

Mounting and Wire Connection

Follow steps 1 through 4 in Figure 1 below to remove the controller cover. Locate the two retention tabs on top of the transmitter housing. Using a flathead screwdriver, lightly compress the retention tab (step 1). Apply side pressure while compressing each tab to gently unlock the cover (step 2). You can then remove the cover as shown in steps 3 and 4. Use an upward lifting motion to protect the bottom tabs.

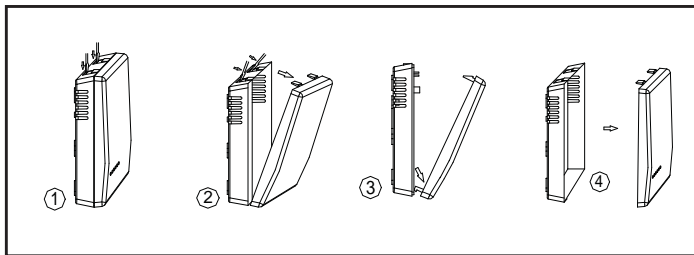


Figure 1: Controller Cover Removal

Mount the wall plate first; Figure 2 below shows the two dimensions available. Do not mount the detector near diffusers or any steam source, in direct sunlight. To mount the plate, follow steps 5 through 8 shown in Figure 3 below.

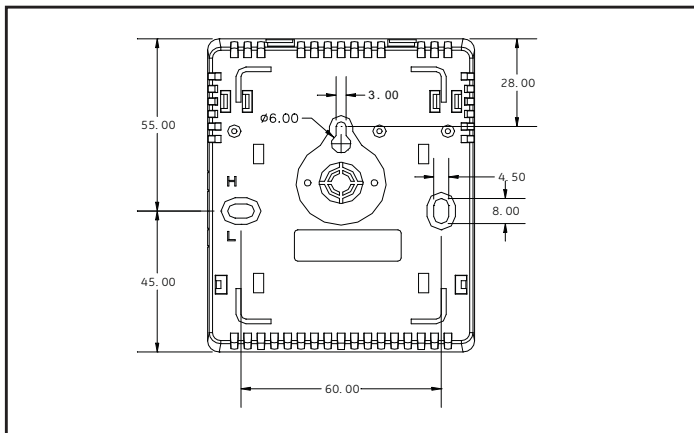


Figure 2: Available Mounting Dimensions

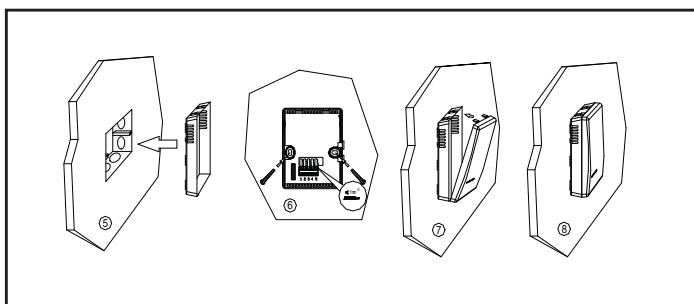


Figure 3: Mounting the Wall Plate

Connect the wires to the terminal strips as shown in Figure 4 below. Table 1 below lists the connection terminals with functions and electrical data.

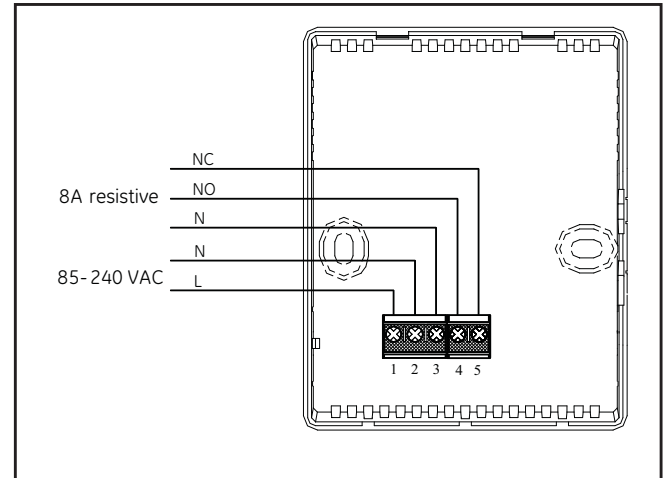


Figure 4: Wire Connection

Table 1: Connection Terminals and Functions

Terminal	Connection
1	L (85-240VAC) INPUT
2	N (85-240VAC) INPUT
3	N (85-240VAC) FAN - Common
4	ON (85-240VAC) FAN - RELAY Normally Open (N.O.) when the CO ₂ < threshold
5	OFF (85-240VAC) FAN - RELAY Normally Closed (N.C.) when the CO ₂ < threshold

To close the cover, follow the steps in Figure 1 in reverse order (from step 4 to step 1).

