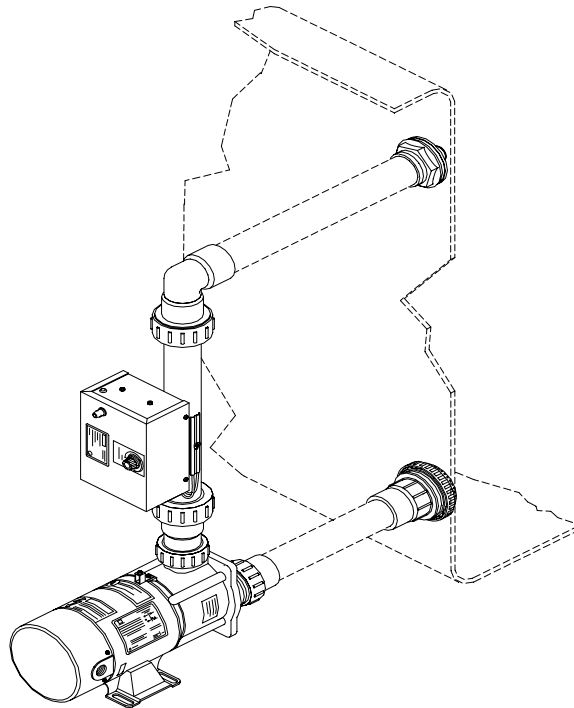


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Installation, Operation & Service Procedures



Baptistry Heater Model AT-55

General Description

The AT-55 is a fully-integrated heating and circulating system designed specifically for use with baptistries. The system may be used with or without a filter and/or a skimmer. The total electric system requires two (2) separate branch circuits for proper operation: a 120V-15 AMP breaker for the pump and a 220V-30 AMP breaker for the heater. The pump may be operated independently of the heater to allow filtration without heat. Use of a wall switch or electric timer is recommended to control operation of the pump.

Limited Warranty Summary

We warrant your heater to be free from defects in materials and workmanship, and we will, within one year from date of installation, for the original purchaser, repair, or, at our option, replace any defective part. If your heater is damaged or destroyed by improper maintenance, excessive water harshness, incorrect water chemistry, or freezing, it will not be covered under the manufacturer's warranty. Costs associated with removal or reinstallation of parts, returning parts to factory, or other incidental costs shall not be covered under this warranty. Liability shall be limited to original purchase price of heating system; Fiberglass Specialties shall not be liable for any consequential damages resulting from the use of this product.

Important Safety Instructions

1. Read and follow all instructions.

2. To reduce the risk of injury, do not permit children to use this unit.

3. Install at least 5' from inside wall of pool using nonmetallic connections.

4. "WARNING" - For indoor use only. This unit is not intended for outdoor use.

5. Do not permit any electric appliance, such as a light, telephone, radio, television, or MICROPHONE within 5 ft of the pool.

6. A clearly labeled emergency switch shall be provided as part of the installation. The switch shall be readily accessible to the occupants and shall be installed at least 5 feet away, adjacent to, and within site, of the unit.

7. Use this unit only for its intended use as described in this manual. Do not use attachments not recommended by the manufacturer.

8. Never drop or insert any object into any opening.

9. Do not operate the heater unit without the guard over the suction fitting.

10. The heater must be connected only to a supply circuit that is protected by a ground fault circuit interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, there is a ground current flowing, indicating the possibility of an electric shock. Do not use this unit. Disconnect the unit and have the problem corrected by a qualified service representative before using.

11. A green colored terminal (or wire connector marked "G", "GR", "Ground", or "Grounding") is provided within the terminal compartment. To reduce the risk of electric shock, connect this terminal or connector to the grounding terminal of your electric service or supply panel with a continuous green insulated copper wire equivalent in size to the circuit conductors supplying this equipment, but not smaller than No. 12 AWG (3.3 mm²).

