

We recommend talking with one of our technicians before removing any unit. There may be another way to solve the problem.

Obtain an authorization number from our customer service department before sending in a unit for service.

**b Contact information**

For more details on the installation or the operation of your unit, contact your dealer or the staff of our division. We will be glad to help you.

ALDES

Phone CAN: 1-800-262-0916

Phone USA: 1-800-255-7749

[www.aldes.com](http://www.aldes.com)

**c Product Information**

Date of purchase\* \_\_\_\_\_

Serial number \_\_\_\_\_

Store (dealer) \_\_\_\_\_

\*Keep your sales receipt as proof of purchase.

| <b>Maintenance Sheet</b> | <b>Date</b> |
|--------------------------|-------------|
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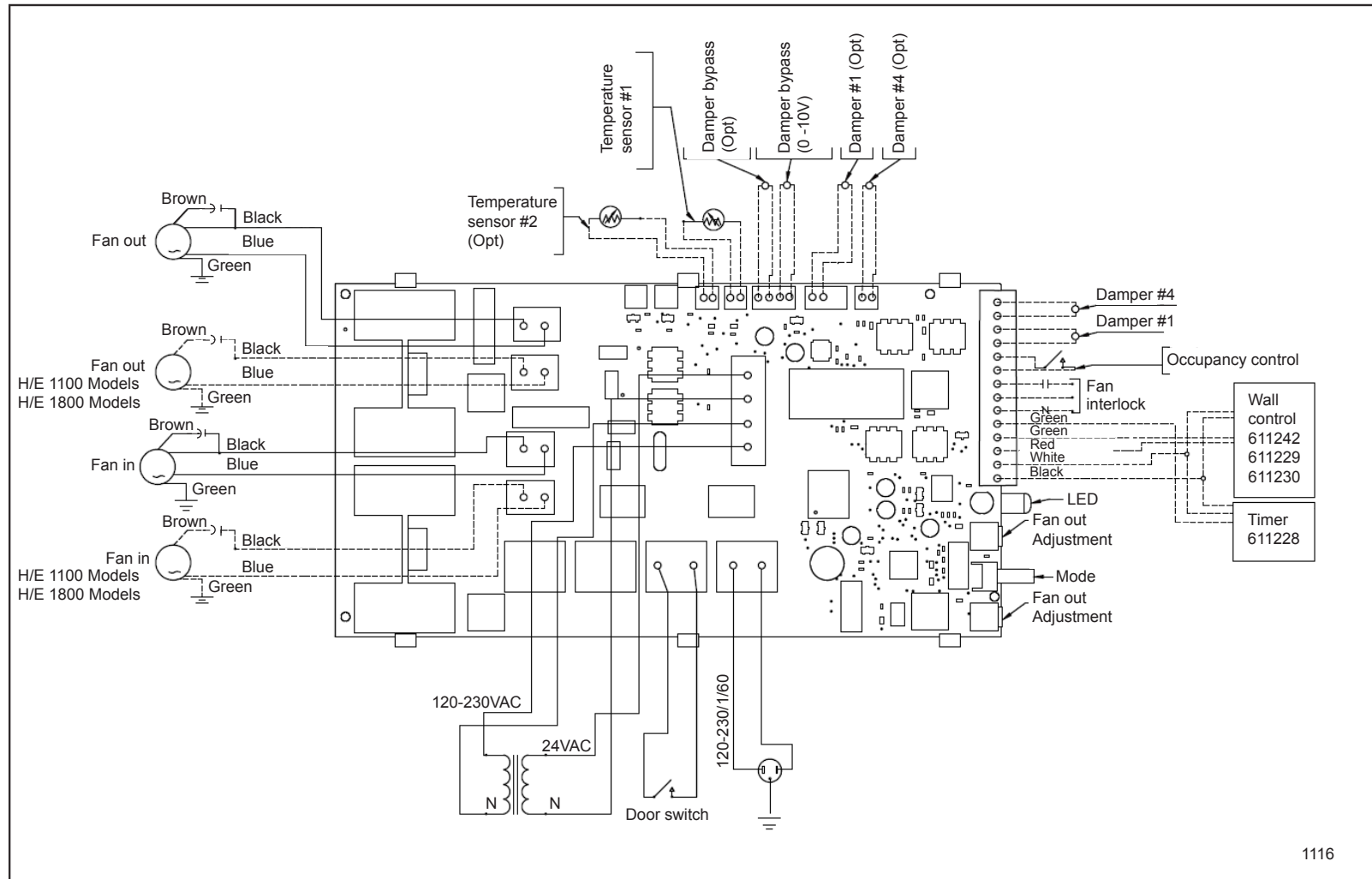