IMPORTANT:

1. To protect the internal infrared CO₂ sensor from damage or the excursion of the infrared receiver, avoid shaking or hitting the CO₂ detector/controller.

2. The CO₂ module is on the larger PCB board in the controller. DO NOT move the CO₂ module without checking with Customer Service.

!WARNING!

Relay contacts should not be connected directly to an inductive fan motor, but rather to fan logic control.

Operation

The 8012 fan has three working modes: **Auto, Fan On, and Fan Off**. To select the desired mode, touch the button on the cover, as shown in Figure 5 below.

- Auto - LED indicator of CO₂ output switches automatically dependent upon CO₂ level
- On - all LED indicators on, relay permanently in ON position. In the On mode, all LED indicators are on and the NO contacts of the relay are closed, while NC contacts of the relay are open.
- Off - no LED indicators show, relay permanently in OFF position. In the OFF mode the NO relay contacts are open and NC relay contacts are closed.

Note: *These definitions only apply to the unit when used in HVAC applications; in this case, the fan is wired on pins 3/4 with the relay normally open.*

At startup or in the event of a power failure, the unit will return to the AUTO state.

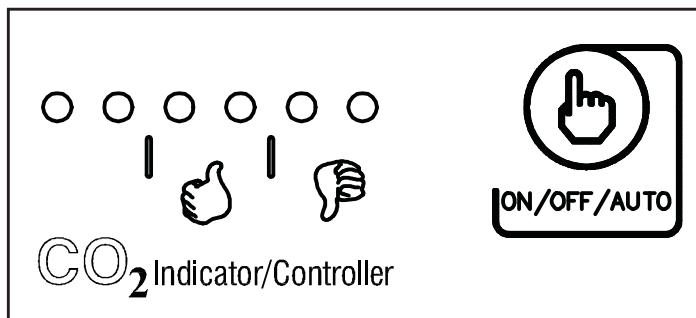


Figure 5: Touch Button Control for 8012

Controlling the Relay Threshold

You can open the controller cover when the power is cut off. Table 2 lists how, with one jumper (J1) on the circuit board, you can select the CO₂ level to turn the relay on or off.

Table 2: Relay Control

Jumper	CO ₂ Level	Relay On/Off
J1-disconnect	1000 ppm (default)	As CO ₂ > 1000 ppm, the relay turns on; As CO ₂ < 700 ppm, the relay turns off
J1-connect	1500 ppm	As CO ₂ > 1,500 ppm, the relay turns on; As CO ₂ < 1,200 ppm, the relay turns off

Specifications

Power Supply

85~240 VAC

Consumption

1.8 W Max/230 VAC

CO₂ Sensor

Non-Dispersive Infrared Detector (NDIR)
ABC Logic Self-Calibration

CO₂ Measuring Range

400~2,000 ppm

Accuracy (400-1200 ppm)

±40 ppm +3% reading

Stability

<2% of FS over life of sensor

Response Time

<2 minutes for 90% step change

Warmup Time for Each Turning On

2 min (operational), 10 minutes (full accuracy)

Relay

Max. Switch Current: 8A resistive/250 VAC (load resistance)
Two CO₂ levels selectable to control the relay by a jumper

6 LED Lights

(From left to right: Blue, Blue, Green, Orange, Red, Red)

1st blue light on as CO₂ measurement <600 ppm
1st and 2nd blue lights on when 600 ppm < CO₂ measurement < 800 ppm
Green light on when 800 ppm < CO₂ measurement < 1,000 ppm
Orange light on when 1,000 ppm < CO₂ measurement < 1,500 ppm
1st red light on when 1,500 ppm < CO₂ measurement < 2,000 ppm
1st and 2nd red lights are on when CO₂ measurement > 2,000 ppm

Shortest Time for Fan Turning On/Off (in Auto Mode)

10 minutes

Operation Conditions

0~50°C (32~122°F) 0~95% RH, non-condensing

Storage Conditions

-40~70°C (32~122°F) 0~95% RH, non-condensing

Dimensions/Net Weight

100 mm X 80 mm X 24 mm (3.94 in. X 3.15 in. X 0.95 in.)
(H X W X D)/135.3 g (4.78 oz.)

Customer Support Centers

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