12. A pressure wire connector is provided on the pump motor to permit connection of a No. 8 AWG (8.4 mm²) solid copper bonding conductor between this unit and all other electrical equipment and exposed metal in the vicinity, as needed to comply with local requirements.

13. Save these instructions.

Step One - Assembly

Note:

These heaters are designed for use with water only, as furnished by municipal water distributions systems. The warranty does not cover their use with mineral water, sea, salt or other non-potable water. Minimum piping to be used is 1 ½" I. D. (interior dimension). Schedule 40PVC pipe must be used on both inlet and outlet connections.

Heater must be installed vertically

1. Locate the AT-55 system in an **accessible** area adjacent to the baptistry tank. The area should be at the **same** elevation as the tank itself, or as near as possible. Installation must be such that no person can touch water and any source of **electrical** power sources. Electrical power sources are considered accessible when they can be touched by a person having a reach of 6 feet (1.83 meters) from inside the tank. This is necessary only if the tank and assembly are not divided by a solid wall or partition which would make contact impossible. The system must be located in an **indoor** location, with a minimum clearance of six (6) inches to all combustible construction. For best efficiency, the heater should be **located within five feet of the baptistry**. Maintain adequate access clearance for servicing heater. The heater assembly must not be installed on a combustible surface. Locate your heater in such a way that, should the tank or any of its connections leak, the water will not damage anything. Under no circumstances will we, the manufacturer, be held liable for water damage in connection with your heater.
2. Position the heater/pump assembly in its approximate location. The **center** line of the suction fitting should be 3" or 4" above the tank floor. Mark location of suction fitting and, using a 2 ½" hole saw, drill fiberglass and install the fitting. The inlet fitting should be installed directly **above** the suction fitting. (*In non-typical installations, insure inlet is a minimum of 3" below the water level to prevent turbulence.*) Mark the location of the inlet fitting and, using a 1 ¾" or 2" hole saw, drill fiberglass and install fitting.
3. Skimmer and Filter assemblies are an option for the AT-55 system. If your system came with these options they should be installed at this time, following directions supplied with each. Be sure to locate skimmer close enough to the pump suction line so that it may be connected to the skimmer tee.
4. With the heater/pump assembly positioned in its approximate desired final location, **in line and level** with the suction fitting, determine the exact pump mounting position by preassembling the plumbing as shown in **Figure 1**. *Be sure to align the fittings and support the pump in such a way that the plumbing is not put in tension with the baptistry wall. Allowing such tension can cause unnecessary noise and leaks due to vibration.*
5. After all parts have been pre-assembled and aligned with holes, dis-assemble the unit and glue the required joints as marked in Figure 1.
6. When glued parts are dry, re-assemble, making sure **all "o"rings and gaskets are in place** on all union type connections. *Union connections should only be hand tight! Overtightening these connections can cause them to crack and leak.*

Step Two - Wiring

Note:

Due to risk of electric shock, a licensed electrician experienced in spa/baptismal pool heaters should install this unit in strict compliance with the National Electric Code and any state or local code which may apply. For units intended for use with other than single family dwellings, a clearly labeled emergency switch shall be provided as part of the installation. The switch shall be readily accessible to the occupants and shall be installed at least 5 feet (1.52m) away, adjacent to, and within sight of the unit.

The AT-55 has been completely factory wired for proper operation and requires only field connection to the branch circuits. Field wiring, power supply conductors and branch circuit protectors must be installed by a qualified electrician in accordance with Article 680 of the National Electrical Code ANSI/NFPA No. 70-1981 and in accordance with local codes and/or electric utility requirements.

Operation of the heating element is controlled primarily by the thermostat; however, a built in pressure switch overrides the circuit so that the element will not activate until the pump is in operation and water has filled the heater jacket. The pump is wired on a separate circuit and will run continuously as long as power is supplied to it. For this reason, the pump should be controlled by a manual wall switch or automatic timer. The pump requires 115 volts and will draw a maximum of 8.8 amps. Use a 15 amp GFCI breaker and #14 AWG wire, minimum.

