



# RS-094-MK7

- BY -

**RD<sup>TM</sup>**  
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DETECTION TECHNOLOGIES



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## **Leak Detection & Automatic Shut-Off System for Conventional Vent Water Heaters with Gas Shut-Off Interface Cable**

Congratulations on your purchase of a FloodMaster RS-094-MK7 water heater leak detection system from Reliance Detection Technologies. This product is designed to automatically shut off the water supply to a water heater or tank if a leak is detected. This kit also provides the capability to cut off the pilot light signal to shut down gas flow to the tank's burner when a leak is detected, as may be required by some local codes.

To ensure proper installation and to maximize the performance of your RS-094-MK7 water leak detection system, please read this manual thoroughly before installing or operating the system.

### **PLEASE READ CAREFULLY BEFORE PROCEEDING:**

If a leak is detected, the RS-094-MK7 will shut off the water going to the water heater. This will stop the continuous flow of water from the water supply to the tank. However, all or some of the water that is already in the tank may still leak out onto the floor.

**NOTE:** *This installation and operating manual contains important information about the operation of the RS-094-MK7 system. If this system is being installed for use by a different user, please be sure a copy of this manual is left with the system for future reference.*

**www.RelianceDetection.com**

**Toll-Free: 888-771-4929**

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### **RS-094-MK7 System Components (included in kit):**

- |                                                                      |                                      |
|----------------------------------------------------------------------|--------------------------------------|
| 1 – Receiver box / actuator                                          | 1 – Water sensor with 8' lead wire   |
| 1 – 3/4" full port lead-free shut-off valve<br>(NSF/ANSI 61 and 372) | 1 – Metal plate for sensor placement |
| 1 – Power supply with 12' lead wire                                  | 1 – Gas shut-off interface cable     |

**NOTE: The RS-094-MK7 can be installed on existing or new water heater installations. RDT recommends installation by appropriately licensed and certified installers to ensure that all local code requirements are met.**

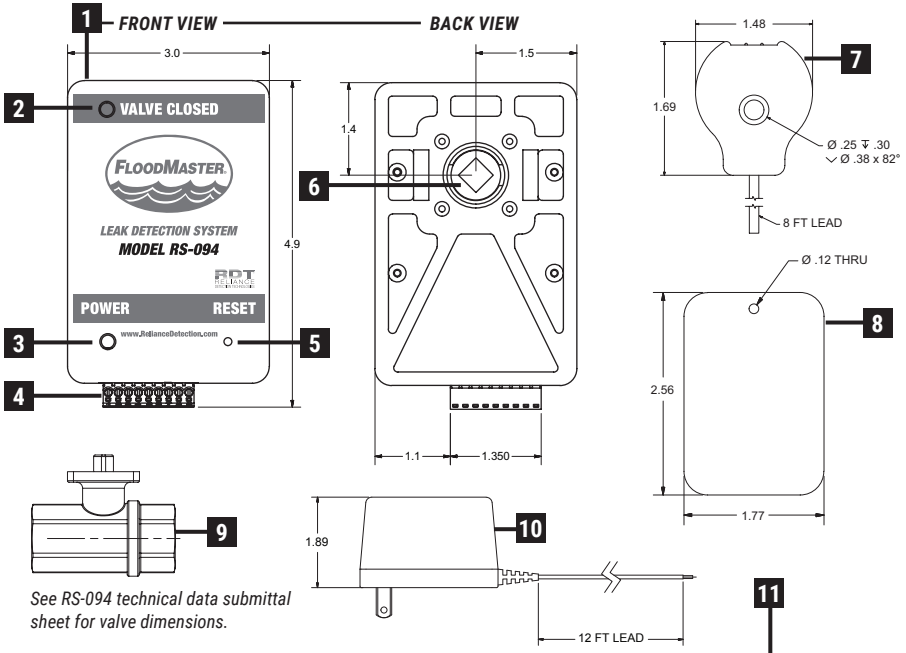
## **INSTALLATION INSTRUCTIONS**

1. Turn off the water supply feed line to the water heater.
2. Prior to installation, manually exercise the valve body to fully closed and back to fully open position by holding it in your hand, applying a pliers to the valve stem and turning. 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.
3. The receiver connector comes prewired with basic connections to the power supply, sensor and gas shut-off interface cable. Using an appropriate screwdriver, make any additional electrical connections as may be desired for output contacts or additional sensors per wiring Figure 2. *(Note: additional sensors can be connected to either 6 & 7 or 8 & 9, as wiring space allows.)* Then snap the terminal wiring block into the receiver housing at the mating slot provided.
4. 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 valve ports. 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).*
5. Place the sensor(s) where water is most likely to first accumulate (such as the drain pan or the floor next to the tank). The sensor is magnetic and can be installed horizontally or vertically in conjunction with the metal plate – see Figure 3.
  - Clean the desired location area to ensure the surface is clean for optimum plate adhesion.
  - Peel the backing off the metal plate to reveal the adhesive and stick in place.
  - Place the sensor on the plate as close as possible to the floor, allowing the magnets to secure it in place.

