



WHITE-RODGERS

F145-1328

Indoor Remote Sensor

INSTALLATION INSTRUCTIONS

Operator: Save these instructions for future use!

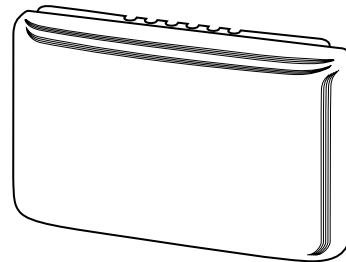
FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

DESCRIPTION

APPLICATIONS:

OPTIONAL Remote Sensor Accessory:

- | | | |
|------------|------------|------------|
| 1F90(W)-71 | 1F90-371 | 1F91-59 |
| 1F91(W)-71 | 1F92(W)-71 | 1F93-380 |
| 1F94(W)-71 | 1F94(W)-80 | 1F95(W)-71 |
| 1F95(W)-80 | 1F96-344 | 1F97(W)-71 |
| 1F97-371 | | |



This remote sensor can be used with Digital Thermostats listed above.

The remote sensor **cannot** be used with systems where power interruptions are part of normal system operation.

PRECAUTIONS

NOTE

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

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.

Do not short out terminals on gas valve or primary control to test. Short or incorrect wiring will damage thermostat and could cause personal injury and/or property damage.

SPECIFICATIONS

The F145-1328 remote sensor is approved for indoor use only.

Temperature range: 40° to 99° F.

Operating humidity range: 0 to 90% RH (non-condensing).

20 gauge, three-conductor shielded cable must be used for all remote sensor wiring.

INSTALLATION

SELECT SENSOR LOCATION

Proper location insures that the remote sensor will provide a comfortable home or building temperature. Observe the following general rules when selecting a location:

1. The remote sensor can be located a **maximum** of 200 feet from the thermostat.

2. Locate sensor about 5 ft. above the room floor level.
3. Install sensor on a partitioning wall, not on an outside wall.
4. Never expose sensor to direct light from lamps, sun, fireplaces or any temperature radiating equipment.

(Installation instructions continue on page 2.)



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

Printed in U.S.A.

PART NO. 37-6091A

0037

INSTALLATION (cont'd)

5. Avoid locations close to windows, adjoining outside walls, or doors that lead outside.
6. Avoid locations close to air registers or in the direct path of air from them.
7. Make sure there are no pipes or duct work in that part of the wall chosen for the sensor location.
8. Never locate sensor in a room that is normally warmer or cooler than the rest of the home (such as the kitchen) or building.
9. Avoid locations with poor air circulation, such as behind doors or in alcoves.
10. In the home, the living or dining room is normally a good location, provided there is no cooking range or refrigerator on opposite side of wall.

See figs. 1, 2, and 3 for correct wiring between thermostat and remote sensor(s).

⚠ CAUTION

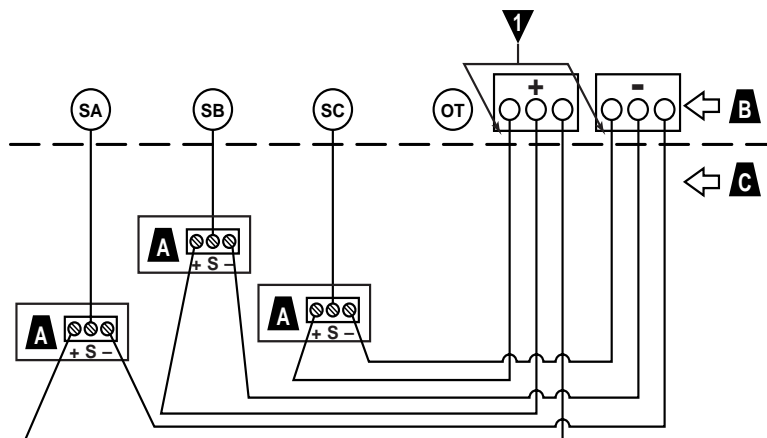
Do not allow the 3-conductor wire to be pinched between the sensor and the wall.

