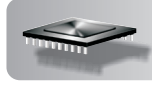




**WARNING** **Installer/servicer** — Except where specifically stated otherwise, this manual must be used only by a *qualified service technician*. Read and follow all instructions in this manual and in the appliance manual. Failure to comply with this or other requirements in this manual could result in severe personal injury, death or substantial property damage.

**WARNING** This symbol calls out a hazard that could cause severe personal injury, death or substantial property damage if the instructions given are not followed.

**NOTICE** **Wiring:** Refer to EZ-Temp data sheet for wiring information.



## Instruction Manual

**WARNING** **Verify ratings:** Verify the ratings of the control meet the requirements of the appliance as specified in the appliance instructions. Refer to the EZ-Temp control data sheet for required electrical supply and load ratings. Verify that the controls, wiring and installation comply with all applicable codes.

**Electrical shock hazard:** Disconnect power to appliance when wiring or servicing any electrical component.

**Scald hazard:** Water hotter than 130°F can cause serious burns or death. Follow water heating appliance manufacturer's guidelines when installing temperature limit controls - DO NOT install a control that can be set at a higher temperature than specified. Also verify that the installation includes all water temperature regulating means needed to ensure the safety of building occupants, in compliance with all applicable codes.

**Verify operation:** Test the controls/appliance to verify the appliance operates as specified in the appliance manual before leaving the installation.

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## Install sensor(s)

### To install a new immersion well:

1. Turn off power to the appliance and close isolation valves.
2. Follow appliance instructions to drain the appliance so water line is below the insertion tapping.
3. Remove existing well and sensor. Apply a small amount of pipe dope to the new well and secure in tapping.
4. Insert EZ-Temp sensor into well and secure sensor in place as described in the following.
5. Refill appliance with water, following appliance manual procedures.

**WARNING**

When routing sensor wires, avoid sharp edges and use strain relief bushings at penetrations to prevent movement or electrical shorting of the sensor. Sensor wires are not low voltage, and must be routed in conduit.

### Configuration A: Sensor and well only

1. Insert the sensor into well (1) until the sensor (2) tip bottoms in the well socket.
2. EZ-Temp well: Slide the rubber retainer (3) over the sensor wires until it firmly contacts the sensor casing. Slide the retainer washer (4) and the jam nut (5) over the wires. Thread the jam nut into the well until snug.
3. Existing well: Engage the retainer spring (6) over the trailing end of the rubber retainer (3). Then slide the spring into the well to seat the sensor.

### Configuration B: Sensor, EZ-Temp with Carlin well

1. Insert the sensor into well (1) until the sensor (2) tip bottoms in the well socket.
2. Slide the rubber retainer (3) over the sensor wires until it firmly contacts the sensor casing. Slide the retainer washer (4) over the wires.
3. Slide the lock washer (8), wiring base (7), and jam nut (5) over the wires.
4. Thread the jam nut into the well and tighten to secure the wiring base and sensor in place.

### Configuration C: Sensor, EZ-Temp and non-Carlin well

1. Install well clamp assembly (10) into wiring base.
2. Assemble wiring base to well and tighten clamp screw.
3. Insert the sensor into well (9) until the sensor (2) tip bottoms in the well socket.
4. Slide the rubber retainer (3) over the sensor wires until it is near the well (9).
5. Existing well: Engage the retainer spring (6) over the trailing end of the rubber retainer (3). Then slide the spring into the well to seat the sensor. The retainer spring will lock in the well.

## Wire the control

1. Control wiring must be routed through conduit or electrical enclosures. Follow all applicable codes and the appliance manual.
2. Insert sensor wires into the connector(s) on the face of the circuit board.
3. Follow the burner and appliance wiring diagrams to connect the control(s) into the appliance limit circuit.
4. For specific applications, contact your Carlin supplier for further information.