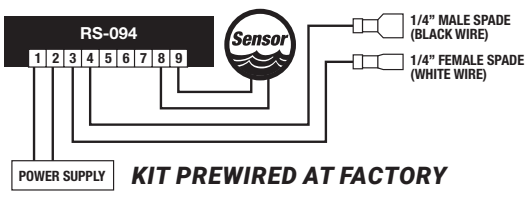
*Note: The sensor features a through-hole that can be used to screw it onto a surface if a more permanent installation is desired or necessary.*
6. Shut off the gas supply and shut down the water heater per the manufacturer's instructions.
7. Disconnect one wire from the thermocouple on the water heater. Connect the female 1/4" spade connector (white wire) to the thermocouple switch. Connect the male 1/4" spade connector (black wire) to the system wire that was previously disconnected.
8. Plug the power supply into a 120V AC wall outlet. The green "Power" indicator light on the receiver will turn on.
9. Turn on the gas supply and light the pilot on the water heater per the water heater manufacturer's instructions. Open the water supply feed line.
10. **Function Test the system as follows:**
  - Place the sensor on a wet paper towel. The audible alarm will sound and the valve will rotate to the closed position. The shut-off interface cable will also respond to close down the gas flow to the water tank.
  - 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 confirm that there is no water flow. Confirm deactivation of the gas.
  - Remove the sensor from the paper towel, dry the contact points, and place it back in the desired location on the metal plate.
  - 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 re-open). The green "Power" indicator light will flash once to indicate the reset process has begun. Relight the water heater pilot and confirm gas flow to the water heater.
  - Open a hot water faucet and inspect for water flow.

# RS-094-MK7 WATER HEATER KIT

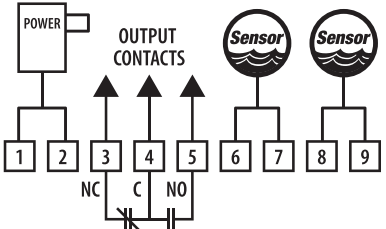
1. Receiver box
2. Valve Closed LED
3. Power LED
4. Wiring terminal block
5. Reset button
6. Valve actuator
7. Water sensor
8. Metal plate
9. Shut-off valve
10. Power transformer
11. Gas shut-off interface cable spade connectors



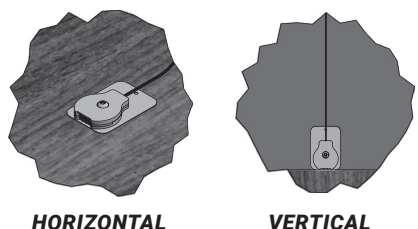
**FIGURE 1**



**FIGURE 2 –  
WIRING DIAGRAM**



**FIGURE 3 –  
SENSOR INSTALLATION OPTIONS**



## OUTPUT SIGNAL CONNECTIONS

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. See Figure 2 for wiring diagram.

Normally Closed Circuit – Terminal Pins 3 & 4

Normally Open Circuit – Terminal Pins 4 & 5

## OPERATION & SYSTEM RESET

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 and gas again. The green "Power" indicator light on the receiver will flash once to confirm the reset. Light the water heater pilot and confirm gas flow to the water heater.

## MAINTENANCE

Test the system annually per the function test (install step 10) to ensure correct operation and maintain product warranty status. At a minimum, exercise (press and release) the "Reset" button on the receiver.

## EMERGENCY MANUAL VALVE OPERATION

The unit is equipped with an emergency feature for the manual rotation of the valve. Disengage 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 indicates open valve; slot across water line indicates closed).
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 in install step 10.



**Warning: For use with water only. Do not install on gas line. Never install this device on a fire protection or fire suppression system. For indoor use only.**

**NEED INSTALLATION OR SETUP ASSISTANCE?**

**Call toll-free: 888-771-4929**

**[www.RelianceDetection.com/support/RS-094](http://www.RelianceDetection.com/support/RS-094)**

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