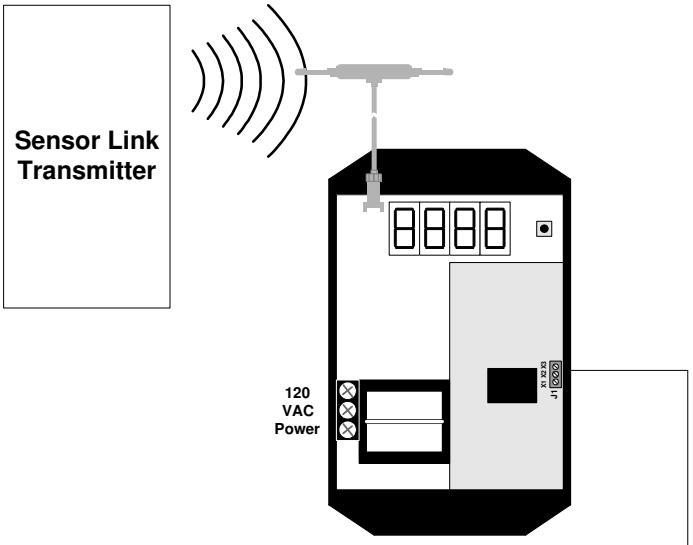
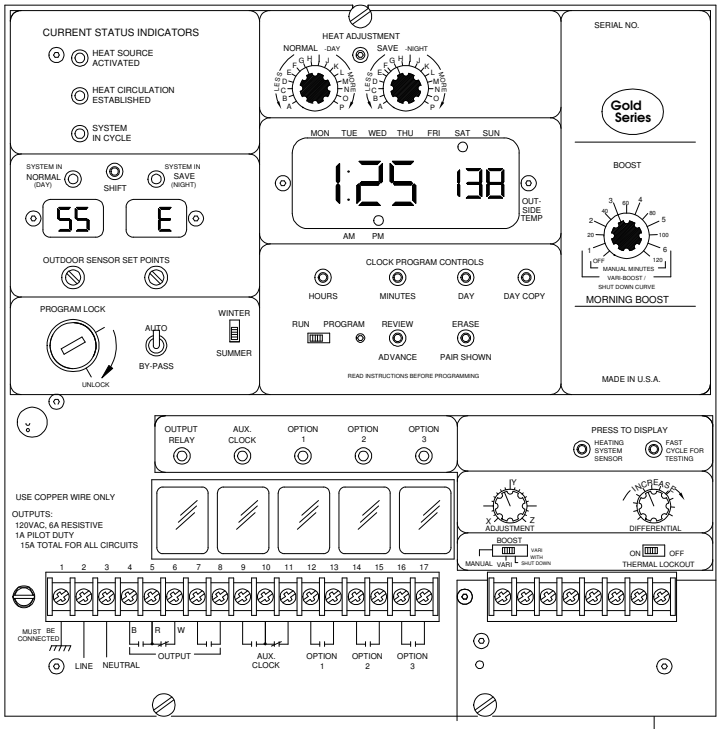
HEAT-TIMER

INSTALLATION/OPERATING INSTRUCTIONS

SENSOR LINK



Sensor Link Receiver



HEAT-TIMER PANEL
HWR, HWRQ, MPC, MPCQ, SRC, Multi-MOD

The Sensor Link system consists of a Receiver and one or more Temperature or Pressure Transmitters. The Receiver is designed to intercept and decode the wireless information being emitted by the Transmitters and forward the data to the Heat-Timer panel (HWR, HWR-Q, MPC, MPC-Q, SRC, or Multi-MOD) via a wired connection.

Instruction to User

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

* *Reorient or relocate the receiving antenna.*
* *Increase separation between the equipment and receiver.*
* *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
* *Consult the dealer or an experienced radio/TV technician for help.*

This equipment has been certified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulation, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes or modifications made to the equipment without the approval of the manufacturer could void the user's authority to operate this equipment.

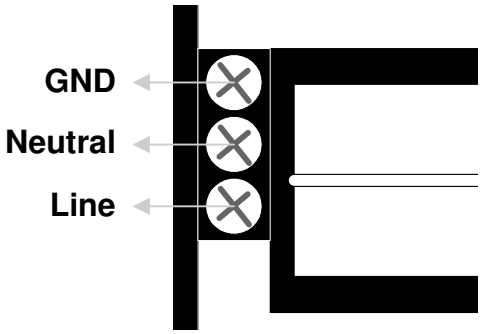
SENSOR LINK RECEIVER INSTALLATION

Mount the enclosure

- In a location central to the various Transmitters.
- To prevent unauthorized tampering, the Receiver should be located in an inconspicuous area, or in an area with limited access.
- The Receiver must be located where the ambient temperature will not exceed 130°F and away from any steam or moisture.
- Attach the Receiver to a flat surface by screwing through the mounting holes located on the top and bottom flange.
- If desired, the Receiver may also be installed inside a metal enclosure.

