



WHITE-RODGERS

8A18Z-2

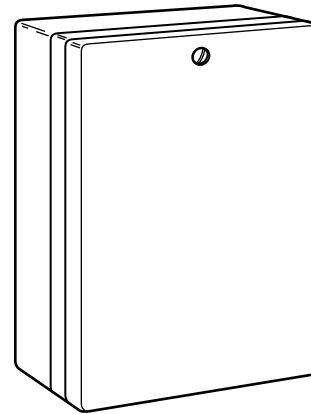
Evaporative Cooler Control
INSTALLATION INSTRUCTIONS

Operator: Save these instructions for future use!

**FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY
BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE
PERSONAL INJURY AND/OR PROPERTY DAMAGE.**

DESCRIPTION

This Evaporative Cooler Control has a rain-proof enclosure and can be used with either 120 VAC or 240 VAC systems. It was designed for use with the White-Rodgers 1F51-619 or 1F51W-619 Thermostat to provide automatic temperature and ventilation control and remote fan speed selection of an evaporative cooler with 2-speed fan. The pump relay is automatically operated to allow wetting of cooler pads before starting fan.



PRECAUTIONS

If in doubt about whether your wiring is millivolt, line, or low voltage, have it inspected by a qualified heating and air conditioning contractor, electrician, or someone familiar with basic electricity and wiring.

Do not exceed the specification ratings.

All wiring must conform to local and national electrical codes and ordinances.

This control is a precision instrument, and should be handled carefully. Rough handling or distorting components could cause the control to malfunction.

⚠ CAUTION

To prevent electrical shock and/or equipment damage, disconnect electric power to system, at main fuse or circuit breaker box, until installation is complete.

⚠ WARNING

Do not use on circuits exceeding specified voltage. Higher voltage will damage control and could cause shock or fire hazard.



WHITE-RODGERS DIVISION
EMERSON ELECTRIC CO.
9797 REAVIS ROAD
ST. LOUIS, MISSOURI 63123-5398

Printed in U.S.A.

PART NO. 37-5918B
Replaces 37-5918A
9909

SPECIFICATIONS

Electrical Ratings:

Input Voltage: 120 or 240 VAC, 60 Hz.

Operating Ambient Temperature Range:

40 to 150°F (5 to 65°C)

Power Consumption:

6 Watts nominal with all three relays energized

Fan Rating:

12 FLA., 72 LRA; 120 VAC

6 FLA., 36 LRA; 240 VAC

Pump Rating:

10 FLA., 60 LRA; 120 VAC

5 FLA., 30 LRA; 240 VAC

Combined Total Connected Load:

16 FLA., 120 VAC

8 FLA., 240 VAC

Mounting:

Four $\frac{3}{32}$ " Dia. holes

(2 $\frac{1}{2}$ " x 5" center line to center line)

Dimensions:

6" wide x 8" high x 3" deep

The 8A18Z-2 Evaporative Cooler Control consists of three relays and a low voltage transformer with dual voltage primary. The pump relay is automatically operated, which allows the cooler pads to become wet before the fan starts. This will eliminate the fan from blowing dust, warm air, and odor on initial start-up. The fan relay controls operation of the fan without the pump when the thermostat subbase is in the vent position, and controls operation of both fan and pump when the thermostat subbase is in the cool position.

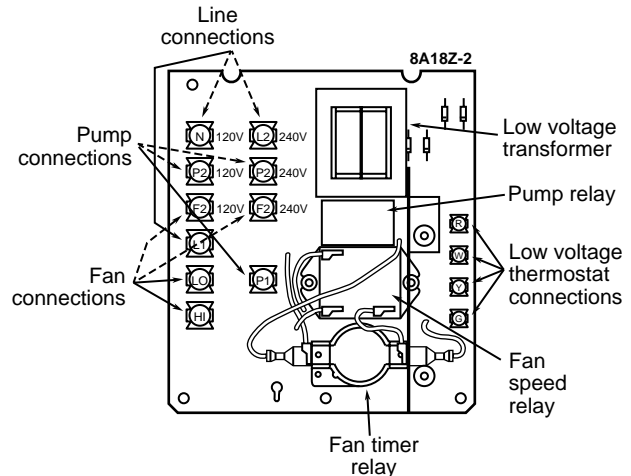


Figure 1. Panel assembly

INSTALLATION

1. Remove cover screw. To remove cover, pull cover outward at the top, then lift cover off the locating tabs at the bottom of the case.
2. Remove panel assembly from case and discard packing material.

NOTE

Place panel assembly in a safe location to prevent damage to the panel while installing the case.

3. Determine which knockouts will be used for electrical conduits, then remove electrical knockouts from case before mounting.

