



H46C-F Humidity Controllers

PRODUCT DATA



FEATURES

- Cover of impact-resistant, molded plastic.
- Sensing element of thin, moisture sensitive nylon ribbon provides reliable operation even when ambient temperature conditions change.
- Fully enclosed, dust-free, spst, snap switch.
- Large, easy-to-read scaleplate on face of controller.
- Positive ON and OFF setting positions permit manual operation of the controlled equipment.

SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not match the listed specifications exactly. Also, this product is tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed.

APPLICATION

These humidity controllers provide automatic control of a humidifier or a dehumidifier for dehumidification and mildew control in air conditioning systems.

All models are supplied with cover and control knob for wall mounting.

Standard Models

Models	System Control		Scale Range (RH)		Type of Terminal Connection	
	Dehumidifier (makes at set point)	Humidifier (makes at set point less differential)	20-80%	10-60%	Leadwire or Electric Cord	Screw Type
H46C ^a	X	—	X	—	X	—
H46D ^a	—	X	—	X	X	—
H46E ^b	X	—	X	—	Note b	—
H46F ^b	—	X	—	X	Note b	—

^a Includes adapter plate for vertical switch box mounting.

^b Includes 6 ft [1.8 m] electric cord. H46E,F have interrupter plug.



Electrical Rating (A at 50 or 60 Hz):

Table 1. HC46C,E

	H46C,E 120 Vac	H46C (only) 240 Vac
Full Load	7.5	3.8
Locked Rotor	30.0	15.0

Table 2. HC46D,F

	H46D,F^a 120 Vac	H46D 240 Vac
Full Load	4.4	2.2
Locked Rotor	26.4	13.2
Resistive	12.0	6.0
Pilot Duty	50 VA at 24 Vac	

^a H46F model available with 8 or 12 A resistive rating at 120 Vac.

Set Point Adjustment: Control knob on face of controller.

Switching: Enclosed, dust-proof, snap-acting, spst switch.

Sensing Element: Nylon ribbon.

Differential: Nonadjustable, 5 ±1 percent RH.

Maximum Ambient Temperature: 125 ° F (52 ° C).

Mounting Means:

H46C,D—Mounts on vertical switch box with adapter plate.
H46E,F—Mounts directly on wall with two screws through keyhole slots in back of case.

Cover Dimensions: See Fig. 1 and 2.

Cover Finish: Silver bronze.

Cover Material: Molded plastic.

Underwriters Laboratories, Inc., Listed: File No. E4436;
Guide No. XAPX.

Canadian Standards Association Listed: File

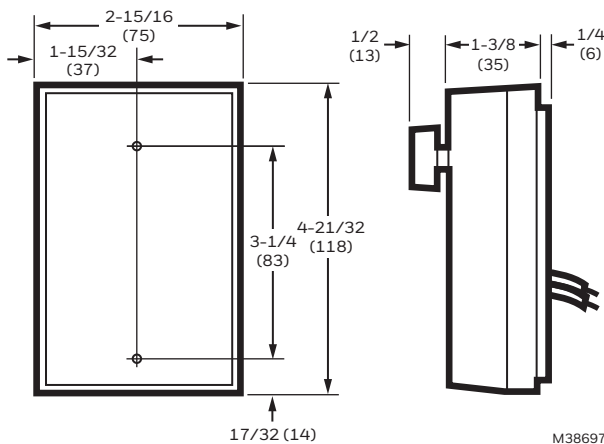


Fig. 1. Dimensions in in. [mm in brackets] for H46C,D.

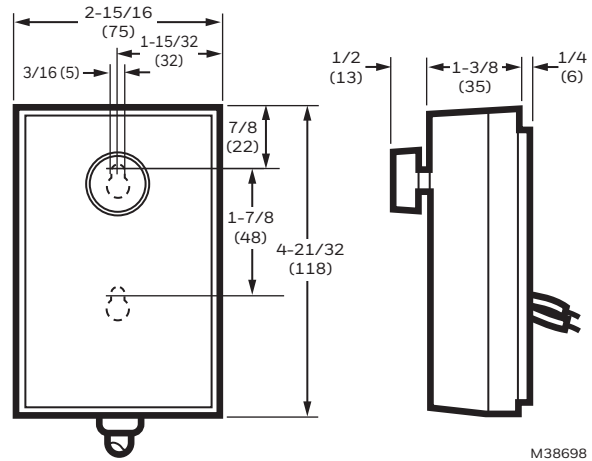


Fig. 2. Installation Dimensions in in. [mm in brackets] for H46E,F.

INSTALLATION

When Installing This Product...

1. Read these instructions carefully. Failure to follow the instructions can damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.



CAUTION

Disconnect power supply before beginning installation to prevent electrical shock or equipment damage.