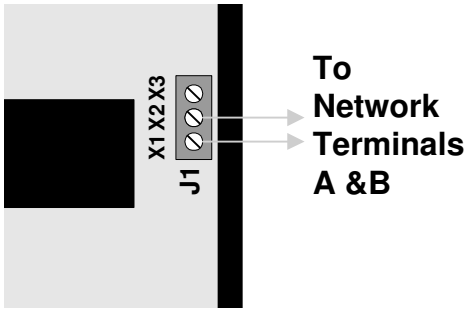
Power Wiring

- Bring the 120VAC 60Hz power wires through the round opening in the enclosure.
- Class 1 voltages must enter the enclosure through a different opening from any Class 2 voltage wiring.
- Connect power to the terminals as shown at right.
- The GND terminals **MUST** be connected to earth ground.



Network Wiring

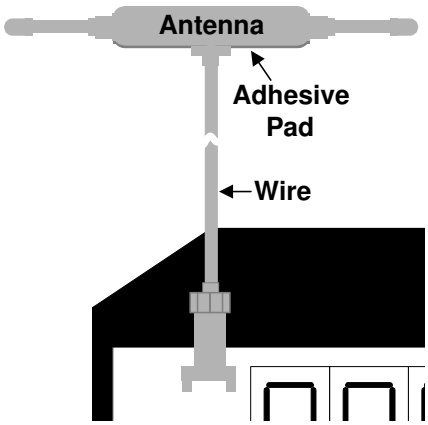
- Use 2-wire **unshielded twisted pair** (see specification below).
- There is no polarity to observe. Either network wire from the Receiver can be attached to Heat-Timer panel (HWR, HWRQ, MPC, MPCQ, SRC, or Multi-MOD) Network terminals *A* or *B*.
- Bring the network wiring through the rectangular opening in the enclosure.
- Network wiring must enter the enclosure through a different opening from any Class 1 voltage wiring.
- Wire the network connections to the terminal block marked *J1*, terminals *X1* and *X2*.
- The wires can be run in virtually any configuration back to the Heat-Timer panel. They can be wired sensor to sensor (daisy chained). They can be wired in a star configuration, with each sensor pair brought back to the panel. Finally, there can be any combination of the two.
- The Receiver has a specific ID number. The ID number is on the back of the Receiver, and is on the Network Identification card which is provided. Fill out the location of the Receiver on the Network Identification card and return it to the Heat-Timer network administrator.



Wire	Type	Gauge	Maximum Length (ft)	Maximum Temp (°F)
Belden 8471	Unshielded Twisted Pair	16AWG	1200	140
Belden 85102	Unshielded Twisted Pair	16AWG	1200	185

Mounting and Connecting the Antenna

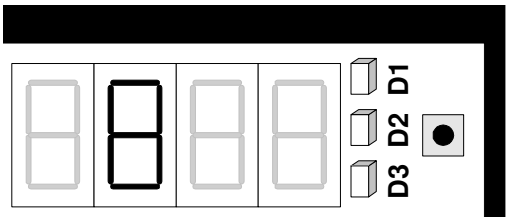
- The Antenna should be mounted in a convenient location within six feet of the Receiver.
- Do not cut or splice the antenna wire provided.
- Make sure the surface where the Antenna will be mounted is flat, clean, dry, and will not be subject to moisture or temperatures which exceed 130°F.
- Remove the backing to expose the adhesive pad on the back of the antenna and press it to the mounting surface.
- To connect the Antenna to the Receiver, screw the nut on the end of the Antenna wire to the threaded metal connector extending from the Receiver enclosure.



SENSOR LINK RECEIVER OPERATION

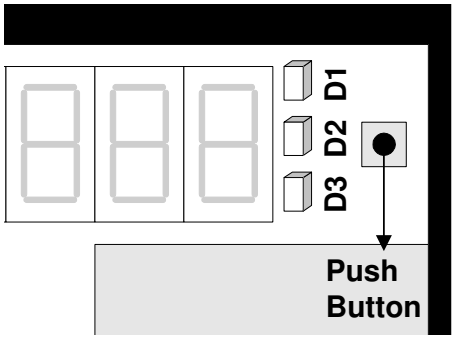
Power Up Display

- When the receiver is first powered, 8 will be displayed in each of the digits in turn, moving from right to left.
- Next the display will briefly show the version number, and then go blank.
- During this period, the green LED (D1), yellow LED (D2), and red LED (D3) will flash or light.
- When the display goes blank, only the red LED (D3) will remain on to indicate the Receiver is powered.