NOTE

If the larger knockout is to be removed, remove the smaller knockout **before** removing the larger one.

4. To remove the knockouts, place a screwdriver on the knockout at the location indicated by the arrow (see fig. 3). Tap the screwdriver to pop the knockout out of the case. If the knockout is not completely removed, carefully use pliers to twist the knockout until it comes out.

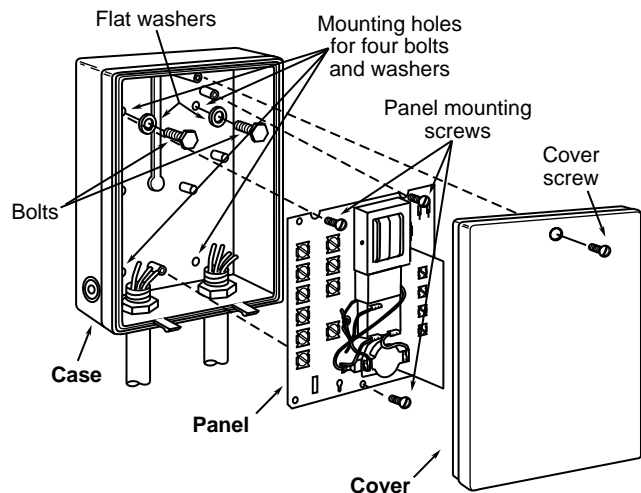


Figure 2. Installing control

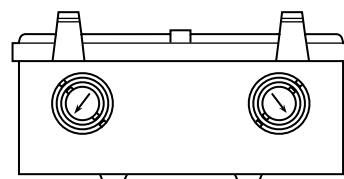


Figure 3. Electrical knockouts

- Select an appropriate location for mounting the control. Position the case on a smooth flat surface in a vertical position **only** (with electrical knockouts down). Mount the case using flat washers and screws (not provided) through the four mounting holes in the back of the case.

NOTE

Install conduit, then run wiring and install the thermostat according to thermostat installation instructions (included with thermostat) **before** installing panel assembly in case.

CAUTION

Non-metallic enclosure does not provide grounding between conduit connections. Use grounding bushings and jumper wires to ensure proper grounding of control.

- After wiring is run into case, bend the wires out slightly so that the wires will be in front of the panel assembly when it is installed.
- Loosen the three panel mounting screws in the case approximately one turn. Slide the two slots located at the top of the panel assembly under the two mounting screws at the top of the case. Lower the panel assembly into the case until the bottom mounting screw protrudes through the keyhole slot on the panel. Slide the panel assembly up toward the top of the case, then hold the panel assembly in place while tightening all three mounting screws.

CAUTION

Do not over tighten panel mounting screws to avoid damage to the panel assembly.

- Connect wires to proper terminals (see fig. 4 for typical wiring connections).

CAUTION

Do not press against panel assembly while tightening terminal screws to avoid damage to the panel assembly.

- Replace cover and test operation per the checkout section.

WIRING

CAUTION

To prevent electrical shock and/or equipment damage, disconnect electric power to system at main fuse or circuit breaker box until installation is complete.

All wiring should be done in accordance with local and national electrical codes and ordinances.

