Installation Instructions

NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

Recognize safety information. This is the safety-alert symbol ⚠ . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage.

INSTALLATION

The smart sensor provides the ability to view and adjust the setpoints in the zone where the sensor is located.

The smart sensor replaces a remote room sensor and requires a single 5-wire shielded cable instead of a 2-wire conductor.

A smart sensor power pack is required. Smart Sensor Rev 1.1 will only work with Comfort Zone Rev 1.4 or greater.

Step 1—Thermostat Cover Removal

1. Unpackage smart sensor and locate cover removal tool and system switch cover. (See Fig. 1.)

2. While holding the removal tool with the ridged side pointing toward you, locate the thin groove between the thermostat case and the thermostat housing. Insert the fork of the removal tool into the center of the bottom of the thermostat case. Gently push the removal tool up and lift off the thermostat cover. (See Fig. 2.)

NOTE: If desired, the locking clip may be replaced with the enclosed non-locking red clip. Keep the removal tool for future use.

3. While thermostat cover is removed, insert system switch cover into notched slot on right hand side of thermostat cover.
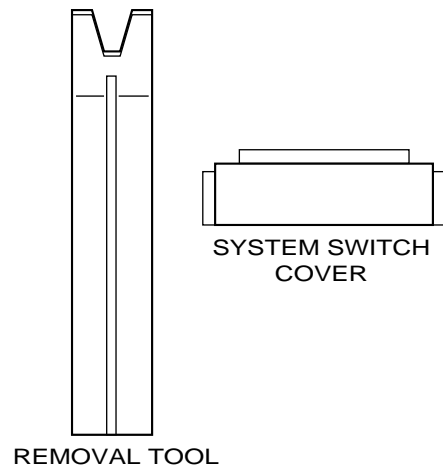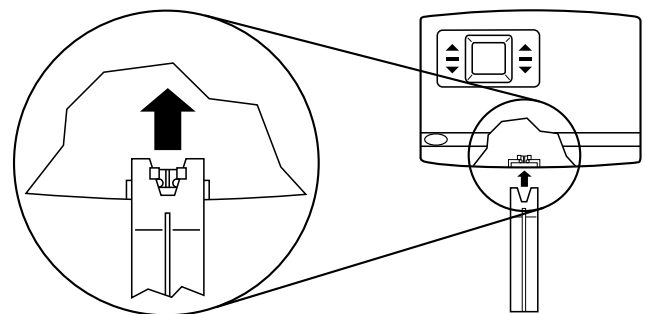

Fig. 1—Removal Tool and Switch Cover

Fig. 2—Removing Thermostat Cover

Step 2—Connecting Ribbon Cable to Connector Block

1. Remove circuit board from back plate by pressing locking tab located at the bottom of the back plate and pulling circuit board forward.

2. Remove connector block located in back plate by pushing tab on back plate to the right and sliding connector block forward.

3. Align ribbon cable from smart sensor with ribbon connector on connector block and push gently. (See Fig. 3.)

Step 3—Mounting Smart Sensor

1. Mount the back plate provided with the smart sensor by cutting a 1-1/4 in. by 1-3/4 in. hole in the wall.

2. Pull 5-wire cable from smart sensor power pack through hole in back plate housing of smart sensor, and then insert housing into the wall. (See Fig. 4.)

3. Level back plate and screw to wall using screws provided.

Step 4—Installing Smart Sensor Circuit Board

1. Strip wires from Smart Sensor Power Pack and insert into appropriate terminal connections on smart sensor connector block. (See Fig. 5.)
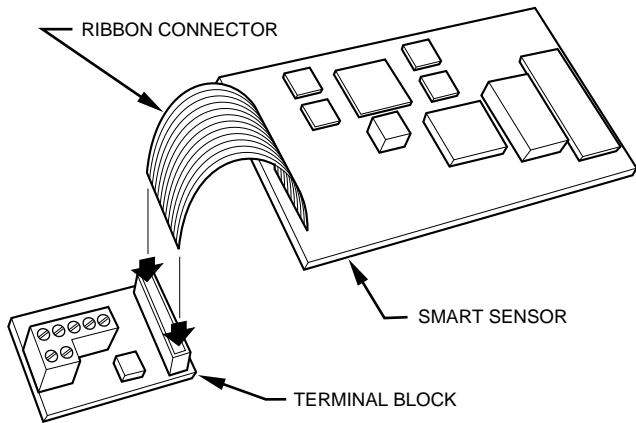
Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Book	1	1	4	4	PC 101	Catalog No. 809-562	Printed in U.S.A.	Form 920415-4SI	Pg 1	9-94	Replaces: 809-501
Tab		3a	5a	2a	5a						