Display Modes

- Pressing the push button will set the display mode for the Receiver.
- Once a display mode is selected, the Receiver will remain in the selected display mode until the push button is pressed and a new mode is selected.
- If the display code with a dot is selected, then the selected display information will be shown whenever the Receiver gets data from any Transmitter on its channel. Each Transmitter normally emits data every 4 to 5 minutes.
- When setting up Transmitters, they can be put in a Test mode so they emit data much more frequently. To only display information from a Transmitter in Test, select the display code without a dot.
- The chart below describes the various display modes:

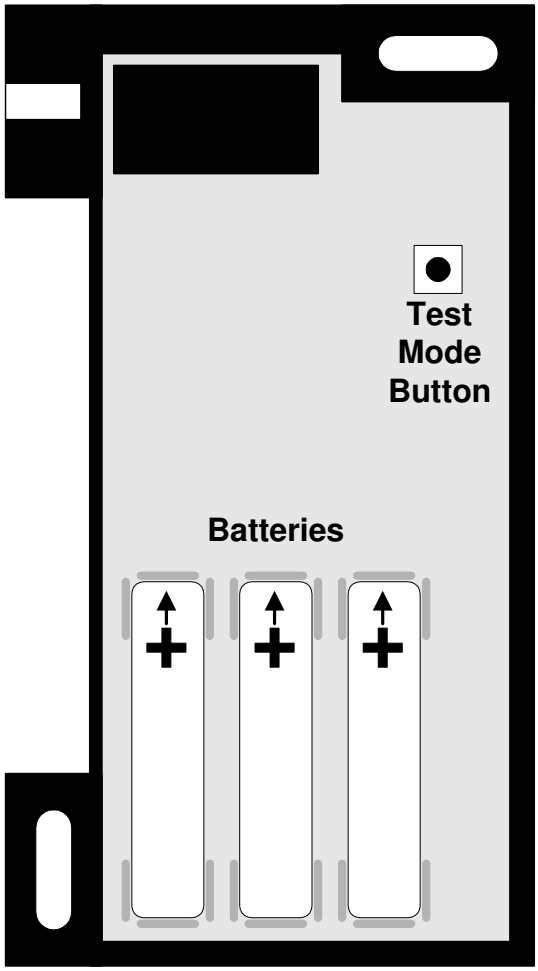


Display Code		Description
Only Transmitters in Test Mode	All Transmitters	
Sn	S.n	Serial number of the Transmitter
tE	t.E	Temperature of the Transmitter
coUn	c.oUn	The total number of packets correctly received since startup (used for diagnostic purposes)
rSSI	r.SSI	2 Left hand digits - Data signal strength 2 Right hand digits - Noise strength

SENSOR LINK TRANSMITTER

Installation

- Find an approximate location for the Transmitter, located away from direct sunlight or other heat sources. Do not locate a Transmitter in either a kitchen or a bathroom.
- The range of temperatures at the Transmitter location should be between 32 and 150°F. If the temperature experienced by the Transmitter is outside of this range, battery life will be shortened.
- Open the Transmitter by inserting your two thumbs in the large rectangular opening at the back of the enclosure and prying it open.
- Make sure the Receiver is programmed to read Sn (see above).
- Remove the plastic tab to connect the batteries and activate the Transmitter.
- Push the button on the Transmitter to put it in the Test mode. It will remain in the Test mode for five minutes. In the Test mode, the Transmitter will emit data more often than during normal operation.
- Go to the Receiver and watch the display until the serial number of the new Transmitter being installed is displayed. Only the last 4 digits of the serial number will be shown.
- If the Receiver does not register the new Transmitter, move it to another location.
- When a location with a good signal is found, mount the Transmitter to a flat surface using the two oval mounting slots molded in the base of the enclosure.
- The Transmitter can be mounted either vertically or horizontally.
- Replace the Transmitter cover.



Operation

- The Transmitter should operate for years without any maintenance.
- The batteries will need to be replaced every 3 to 8 years.
- The Transmitter requires three AAA, 1.5 Volt batteries. Be sure to observe that the positive side of the battery faces the center of the Transmitter board as shown in the diagram at right and which is also clearly marked on the board itself.