1 Connect power to heater: See Figure 2 and Figure 5. Note that your heater may be supplied with pre-installed color-coded leads to simplify installation. Loosen the set screw on the thermostat knob and remove the knob. Remove the six screws that hold the cover on the electrical box, and lift off the cover. Connect Line 1 and Line 2 to the open terminals on top of the contactor (or to the pre-installed color-coded leads). Connect the ground wire to the grounding lug located at the end of the control box opposite the knockout hole (or to the appropriate pre-installed lead). The 5500 watt element will draw 23 Amps at 240 volts and will require a 30 Amp, GFCI breaker and a minimum #10 AWG wire. **Heater must be installed vertically**

2 Connect power to pump: Remove the back cover of the pump motor and connect power as shown in Figure 3.

3. Check for Proper Operation

If the unit is properly set up, the red indicator light will glow if (a) the pump is running and baptistry contains water, and (b) the thermostat call for heat. If the light does not come on, TURN OFF POWER, remove cover, and turn the PRESSURE SWITCH ADJUSTMENT WHEEL (figure 2) COUNTER CLOCK-WISE ONE FULL TURN. Continue this process until the unit operates properly. The red indicator light indicates the heater element is energized, and it should NOT BE ON IF THE PUMP IS NOT RUNNING. If it does come on without the pump running, TURN OFF POWER, remove cover, and turn the pressure switch adjustment wheel (figure 2) CLOCK_WISE one full turn and try again. Continue this adjustment until the unit operates properly.

Operation

1. Fill the baptistry to the proper level.
2. Turn power on to the pump by wall switch or timer (not included). Make sure water is circulating.
3. Turn power on to heater and set thermostat to the desired temperature setting. The red indicator light will be on any time the heater is activated.

4. The temperature may be adjusted by turning the knob up or down until the water temperature is at the desired level. Adjustments should be made in small increments and sufficient time should be allowed for the body of water to adjust to each change. The water temperature should be measured by use of a thermometer in the tank itself. Once a comfortable setting has been obtained, the thermostat will cycle on and off to maintain the water temperature in the tank.

Note:

The system will not operate properly until power is applied to both circuits. The heater will not operate until the pump is started. The heater has a built in adjustable pressure switch to prevent dry firing of the element. The pump must apply adequate water pressure to the switch before it will activate the heater. Do not allow the pump to operate for long periods of time without water in the system. Resulting damage from dry operation is not covered by the warranty.

Filtration Only Mode:

If you have the optional Filter/Skimmer Kit, you may desire to filter the water without heating it. The AT-55 is designed to allow the pump to run independent of the heater. Simply turn on the power supply to the pump and turn off power supply to the heater (or turn the thermostat knob all the way down).

Warnings:

- ☞ We recommend that the **power should be turned off from both the heater and the pump** before anyone enters the baptistry.
- ☞ Remember to **turn off power** to both the heater and pump before draining the baptistry.
- ☞ Remember there are **live** electrical components in the heater and pump even if the thermostat is “off”. *Never remove any cover or attempt to service the system unless the power is turned off at the breaker or other disconnect device.*
- ☞ Do not operate the system unless the water level is **above** the inlet fitting. Operation without proper water level may cause the heater to operate at an abnormally high temperature, resulting in premature element failure or unnecessary tripping of the high limit.
- ☞ Do not heat water in excess of 102 degrees F. A temperature of **100 degrees** F is considered safe for a healthy adult. Hotter water increases the risk of hyperthermia. Special caution is suggested for young children, aged persons, persons having medical problems, and person on medication.
- ☞ Pregnant women need to be alerted to the danger of fetal damage and should consult their physicians before being baptized.
- ☞ Before entering the baptistry, users should **check the water temperature** with an accurate thermometer; thermostats may err in regulating water temperatures by as much as four degrees Fahrenheit.
- ☞ Do not tamper with controls, because **scalding** can result if safety controls are not in proper order.