MOUNTING

Follow manufacturer's instructions, if available. Otherwise proceed as follows. The H46C,D,E,F mount on a wall at a location that will best sense the relative humidity of the room. The H46C and D models must be mounted with the adapter plate on a vertical switch box. H46E and F models mount with two screws in keyhole slots in back of case.

WIRING

All wiring must comply with local codes and ordinances.

For Mildew Control and Dehumidification

Vacation homes that are unoccupied during the hot, humid Florida summer are an invitation to mildew. The common cure is to simply select a moderate thermostat setting and

let the air conditioner run. By applying either a low voltage thermostat in combination with an H46C Dehumidistat or a W884E Comfort Center, mildew can be reliably prevented and air conditioning energy use can be optimized. The dehumidistat and thermostat should be wired in parallel such that by leaving the system switch in COOL and

selecting appropriate set points for example, 85 ° F (29 ° C) and 50 percent RH, either device will be able to control the air conditioning equipment. This independent operation will allow the higher temperature set point and still prevent mildew by controlling humidity. For wiring diagrams See Fig. 3 and 4.

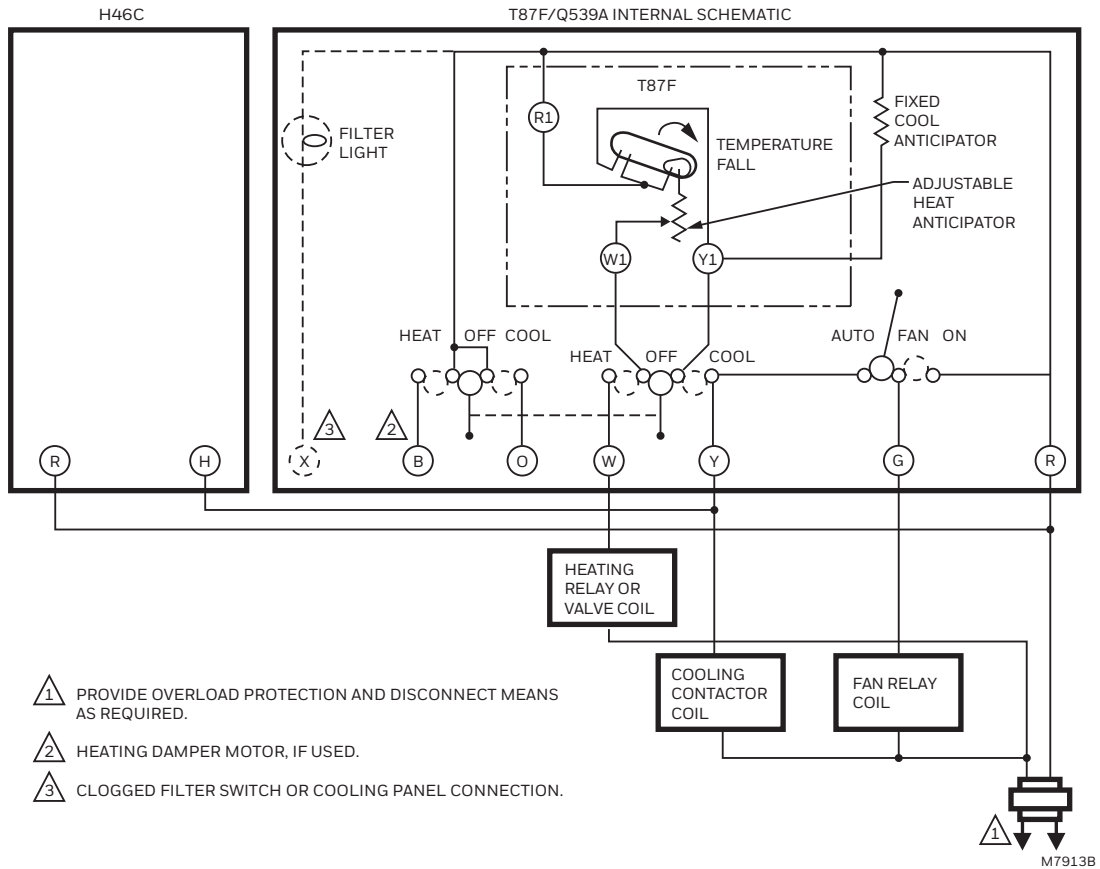


Fig. 3. Typical parallel wiring diagram of H46C with T87F/Q539A combination for dehumidification and mildew control.

