Excellence in Compliance Testing

Certification Exhibit

FCC ID: YTH0656A04
IC: 9174A-0656A04

FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210

ACS Report Number: 10-0140.W06.13.A

Manufacturer: Global Moisture Management Systems
Model: 0656A04

Manual

WaterSafe

The smart leak protection system.

WaterSafe® Leak Management System

User Manual

GLOBAL
MOISTURE MANAGEMENT SYSTEMS

Global Moisture Management Systems, LLC

Contents

Introduction and Safety

Intended Device Use

The WaterSafe® Leak Management System is designed to protect a residential living space from potentially damaging water leaks that may occur in the home. If a water leak is detected, the system automatically shuts off the main water supply via a shut-off valve to the house, thus preventing large-scale water damage to the home.

Regulatory Information

FCC and TUV Compliant

NOTE: 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 the 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 complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

For Industry Canada:

The term “IC:” before the radio certification number only signifies that Industry Canada technical specifications were met. This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. Operation is subject to the following two conditions: (1) this device may

not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Cet appareillage numérique de la classe B répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée

Contacting Technical Support

Contact Global Moisture Management Systems for technical support at:

Toll-free: 1-877-994-2672

Email: techsupport@watersafe.com

Website: Use the link to technical support from the on-line monitoring portal.

Warranty

One-Year Limited Warranty

Global Moisture Management Systems, LLC ("GMMS") warrants to the original purchaser of a WaterSafe® Leak Management System ("System") that the System will be free of defects in design, materials and workmanship under normal use for one year from purchase or installation of the System.

Limited Warranty Duration

If the System is purchased directly by a residential or commercial owner or other end user, then the Limited Warranty shall commence upon the date of purchase and expire one year from the date of purchase. If the System is purchased and installed by a plumber, builder, or contractor, then the Limited Warranty shall commence upon installation of the System. The System must also be installed by a certified WaterSafe installer.

Remedy for Breach

Should a covered defect be discovered and reported before the Limited Warranty expires, GMMS will repair or replace the System or the defective part or component at its expense. Should the System or any of its components prove incapable of repair or replacement, then GMMS will refund the purchase price for the System upon return of the System and all of its components.

With the purchase of on-line monitoring only, the following additional coverage is in effect: If during the Limited Warranty period a defect in the

System results in water damage to the premises where the System is installed, GMMS will pay up to $5,000.00 for water damage repair to such premises or reimbursement of the customer's homeowner's insurance deductible, whichever is less. Claims for water damage or deductible reimbursement must be supported by a repair invoice or by proof of payment of the deductible amount.

Warranty Exclusions

GMMS shall have no liability for product failure or damage to the System or any other property arising in whole or in part from any of the following:

- Power outages, surges or fluctuations
- Lightning or windstorm
- Flood (other than water damage which results from a System failure)
- Fire or explosion
- Hazardous or caustic materials
- Theft or vandalism
- Insects or vermin
- The premise owner's failure to take reasonable measures to minimize damage
- any Act of God
- If the System is installed by a non-certified WaterSafe installer

In addition, the Limited Warranty shall become null and void for any of the following:

- Abuse or misuse of the System
- Misapplication of the System
- Improper installation
- Improper or incorrect maintenance or repairs
- Product modifications
- Product disassembly at any point not specified by the original manufacturer
- Submersion as a result of a hurricane, flood, or other Act of God
- Removal of the original product serial number

For complete warranty information, refer to the Warranty document supplied with the product.

Safety Hazard Levels

Hazard Level	Indication

Danger!	A hazardous situation which, if not avoided, **will** result in death or serious injury
Warning!	A hazardous situation which, if not avoided, **could** result in death or serious injury
Caution!	A hazardous situation which, if not avoided, could result in minor or moderate injury
Notice:	A potential situation which, if not avoided, could result in undesirable conditions A practice not related to personal injury
	Electrical hazard
	Electrostatic discharge hazard

Summary of Hazard Statements

Warning! Changes or modifications to this device not expressly approved by GMMS could void the user's authority to operate the equipment.

Warning! High voltages are present on the circuit board inside the Shut-off Valve Assembly. Do not open the valve case when powered.

Electrostatic Discharge Warning! Do not open the cases of any components. All electronics are ESD sensitive.