High Limit Cut-off:

In case of overheating, your heater will shut itself off. This is accomplished by the use of a manual reset high limit switch. To place the heater back in operation, locate the cause of the overheating and reset the limit per the label instructions on the heater. If the high limit trips again, turn the main heater breaker off and contact your service agency.

Winterization / Freezing:

If your heater is to be shut off and exposed to freezing temperature, it must be drained. Water, when frozen, will expand, damaging your tank. Shut off your electrical supply to the heater before draining. Follow the filling instructions before you restore your electrical supply. Freeze damage is not covered by the limited warranty.

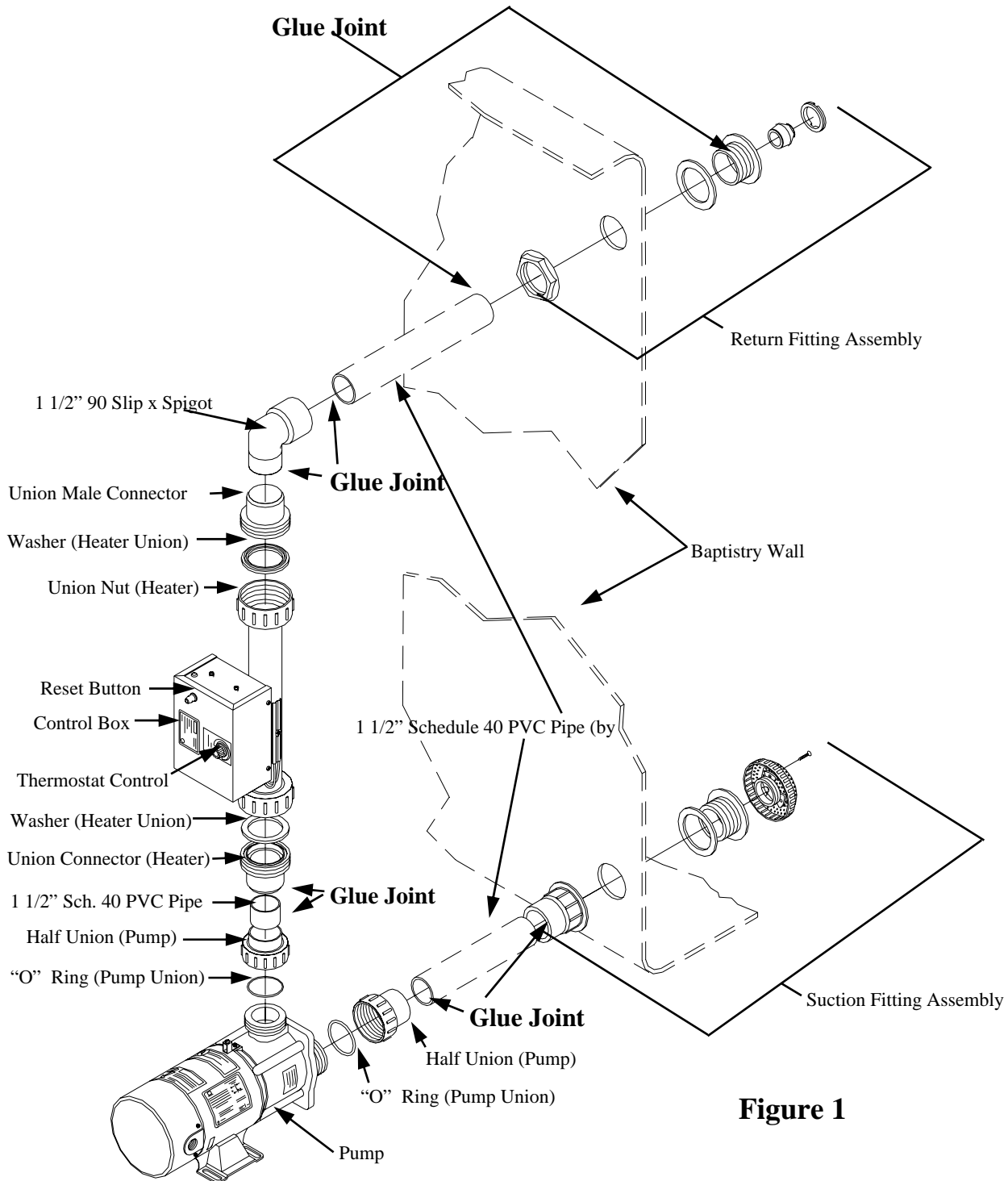
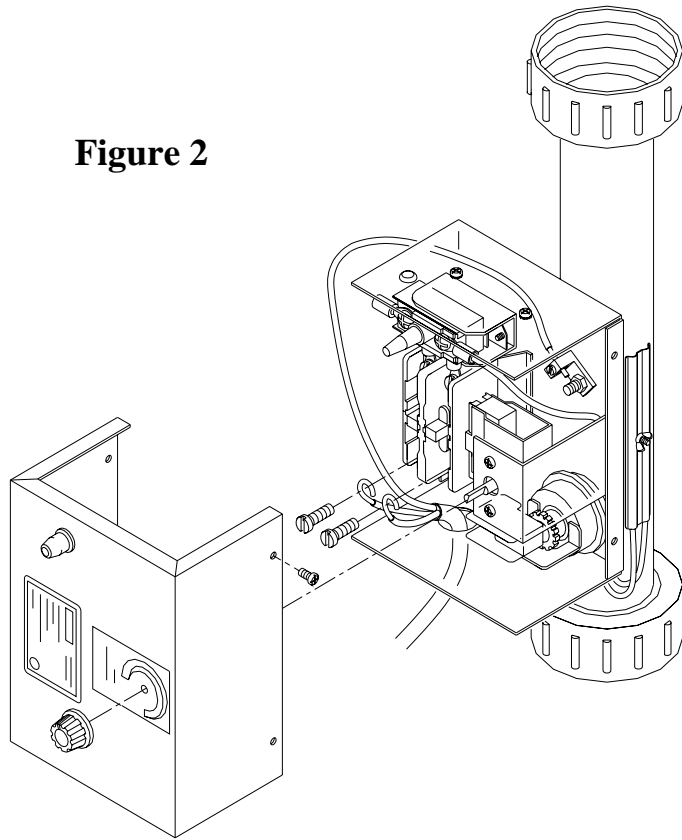