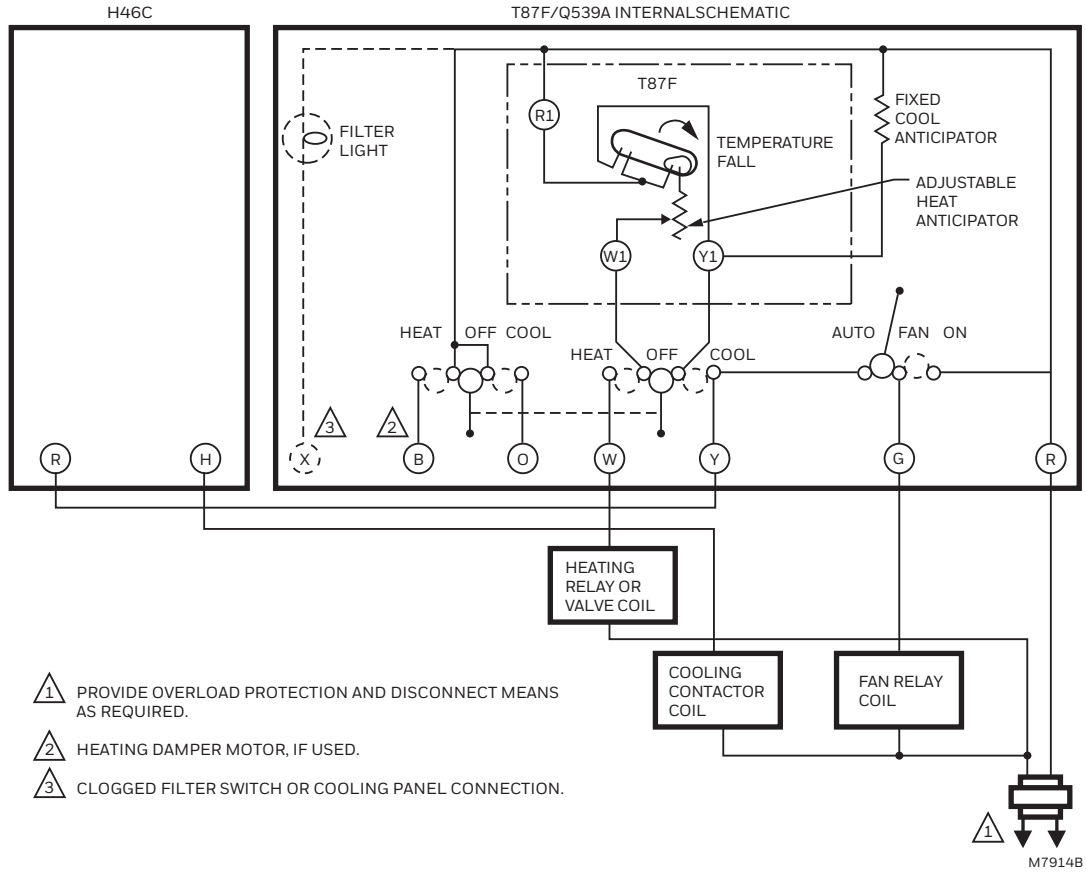


Fig. 4. Typical series wiring diagram of H46C with T87F/Q539A combination for dehumidification and mildew control

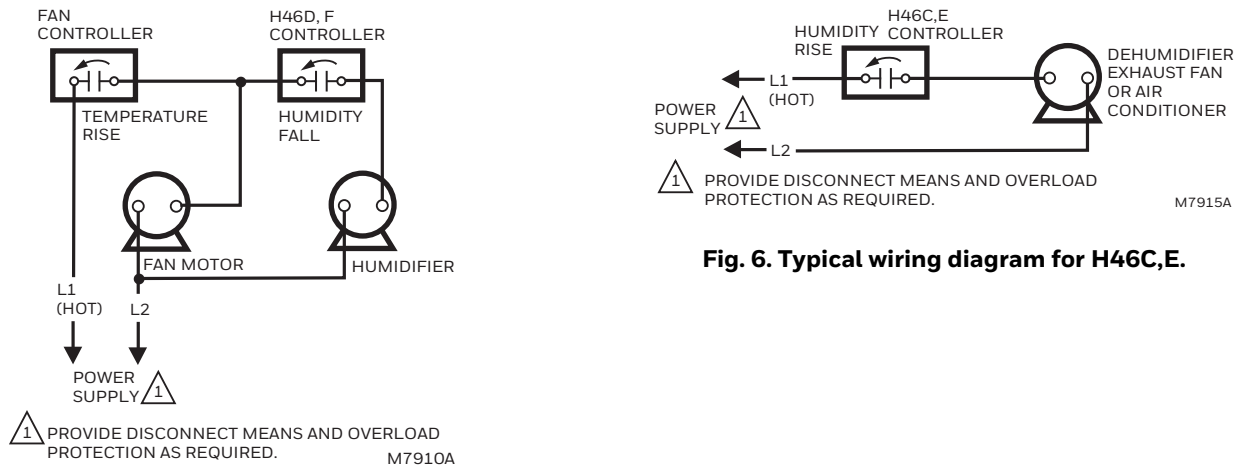


Fig. 5. Typical wiring diagram for H46D,F single-speed fan motor.