Check wire connections before applying power. Improper connections will lead to permanent damage to the sensor.

20 Gauge Shielded cable must be used. Cable shield must be connected to "-" or S3 on the THERMOSTAT ONLY (see figs. 2 and 3).

WIRING REMOTE SENSOR

Installation of the remote sensor requires 20 gauge, three-conductor thermostat wire. The thermostat and remote sensor must be wired so that terminals "+", "S", and "-" on the sensor match up correctly with "+", "S", and "-" or "S1", "S2", and "S3" on the thermostat.



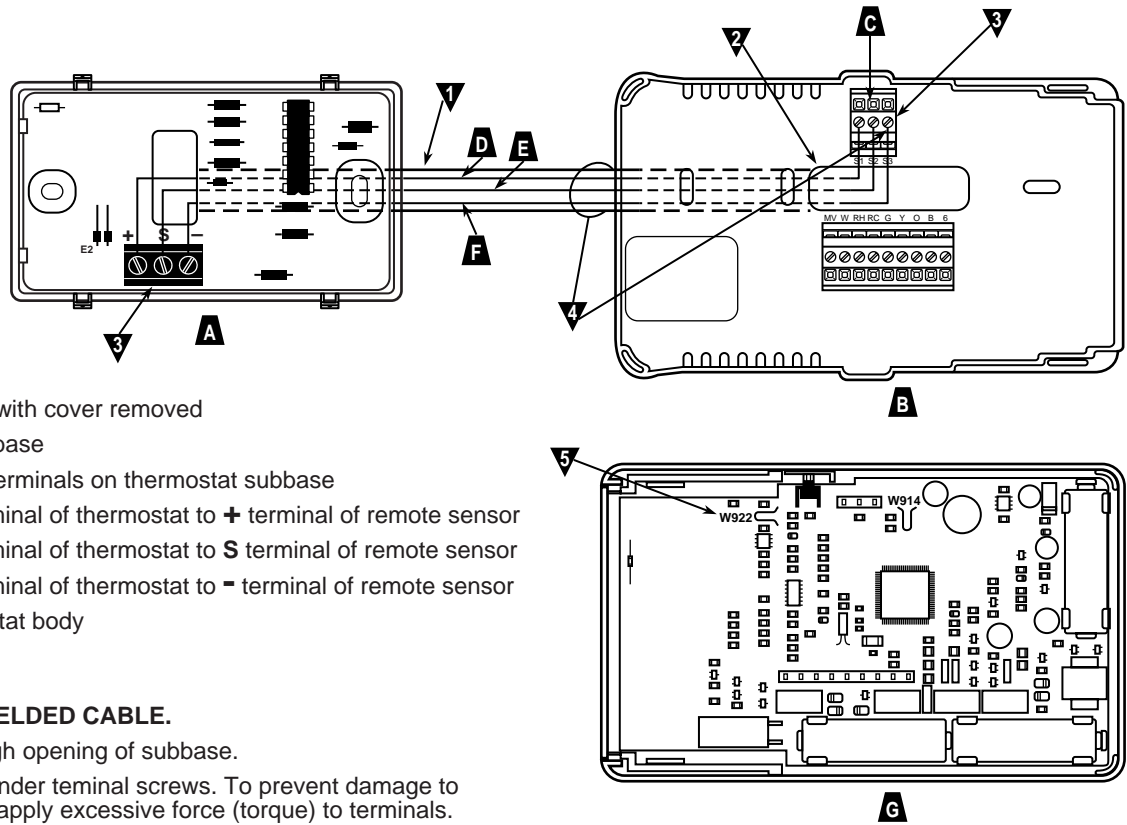
LEGEND

- A** Remote (indoor) temperature sensor(s) (F145-1328)
- B** Thermostat terminals
- C** Heat/cool system & accessories

NOTES

- 1** Systems with four remote sensors will require "doubling up" + and - connections at two screw terminals