Figure 1

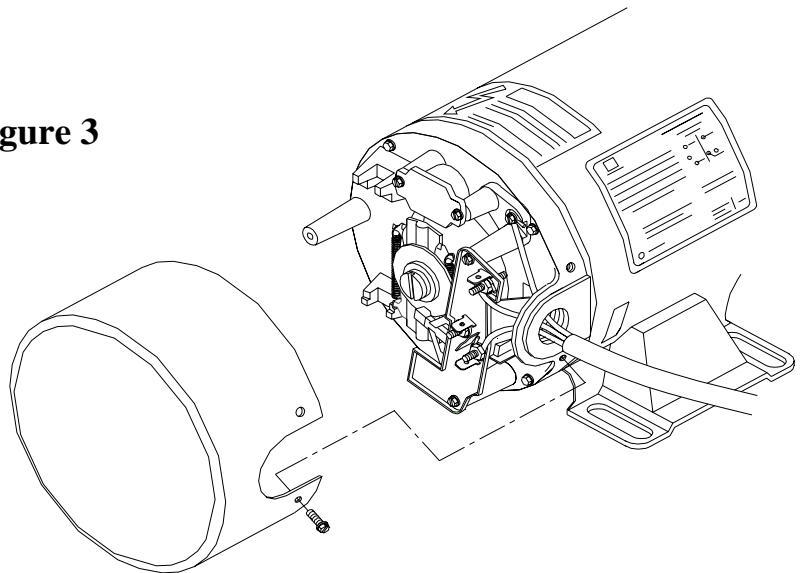
Figure 2

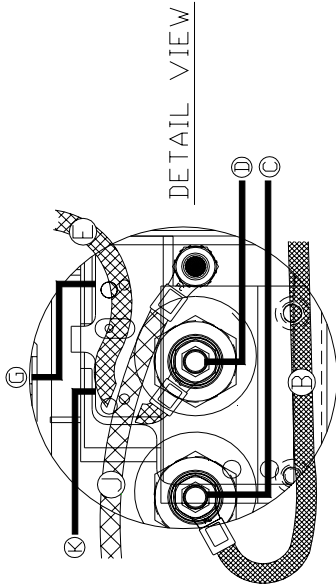


Note: Your heater may be supplied with pre-installed color-coded leads to simplify installation.

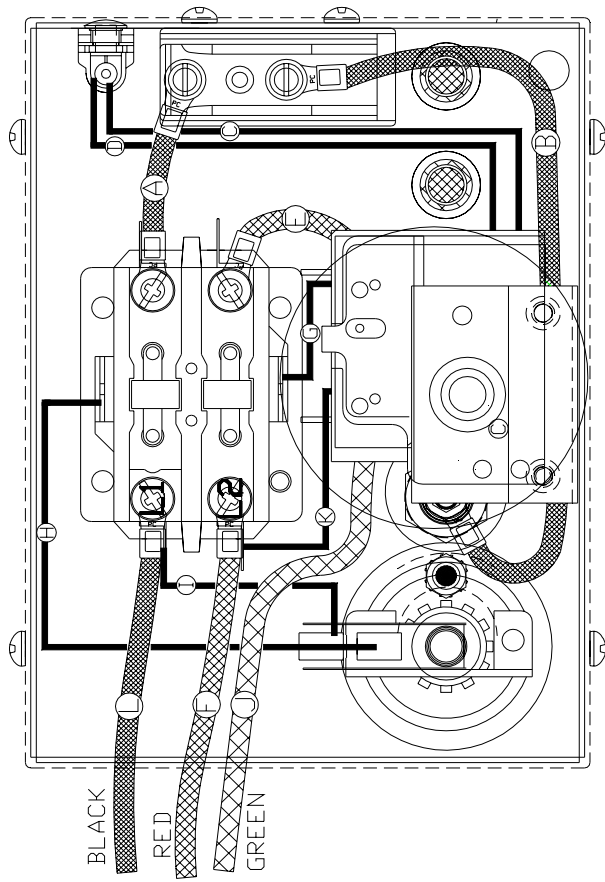
Figure 3

Green wire to Equipment Ground (Green screw)
Neutral (White wire) to "C" terminal
Hot (black wire) to "L" terminal





DETAIL VIEW



WIRE HARNESS CHART

	LENGTH	SIZE	STRIP SIZE	COLOR
A	3"	10 GAUGE	5/16"	BLK
B	7"	10 GAUGE	5/16"	BLK
C	6"	14 GAUGE	1/4"	BLK
D	5-1/4"	14 GAUGE	1/4"	BLK
E	5"	10 GAUGE	5/16"	RED
F	5"	10 GAUGE	5/16"	RED
G	2-1/4"	14 GAUGE	1/4"	BLK
H	7"	14 GAUGE	1/4"	BLK
I	5"	14 GAUGE	1/4"	BLK
J	7"	10 GAUGE	5/16"	GRN
K	4-1/2"	14 GAUGE	1/4"	BLK
L	4"	10 GAUGE	5/16"	BLK

"For units intended for use with other than single family dwellings, a clearly labeled emergency switch shall be provided as part of the installation." The switch shall be readily accessible to the occupants and shall be installed at least 5 feet (1.52m) away, adjacent to, and within sight of, the unit."

Figure 5
Wiring Diagram

Caution !!!!!

**A minimum 60° rated
Copper conductor is
required for all connections
to this product.**