Fig. 6. Typical wiring diagram for H46C,E.

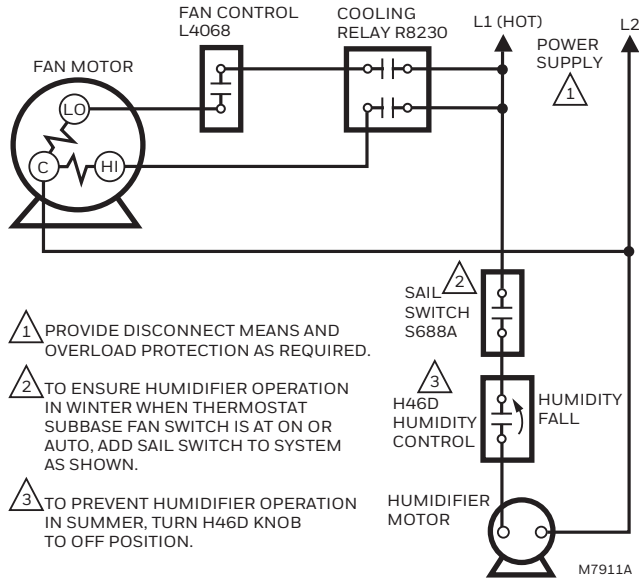


Fig. 7. Typical wiring diagram for H46D in forced air system with 2-speed fan motor.

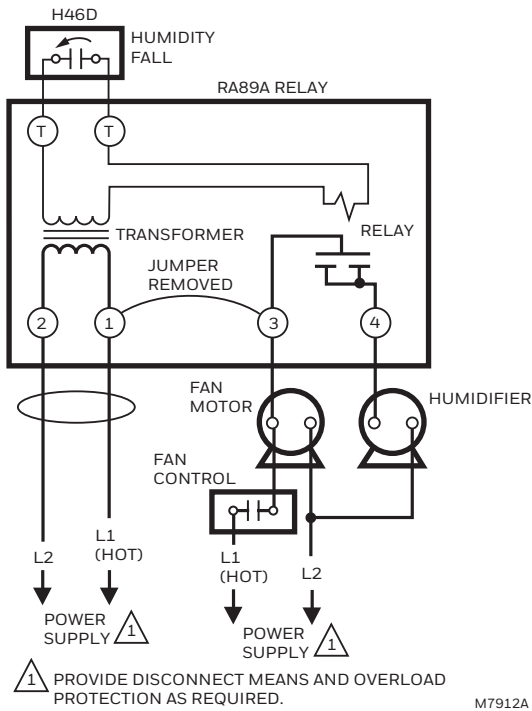


Fig. 8. Typical wiring diagram for H46D used with a switching relay.

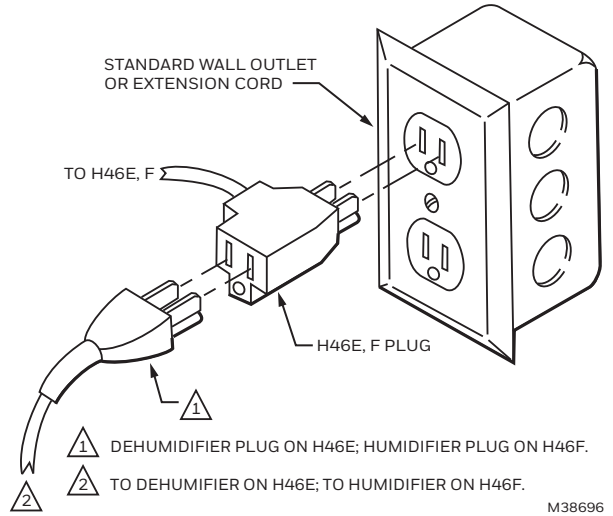


Fig. 9. H46E,F interrupter plug connections.

OPERATION AND CHECKOUT

H46C & E Dehumidify Controllers

The H46C and E switches make contact on a relative humidity rise to the set point to start the dehumidifier. A decrease in relative humidity to the set point minus the differential breaks the switch contact to stop the dehumidifier.

Turn the control knob clockwise to the setting stop to put the dehumidifier in the ON position. Set to the OFF position by turning the control knob counterclockwise to the stop.

H46D & F Humidity Controllers

The H46D and F switches make contact on a humidity fall to the set point minus the differential. In most humidifier systems, the furnace fan must be operating before the humidifier starts. An increase in humidity to the set point breaks the switch contacts.

Turn control knob clockwise to the stop for ON position. Set to the OFF position by turning the control knob counter-clockwise to the stop.

Checkout

Place the system in operation and observe through at least one complete cycle to make certain that all components are functioning properly.

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