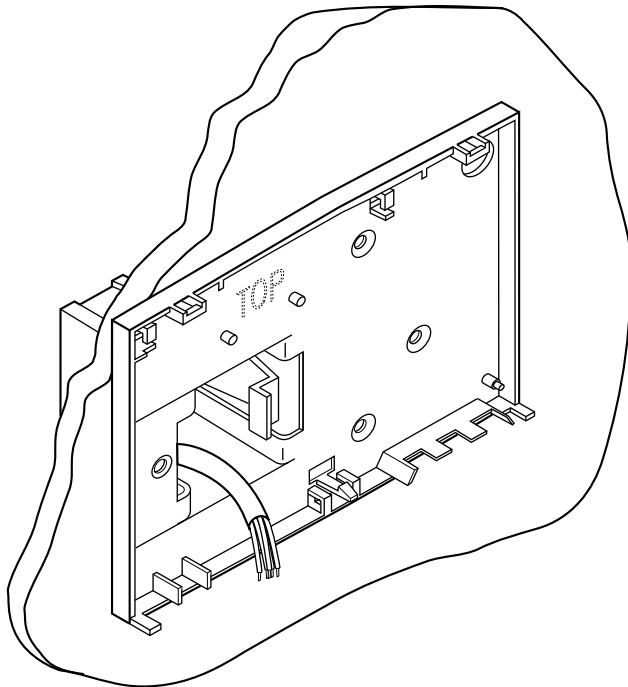**Fig. 3—Aligning RIbbon Cable**   A94315

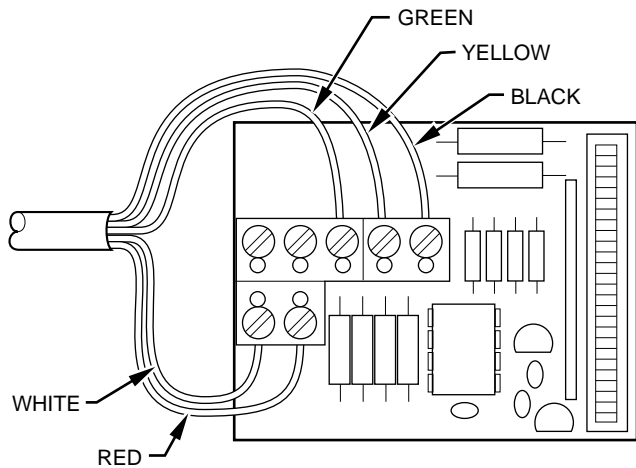**Fig. 4—Mounting Back Plate**   A94316

Fig. 5—Smart Sensor Wiring   A94317

2. Push wires back into wall. Align connector block on the right-hand track in back plate housing, push tab to the right and slide connector block back to its original location.

3. Align smart sensor circuit board in back plate housing and snap securely in place.

4. Reinstall thermostat cover pressing firmly until it locks into place.

5. Install Smart Sensor Power Pack into the Comfort Zone Center. Attach wires according to Fig. 6.

NOTE: Four Zone Controller is always zone 1.

Table 1—Rotary Switch Options

POSITION	DESCRIPTION
1	Set Device Address
	ie. Zone 2 = Address 3
	ie. Zone 3 = Address 2
	ie. Zone 4 = Address 1
2	Calibrate Zone Temp Sensor
3 through D	Not Used
E	Toggle For Alternate Display On/Off
F	Toggle For Baud Rate On = 2400 Off = 4800

Note: Rotary switch must be always be left in the ″0″ zero position after viewing options. Failure to reset rotary switch to 0 will interupt communication between Smart Sensor and Four Zone Controller.

Table 2—Smart Sensor Error Codes

ERROR CODE	FAILURE	ROTARY SWITCH	DEFAULT
SF 01	Device Address	1	64
SF 02	Packed Setpoints*	n/a	74, 74
SF 03	Zone Temp Cal Word	2	1024
SF 04	Baud Rate	F	on
SF 05	Alternate Display	E	off
SF 06	Display Status	n/a	08
SF 07	Packed Set Back Spts	n/a	85, 60
SF 08	Packed Spts Base Temps	n/a	70, 66
HF 20	Zone Temp Sensor	n/a	Bad board sensor System should run
HF 21	Controller Comm Fault	n/a	Possible wiring problem or bad board
HF 22	GPI UART Trans Fault	n/a	Fatal error—system stopped
HF 23	Non Volatile RAM Fault	n/a	Fatal error—system stopped