## Set the control

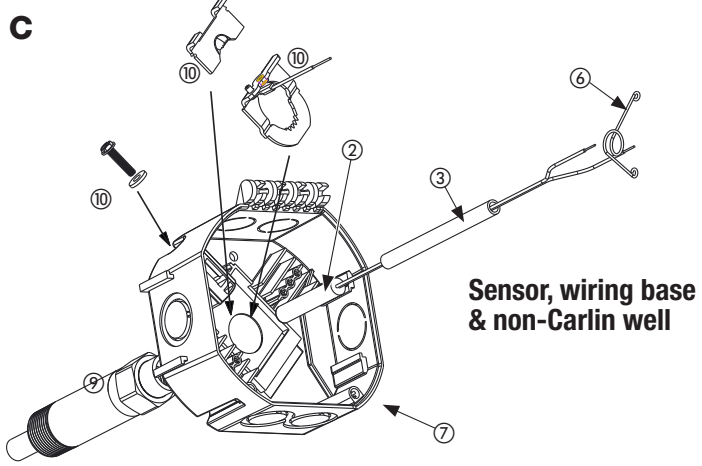
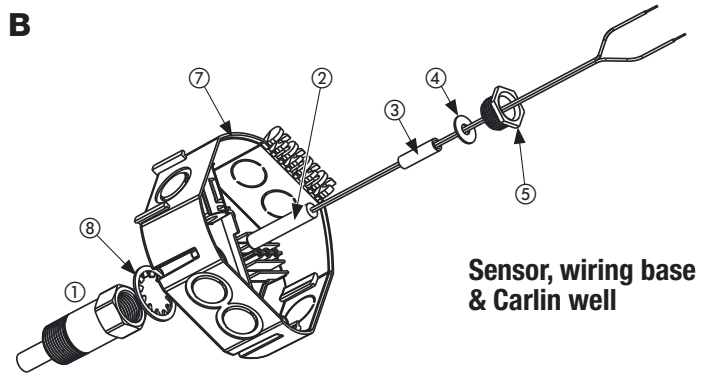
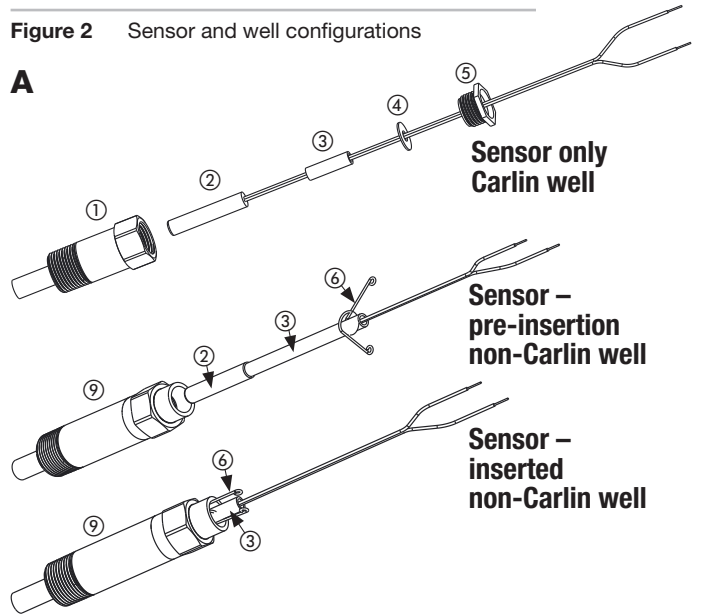
1. Follow the appliance manual to set the correct limit temperature for the appliance. To adjust the EZ-Temp control:  
Setting – (How to enter = Hold up and down buttons for 3 seconds while in NORMAL OPERATION)
  - In SETTING MODE, the user is able to adjust the operating limit (via setting the set temperature). Once in this mode, the display will begin flashing the current set temperature. The display will increase one degree per UP or DOWN button push or 10 degrees per second the button is held.
2. Test the operation of the appliance and the new limit control(s) to verify correct operation.
3. NOTE: EZ-Temp controls have a subtractive differential – control contacts trigger when the temperature setting is reached. Contacts reset after temperature drops below setpoint minus the differential amount.

## Configurations

Carlin EZ-Temp components are available in the following configurations, allowing use with existing wells in addition to EZ-Temp wells. Surface-mount sensors are also available.

- Control Kits – Control kits include the control only.
- Well Kits – Well kits include a well (item 1), rubber sensor retainer (item 3), retainer washer (item 4), jam nut (item 5), and lock washer (item 8).
- Sensor Kits – Sensor kits include only the sensor (item 2). Sensors are available in single and dual configurations (two sensors in the same assembly). For controls that use multiple sensors, obtain separate sensor kits or a sensor kit with a dual sensor.

Figure 2 Sensor and well configurations



- |                          |                          |
|--------------------------|--------------------------|
| ① Carlin well            | ⑥ Sensor retainer spring |
| ② EZ-Temp sensor         | ⑦ EZ-Temp wiring base    |
| ③ Rubber sensor retainer | ⑧ Lock washer            |
| ④ Retainer washer        | ⑨ Non-Carlin well        |
| ⑤ Jam nut                | ⑩ Clamp Assembly         |