Caution! The Shut-off Valve Assembly must be installed by a licensed plumber.

Warning! Do not install the Shut-off Valve Assembly on the fire sprinkler line. Notify the local fire department upon installation and provide information about how to clear a leak alarm.

Caution! Follow all local, state, and national plumbing codes.

Caution! The Valve Controller must be installed above the flood plain.

Caution! Do not submerge the Shut-off Valve Assembly.

System Requirements

- Internet connectivity – one of the following:
  - High-speed cable or DSL with an Ethernet router
  - Phone line with wall jack (preferably with extra phone line to avoid interruption)
- 110V power outlets near installation locations
- Access to main water supply for installation of Shut-off Valve Assembly
- Three AAA batteries for the Control Panel Monitor
- One 3V lithium battery for each Leak Sensor

Product Description

The WaterSafe® Leak Management System monitors high-risk areas in the home for water leakage. Leak detection sensors are placed under or around appliances such as a water heater, dishwasher, or refrigerator. If a sensor detects water, the Control Panel Monitor receives an alarm message from the sensor and closes the shut-off valve on the main water supply. Additionally, the Control Panel Monitor can report this information (leak event) to the Global Moisture Management System's (GMMS) Network Operations Center (NOC).

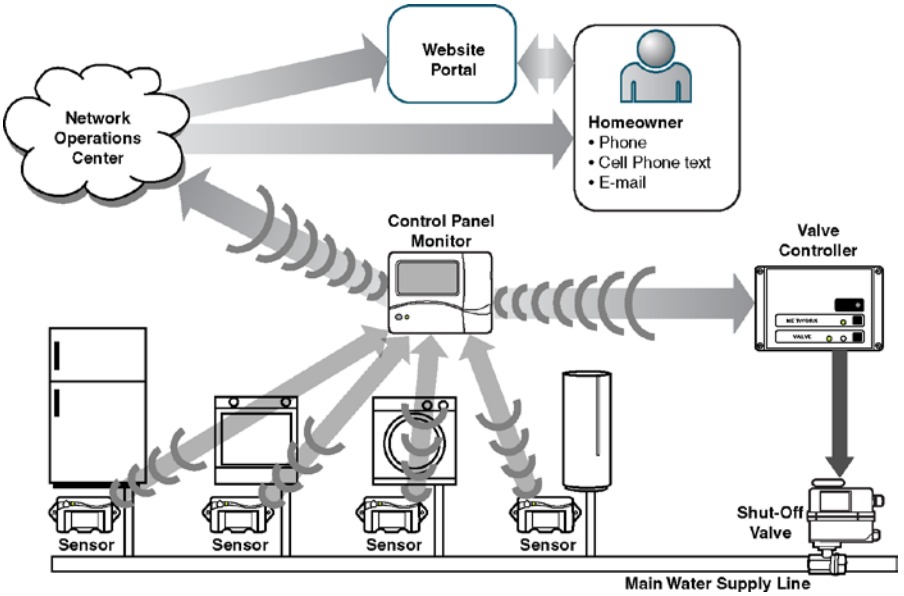


Figure 1. WaterSafe® Leak Management System communications diagram

System Features

- Round-the-clock monitoring for water leaks with four or more leak detection sensors
- Immediate water shutoff if a leak is detected
- Ability to connect to a Network Operations Center for notification to the absent homeowner in case of emergency
- Emergency conditions such as water leak or low freezing temperatures
- Ability to toggle the shut-off valve from the Control Panel Monitor and, if available, from the NOC

- Battery backup on the Control Panel Monitor to convey “loss of AC power” message to the NOC
- Wireless network between the Control Panel Monitor and the end devices (Leak Sensors and Shut-off Valve Controller)