Figure 1. Typical wiring diagram for remote sensors used with the 1F93-380



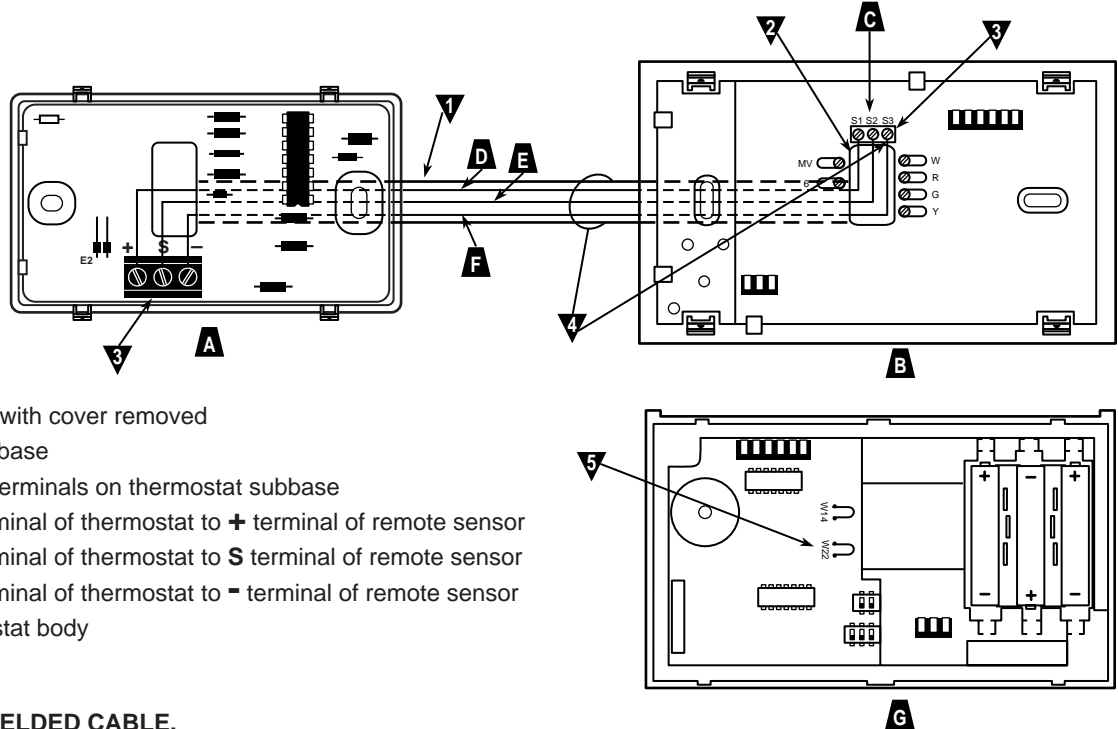
LEGEND

- A** Remote sensor with cover removed
- B** Thermostat subbase
- C** Remote sense terminals on thermostat subbase
- D** Connect **S1** terminal of thermostat to **+** terminal of remote sensor
- E** Connect **S2** terminal of thermostat to **S** terminal of remote sensor
- F** Connect **S3** terminal of thermostat to **-** terminal of remote sensor
- G** Back of thermostat body

NOTES

- 1** USE ONLY SHIELDED CABLE.
- 2** Pull wires through opening of subbase.
- 3** Connect wires under terminal screws. To prevent damage to controls, do not apply excessive force (torque) to terminals.
- 4** Connect shield to S3 of thermostat only!
- 5** You must clip and separate jumper wire **W922** for accurate remote sensor operation!

