Bel-Aire
ElectronicAirCleaners.com

# Model A50
# Current Sensing Relay

## Description and Installation Instructions

**The Model A50 (24 volt) Current Sensing Relay is designed for interfacing humidifiers with all types of forced air furnaces and air conditioning equipment.**

Actual size

**The Model A50 Current Sensing Relay** measures electrical current rather than voltage. This type of relay is more reliable and less expensive than using sail switches, pressure switches or other types of relays.

The relay is easily installed around the common lead of the blower motor and inserted into the circuitry. (See wiring diagrams on back.)

The Model A50 case is made from high-impact plastic. The lead wire bracket is sponge-packed to prevent wire laceration, slippage and accidental contact with metal.

See Back for Installation Instructions ▶▶▶

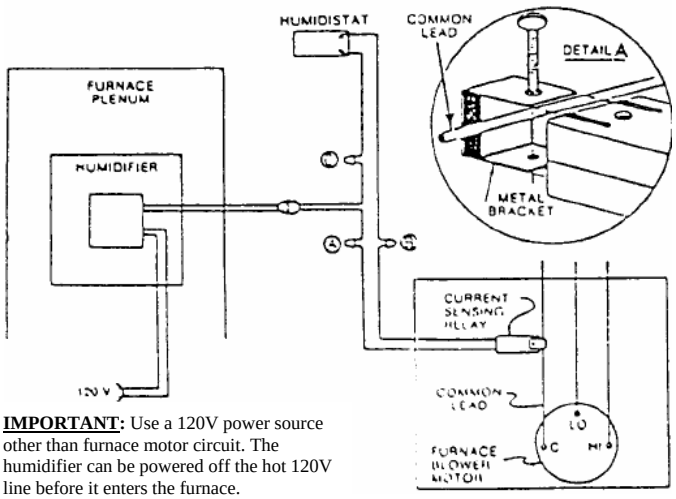
# Installation Instructions for Model A50 Current Sensing Relay

CAUTION: **For proper operation, the wire lead sponge bracket must carry a minimum of 4.0 amps. If the current draw is less than 4.0 amps, wrap the lead wire around the bracket so that it passes between the bracket and relay housing two or more times.**

## For Installation of a Humidifier with a Line Voltage Motor and a Low Voltage Control

CAUTION: **DO NOT connect the 120V power to the furnace motor circuit. It can be powered off the hot 120V line before it enters the furnace.**

1. To mount the unit, follow the step-by-step instructions noted in the humidifier installation manual. **DO NOT connect the electrical, water supply or drain at this time.**
2. **Follow these wiring instructions:**
   a) Turn off electrical power to the furnace. Attach the Model A50 Relay around the common lead wire of the furnace blower motor (see Detail A). **The relay must be located at least 3" from any transformer. Also, the metal bracket on the relay must not touch any other metal.**
   b) Using a wire nut, connect one lead wire from the Model A50 Relay to one of the 24V wires from the humidifier (A). Additional wire length may be needed.
   c) Using a second wire nut, connect the remaining lead from the Model A50 Relay to the humidistat wire (B).
   d) Using a third wire nut, complete the circuit by connecting the second lead from the humidistat to the 24V lead from the humidifier (C).
3. Complete the installation by again referring to the instructions supplied with the humidifier.

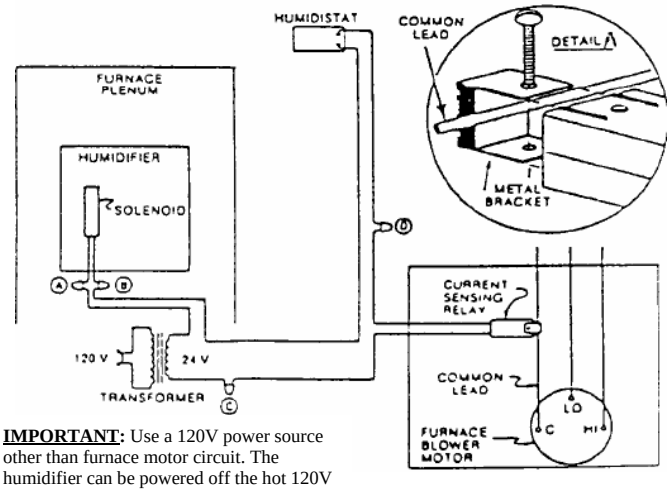



**IMPORTANT:** Use a 120V power source other than furnace motor circuit. The humidifier can be powered off the hot 120V line before it enters the furnace.

## For Installation with a Separate Transformer

CAUTION: **DO NOT connect the 120V/24V step-down transformer power to the furnace motor circuit. It can be powered off the hot 120V line before it enters the furnace.**

1. To mount the unit, follow the step-by-step instructions noted in the humidifier installation manual. **DO NOT connect the electrical, water supply or drain at this time.**
2. **Follow these wiring instructions:**
   a) Turn off electrical power to the furnace. Attach the Model A50 Relay around the common lead wire of the furnace blower motor (see Detail A). **The relay must be located at least 3" from any transformer. Also, the metal bracket on the relay must not touch any other metal.**
   b) Using a wire nut, connect one lead wire from the water valve to the 24V transformer (A).
   c) Using a second wire nut, connect the other lead wire from the water valve to the humidistat (B).
   d) Using a third wire nut, connect one lead from the Model A50 Relay to the other terminal of the 24V transformer (C).
   e) Using a fourth wire nut, complete the circuit by connecting the other Model A50 Relay lead wire to the humidistat (D).
3. Complete the installation by again referring to the instructions supplied with the humidifier.




**IMPORTANT:** Use a 120V power source other than furnace motor circuit. The humidifier can be powered off the hot 120V line before it enters the furnace.