System Components

Control Panel Monitor

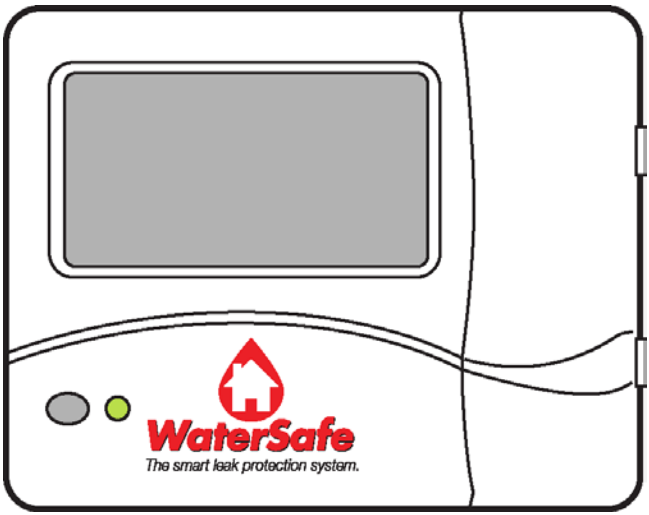


Figure 2. Control Panel Monitor

The **Control Panel Monitor** receives input from the sensors and communicates wirelessly with the Shut-off Valve Controller. It has a 9V power cord and 3 AAA batteries for backup power. It also has Ethernet and phone connectors.

Leak Sensors

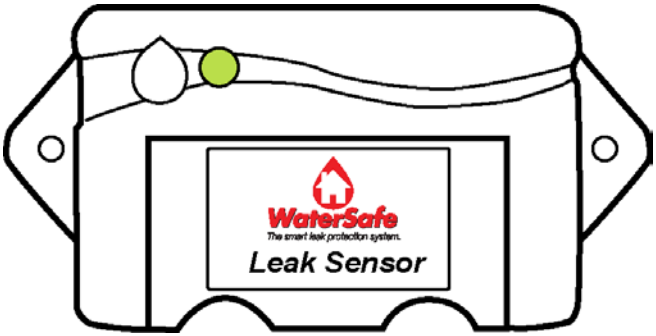


Figure 3. Leak Sensor – top view

Sensors are placed under each appliance to monitor moisture content and wirelessly communicate with the Control Panel Monitor.

Shut-off Valve Controller

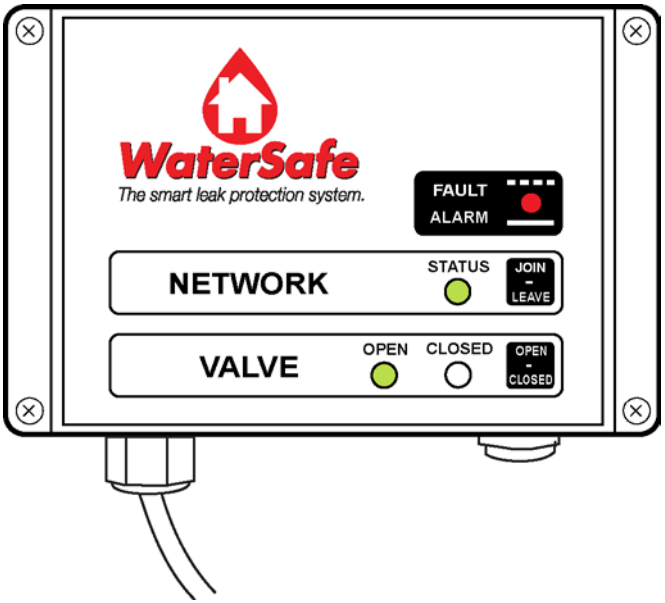


Figure 4. Shut-off Valve Controller

The **Shut-off Valve Controller** is connected via a 3.5-foot (20-foot optional), 8-pin cable to the electric actuator on the Shut-off Valve Assembly. It has a 5.5-foot power cord.