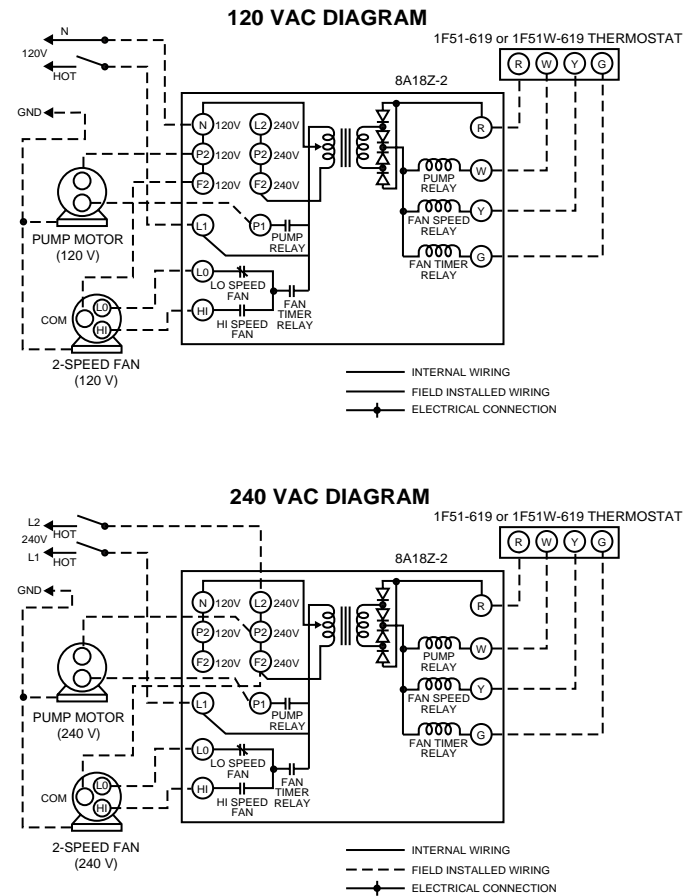


Figure 4. Typical wiring diagrams

CHECKOUT

- After mounting and wiring has been completed, set thermostat switch to "OFF" position and fan switch to "LO" position. Turn thermostat lever to "5" and thermostat switch to "COOL". Nothing should happen provided the room temperature is below 95°F.
- Turn thermostat lever to "1". The pump should start immediately, provided the room temperature is above 55°F.
- After a time delay of 30 to 120 seconds to allow the cooling pads to become soaked, the fan should start running at low speed.
- Turn fan switch to "HI" position. The fan should now be operating on high speed.
- Turn thermostat switch to "VENT" position. The pump should stop immediately.
- Turn the thermostat switch to "OFF" position. After a delay of 3 to 30 seconds, the fan should stop running.

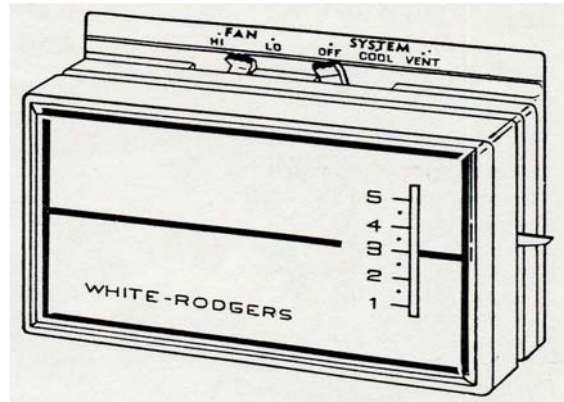


WHITE-RODGERS

**INSTALLATION INSTRUCTIONS
1F51-619
LOW VOLTAGE
EVAPORATIVE COOLER
THERMOSTAT**

READ ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL

The 1F51-619 low voltage thermostat is designed to operate with the White-Rodgers 8A18Z-1 Evaporative Cooler Control. For versatility, the thermostat sub-base has a System Switch that lets you select VENT, COOL, or OFF positions, while the Fan Switch offers the selection of LOW or HIGH fan speed.



SPECIFICATIONS

Electrical Rating: 30V.A.C. Max.
Switch Action: SPST-Sealed Mercury Contacts close on temperature rise.
Temperature Scale Range: 1 to 5 (Cooler to Warmer)
Differential: 1°F
Dimensions: 3¼" x 4½" x 1⅝"

SAFETY

Installation of this equipment should be done by an experienced service technician.

CAUTION: To prevent electrical shock and equipment damage, disconnect electrical power to system at main fuse or circuit breaker box, until installation is complete.

WARNING: • Do not exceed the specification ratings on this control. Check the manufacturer's information supplied with the associated product.

- Improper connections could cause shock or fire hazard.
- All wiring must conform to local and national electrical codes and ordinances.
- Rough handling, tampering or distorting components of control, could cause the control to malfunction.

SELECTING THERMOSTAT LOCATION

The proper location of the room thermostat is most important to insure that it will provide a comfortable home temperature. Observe the following general rules when selecting a location:

1. Locate it about 5 ft. above the floor.
2. Install it on a partitioning wall, not on an outside wall.
3. Never expose it to direct light from lamps, sun, fireplaces, or any temperature radiating equipment.
4. Avoid locations close to doors that lead outside, windows or adjoining outside walls.
5. Avoid locations close to air registers, or in the direct path of air from them.
6. Make sure there are no pipes or duct work in that part of the wall chosen for the thermostat location.
7. Never locate it in a room that is warmer or cooler than the rest of the home.
8. Avoid location with lack of air circulation, such as behind doors or alcoves.
9. The living or dining room is normally a good location provided there is no cooking range or refrigerator on opposite side of wall.