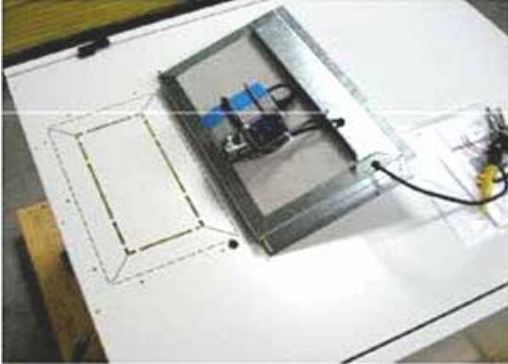
# Circuit Diagram

## Light Commercial Models: H650, H1100, H1800 & E650, E1100, E1800





## **FIELD INSTALLATION OF RECIRCULATION DEFROST DAMPER ON STANDARD FAN EXHAUST DEFROST UNITS\***



### **FOR MODELS**

**H650-Fi  
H650A-Fi  
E650-Fi  
H1100-Fi  
H1100A-Fi  
E1100-Fi  
H1800-Fi  
H1800A-Fi  
E1800-Fi**

\*NOTE: Damper Defrost Kit sold separately.

### **Damper Defrost Kits**

For 650 models: P/N 683900

For 1100 models: P/N 683950

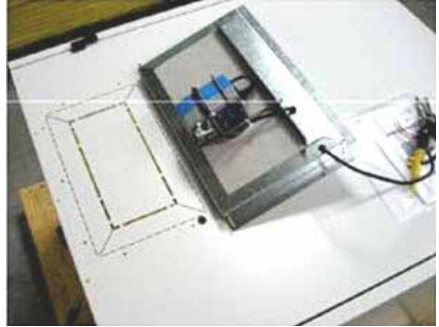
For 1800 models: P/N 683960

## 1. Check the Contents

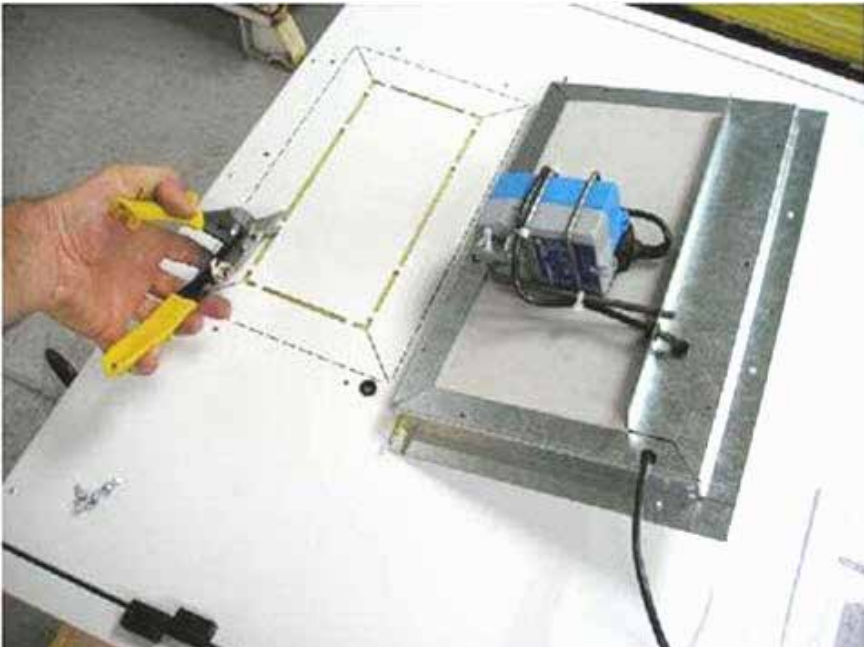
- Damper assembly
- Metal frame
- Bag of screws
- Jumper(s)
- Plastic bushing