Figure 2. Remote sensor wiring diagram for 1F90-371, 1F97-371 and 1F96-344



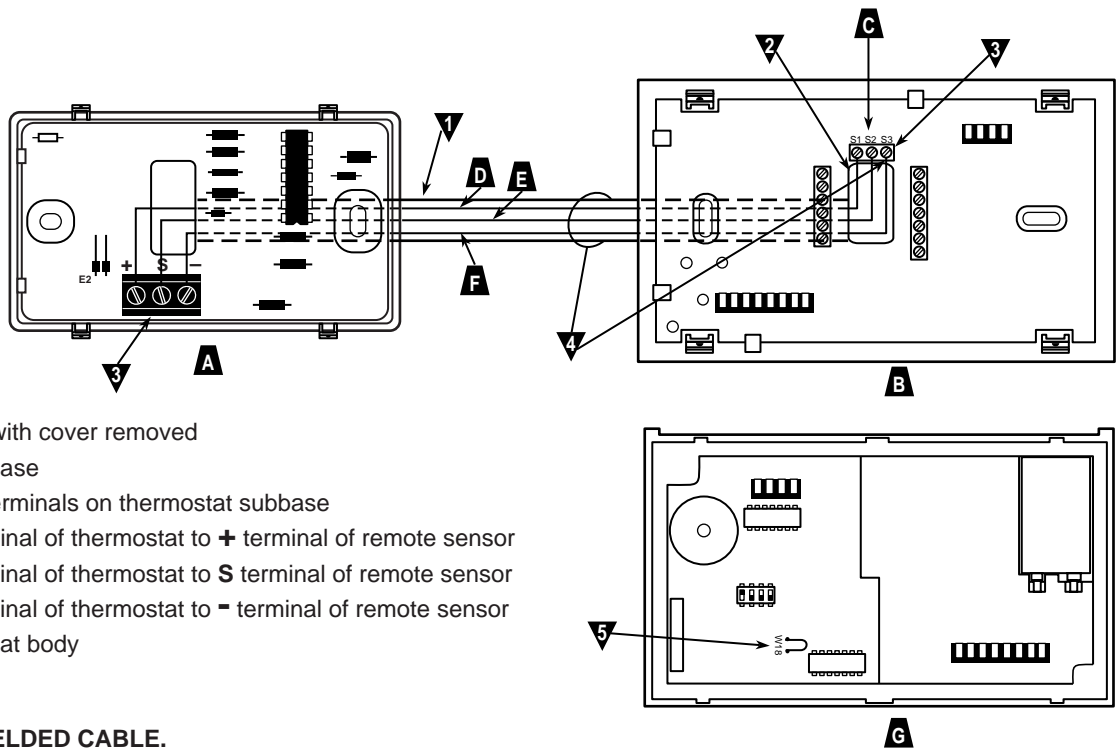
LEGEND

- A** Remote sensor with cover removed
- B** Thermostat subbase
- C** Remote sense terminals on thermostat subbase
- D** Connect **S1** terminal of thermostat to **+** terminal of remote sensor
- E** Connect **S2** terminal of thermostat to **S** terminal of remote sensor
- F** Connect **S3** terminal of thermostat to **-** terminal of remote sensor
- G** Back of thermostat body

NOTES

- 1** USE ONLY SHIELDED CABLE.
- 2** Pull wires through opening of subbase.
- 3** Connect wires under terminal screws. To prevent damage to controls, do not apply excessive force (torque) to terminals.
- 4** Connect shield to S3 of thermostat only!
- 5** You must clip and separate jumper wire **W22** for accurate remote sensor operation!

Figure 3. Remote sensor wiring diagram for 1F90-71 and 1F97-71



LEGEND

- A** Remote sensor with cover removed
- B** Thermostat subbase
- C** Remote sense terminals on thermostat subbase
- D** Connect **S1** terminal of thermostat to **+** terminal of remote sensor
- E** Connect **S2** terminal of thermostat to **S** terminal of remote sensor
- F** Connect **S3** terminal of thermostat to **-** terminal of remote sensor
- G** Back of thermostat body

NOTES

- 1** USE ONLY SHIELDED CABLE.
- 2** Pull wires through opening of subbase.
- 3** Connect wires under terminal screws. To prevent damage to controls, do not apply excessive force (torque) to terminals.
- 4** Connect shield to S3 of thermostat only!
- 5** You must clip and separate jumper wire W18 for accurate remote sensor operation!

Figure 4. Remote sensor wiring diagram for 1F91-59; 1F91(W)-71; 1F92(W)-71; 1F94(W)-71; 1F94(W)-80; 1F95(W)-71; and 1F95(W)-80

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