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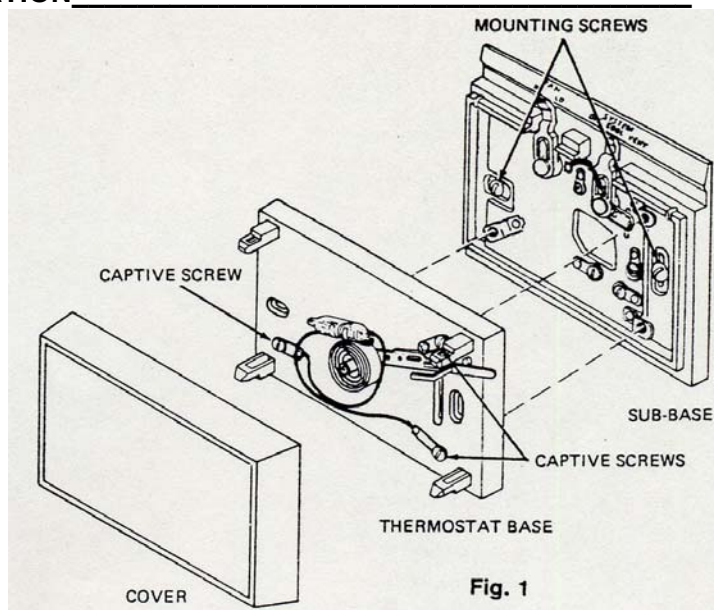
INSTALLATION

Attaching Sub-Base to Wall

1. Route wire from cooling equipment to thermostat location and pull wires through hole in wall so that 6 in. of cable protrudes.
2. Pull wires through opening near center of sub-base and connect wires beneath proper terminal screws as shown under "wiring".
3. Push excess wire into wall or switch box and plug up hole with non-combustible material to prevent drafts from affecting thermostat operation.
4. Fasten sub-base loosely to wall in position shown in Fig. 1 using two mounting screws provided. Level sub-base by placing spirit level on bottom of sub-base. Tighten mounting screws to secure sub-base in level position.

Mounting Thermostat to Sub-Base

1. Remove cover from thermostat by pulling it straight outward.
2. Attach thermostat base to sub-base, being sure that all screws are tightened snugly since they serve as electrical connections between thermostat and sub-base.
3. Snap on thermostat cover and set thermostat to desired setting. The thermostat scale range has numbers from 1

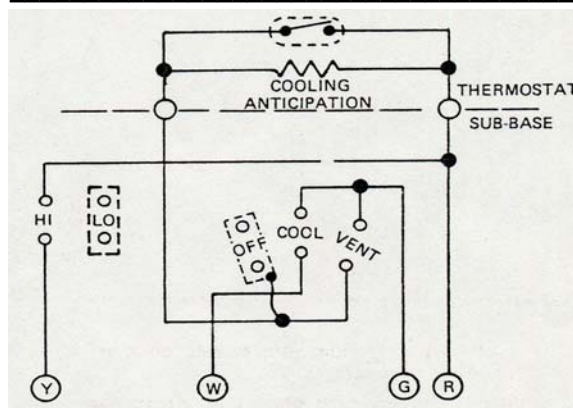


through 5. The number "1" represents the cooler controlling temperature, and number "5" represents the warmer controlling temperature.

WIRING

All wiring should be done according to local and national electrical codes and ordinances.

NOTE: See Instruction Sheet on 8A18Z-1 Evaporative Cooler Control for typical system hook-up.



OPERATIONS

The chart below illustrates system and thermostat function during various modes of operation.

SUBBASE SWITCH POSITIONS					SYSTEM FUNCTIONS			COMPONENT OPERATION
FAN		SYSTEM			FAN TIMER RELAY	FAN SPEED RELAY	PUMP RELAY	
HI	LO	OFF	COOL	VENT				
○	●	●						NO FAN-NO PUMP-NO COOL
	●		●		●		●	COOLING MODE-Pump relay and fan timer relay energized by thermostat. Water begins circulating on cooler pads, fan will start on low speed after a short time-delay.*
●			●		●	●	●	COOLING MODE-Pump relay and fan timer relay energized by thermostat. Fan speed relay is energized by fan switch in "HI" position. Water begins circulating on cooler pads, fan will start on high speed after a short time-delay.*
●				●	●	●		VENT MODE-Fan timer relay energized by thermostat. Fan speed relay is energized by fan switch in "HI" position. Fan will start on high speed after a short time-delay.
	●			●	●			VENT MODE-Fan timer relay energized by thermostat. Fan will start on low speed after a short time-delay.*

● Indicates switch position on thermostat sub-base and system function in operation.

○ If left in "HI" position-no Fan, but fan speed relay will remain energized.

* Fan timer relay energized in approximately one minute. When system shuts off, it opens in approximately ½ minute.

If you need further information about this product, please write to

White-Rodgers Division, Emerson Electric Co.
9797 Reavis Road
St. Louis, MO 63123-5398
Attention: Technical Service Department

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