### Tools Needed:

- #2 Phillips screwdriver
- Small flat screwdriver
- Metal shears
- Knife



## 2. Cut the perforated section on the top of the unit.



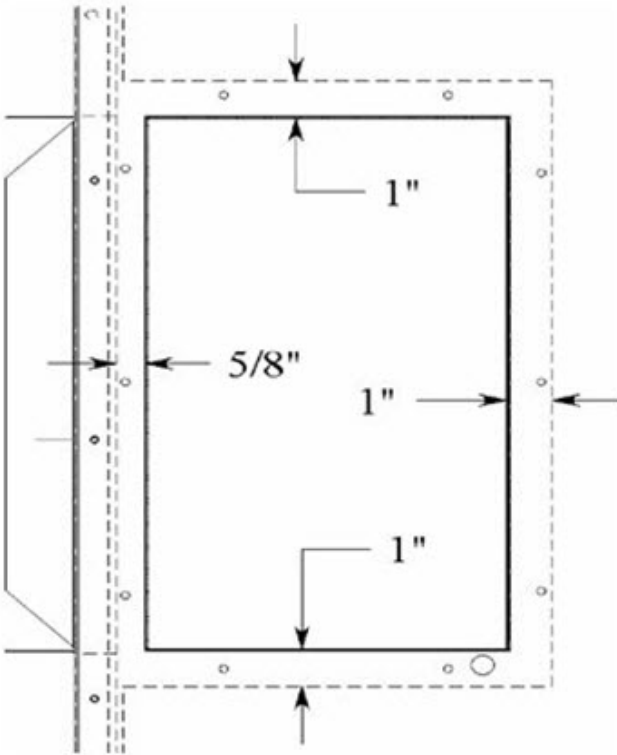
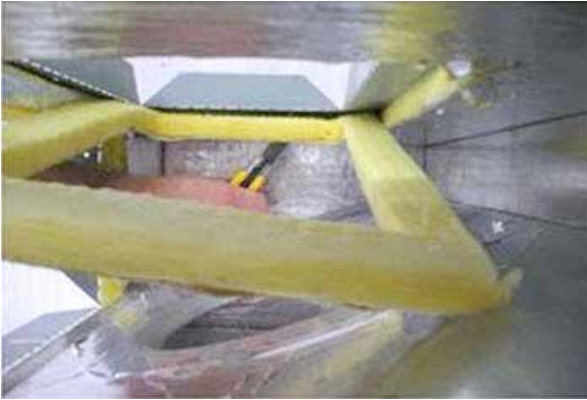
**3. Fold out the four flanges.**



**4. Cut through the insulation along the duct flanges.**



5. Cut the insulation according to the dimensions below.



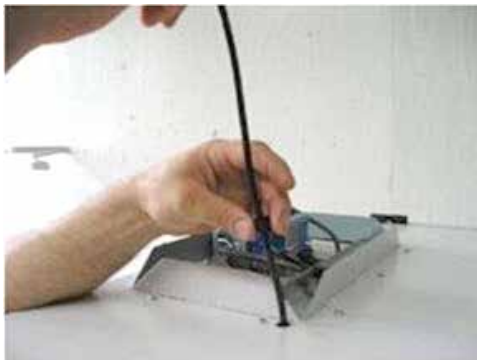
**6. Pull the actuator's wire through the hole.**



**7. Attach the damper with the screw provided.**



**8. Slide the plastic bushing down the actuator wire.**



- 9. Install the metal frame inside the unit.**



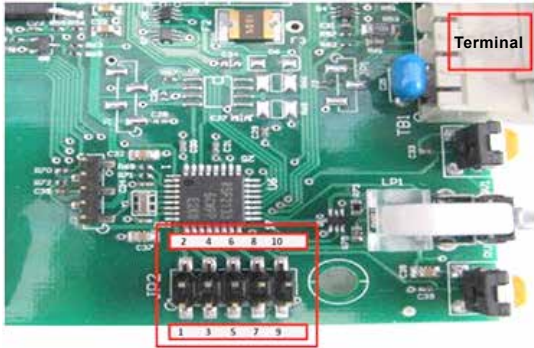
- 10. Attach the metal frame with the screws provided.**



- 11. Connect the actuator wire to the 11th and 12th pin on the unit's terminal strip.**



12. **Connect the jumper(s) to the circuit board at the position(s) indicated for the specific model. See circuit diagram (included with unit IOM) for larger view.**



**For Heat Recovery Models:**

- H650-Fi
- H650A-Fi
- H1100-Fi
- H1100A-Fi
- H1800-Fi
- H1800A-Fi



**Jumper #1:  
Position 5-6**

**For Energy Recovery Models:**

- E650-Fi
- E1100-Fi
- E1800-Fi



**Jumper #1:  
Position 7-8**

**Jumper #2:  
Position 9-10**



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