



# Installation Manual

## RS-094-MK6

### WITH STEP-DOWN TRANSFORMER AND PLENUM-RATED WIRES

## Operation and Installation Instructions for FloodMaster RS-094-MK6 Water Heater Leak Detection Alarm/Shut-Off Systems for Plenum Spaces

The RS-094 series of Feed Water (Water Heater) Leak Detection and Shut-Off Systems is designed to monitor and respond immediately to water leaks. When a sensor comes in contact with as little as a 1/16" of water (or any other conductive liquid), it will automatically sound an audible alarm and close the valve to shut down the water feed line, thus mitigating damage caused by an undetected water leak. The unit also provides output signal capabilities (SPDT Relay Output Contact) for connection to a home security panel or for use with an appropriate relay to control a secondary device, such as a pump.



Output signal connections:

Normally Closed Circuit – Terminal Pins 3 & 4

Normally Open Circuit – Terminal Pins 4 & 5

The kit includes the receiver with on-board audible alarm, a full port lead free (ANSI/NSF 61 Annex G) shut-off valve, step-down transformer (to 24 VAC) and leak detection sensor, with plenum-rated wires to the sensor and transformer. Additional sensors can be added where a wider area of leak detection is required (additional sensors sold separately).

### OPERATION:

In the event the system activates, locate the source of the leak, remove the sensor from the water and dry the metal contacts on the bottom. Correct the problem causing the leak and replace the sensor in the desired leak detection location once again as required. Press and release the reset button on the receiver to open the valve and begin the flow of water again.

### INSTALLATION INSTRUCTIONS:

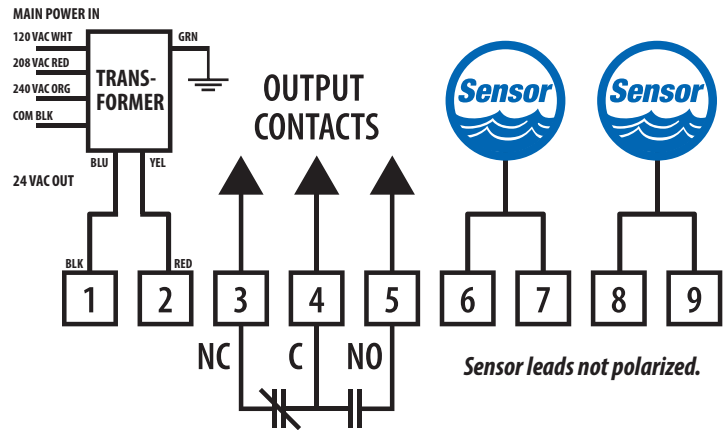
*(FloodMaster recommends that installations be completed by a licensed plumber and/or electrician to ensure that all local code requirements are followed).*

- Turn off the water supply feed line to the water heater.
- Thread the valve body into the feed water line after the manual shut-off. Apply pipe sealant or Teflon® tape to the NPT threads and tighten.
- The receiver connector comes pre-wired with basic connections to the power supply and the sensor. Using an appropriate screwdriver, make any additional electrical connections as may be desired for output contacts or additional sensors per the diagram provided. *(Note: additional sensors can be connected to either 6 & 7 or 8 & 9, as wiring space allows.)*

- Snap the terminal wiring block into the receiver housing at the mating slot provided.

- Secure the valve body in one hand and snap the receiver into place on the valve body mounting pad.  
*(Note: Improper alignment of the valve stem may interfere with proper receiver mounting. If any resistance is encountered, confirm the witness mark on the valve stem is in alignment with the ports of the valve. Use an appropriate hand tool, such as pliers, to clamp down on the valve stem and turn in the appropriate direction until the desired position is achieved).*

- Turn off the main power. Wire the appropriate inputs to the main power source. Wire the blue and yellow wires (24 VAC output) to the plenum wire that is prewired to the power input of the contact plug. Turn on the main power. The green Power indicator light on the receiver will turn on.



*(Continued – See reverse.)*



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### 6. Function Test the system as follows:

- a. Place the sensor on a wet paper towel.
- b. The audible alarm will sound and the valve will rotate to the closed position.
- c. The red Valve Closed LED will turn on when the valve is completely closed (approximately 45-second cycle time). Open a hot water faucet and inspect for absence of water flow. There should be no flow.
- d. Remove the sensor puck from the paper towel, dry the contact points and place the sensor puck back in the desired location on the floor.
- e. Press and release the Reset Button on the receiver to open the valve and begin the flow of water again (approximately 45 seconds to fully open position).
- f. Open a hot water faucet and inspect for water flow.

### TRANSFORMER WIRING INSTRUCTIONS:

The supplied transformer has multiple input taps to accommodate different line voltages. If the existing line voltage you have at your facility is:

**120 VAC** – The **WHITE** wire from the transformer should be connected to the hot leg of the input voltage and the black wire to the neutral leg.

**208 VAC** – The **RED** wire from the transformer should be connected to the hot leg of the input voltage and the black wire to the neutral leg.

**240 VAC** – The **ORG** wire from the transformer should be connected to the hot leg of the input voltage and the black wire to the neutral leg.

The **GREEN** wire in all cases must be connected to **EARTH GROUND**.

Each wiring combination as stated above yields the same 24 VAC output across the **BLUE** and **YELLOW** wires of the secondary winding of the transformer.

### TRANSFORMER MOUNTING INSTRUCTIONS:

The kit contains a cover plate for a standard junction box. The cover has a hole or knock out in the center of it. The cover plate is designed such that the transformer can be mounted to it and then screwed into the junction box.

1. In order to mount the transformer to the cover, carefully route the primary wires of the transformer through the hole in the cover.
2. Tilt the cover so that the head of the retaining screw on the transformer is over the cover.
3. Back the screw out until the cover slips under the threaded end of the retaining screw.
4. Tighten the screw until the transformer is secured on the cover. The threaded end of the screw is designed to press against the cover to hold the transformer in place.

### MAINTENANCE:

We recommend an annual test of the unit to ensure proper function. See Function Test instructions above. At a minimum, users should exercise (press and release) the reset button on the receiver annually to ensure correct operation and to maintain product warranty status.

### EMERGENCY MANUAL OPERATION OF THE VALVE:

The unit is equipped with an emergency feature for the manual rotation of the valve. This can be accomplished by disengaging the actuator from the valve and manually changing the valve to open or closed as follows:

1. Turn off the main power to the transformer.
2. Stabilize the water feed line by grabbing it in one hand near the valve, while grasping the actuator housing in the other hand, pull the actuator housing away from the water feed line.
3. Using an appropriate hand tool, such as a pliers, clamp down on valve stem and turn in the appropriate direction until the desired position is achieved. Note the top of the stem is slotted to indicate valve position (in line with water flow would indicate open valve; slot across water line would indicate closed valve).
4. Before remounting the actuator, return the valve to the original position prior to the manual rotation.
5. Remount the actuator and restore the main power to the transformer.
6. Test for correct operation per the *Function Test* listed above.



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