* Packed setpoints temperatures will depend upon the setpoint base temperatures
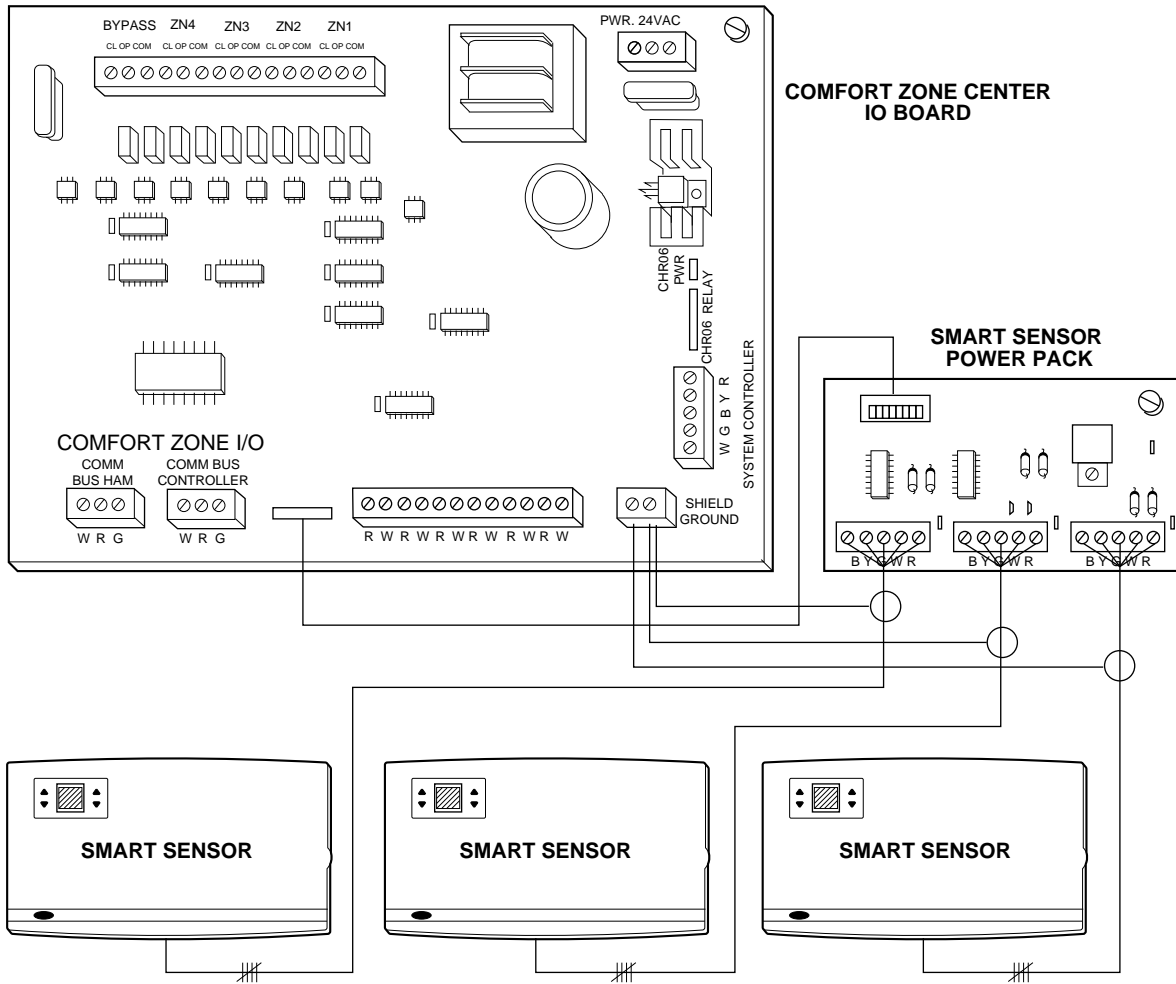SF = Software Failure
HF = Hardware Failure

2

BYPASS ZN4 ZN3 ZN2 ZN1

CL OP COM CL OP COM CL OP COM CL OP COM CL OP COM

PWR. 24VAC

**COMFORT ZONE CENTER
IO BOARD**

**SMART SENSOR
POWER PACK**

CHR06
PWR

CHR06 RELAY

W G B Y R

SYSTEM CONTROLLER

COMFORT ZONE I/O

COMM
BUS HAM

COMM BUS
CONTROLLER

W R G   W R G

R W R W R W W R W R W

SHIELD
GROUND

B Y W R   B Y W R   B Y W R

SMART SENSOR   SMART SENSOR   SMART SENSOR

Fig. 6—Wiring Smart Sensor To Comfort Zone

A94317

3