Shut-off Valve Assembly

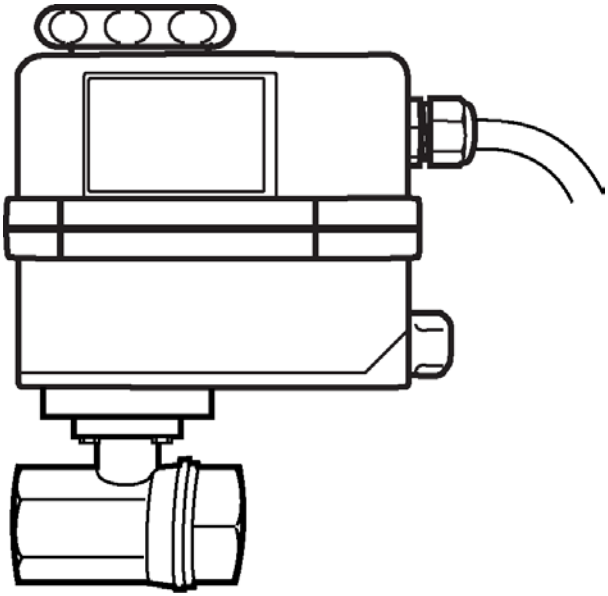


Figure 5. Shut-off Valve Assembly

The **Shut-off Valve Assembly** is installed on the main water supply line and can be located either outside the home in a valve box, in the basement, or in the crawl space. This assembly consists of a brass ball-type valve with an electric actuator. It has an 8-pin cable for connection to the Shut-off Valve Controller.

Installation

Safety Precautions

Electrostatic Discharge Warning! Do not open the cases of any components. All electronics are ESD sensitive.

Tools Required

- Two pipe wrenches
- Teflon™ pipe compound or tape sealant

Prepare for Installation

- Make sure you have everything required to install. Check the list of tools required and the list of components.
- Determine the lengths of all cables and cords.
- Establish the presence of 110V (standard wall receptacle voltage).
- If there is a plumbing bypass, confirm that the bypass valves are closed.

Install the Control Panel Monitor

Mechanical Installation

Locate a position inside the house to place Control Panel Monitor. The monitor can be mounted on the wall or on a desk using the desk mount (supplied). See Appendix B: Wall-Mount Installation for detailed instructions. A power outlet must be within reach of the monitor. A high-speed Internet connection or phone jack must also be available.

Battery Installation

1. Open the battery compartment on the back of the Control Panel Monitor.
2. Place three AAA batteries in the slots by carefully matching the “+” and “–“ signs.

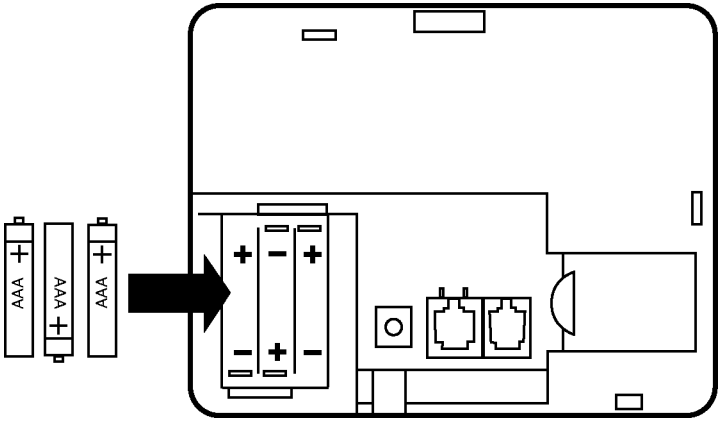


Figure 6. Battery installation

3. Close the battery compartment.

Electrical Connections

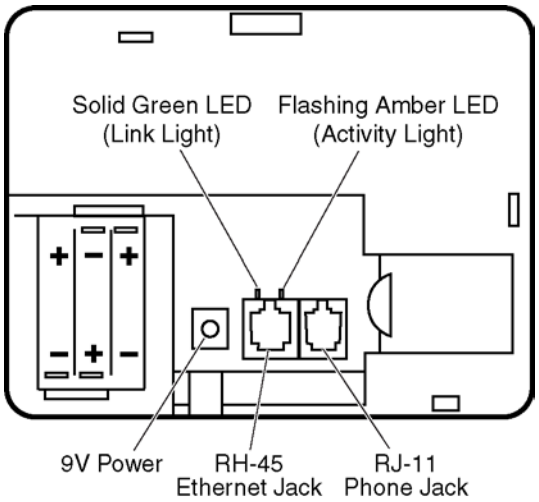


Figure 7. Electrical connections

1. Connect an Ethernet cable from the RH-45 Ethernet jack to an Ethernet router connected to a cable modem. Alternatively, connect a phone cord from the RJ-11 phone jack to a wall phone jack.

   An optional internal modem that uses the phone line connection is available. Contact GMMS technical support for availability and installation instructions.

2. Connect the 9V power cord.

3. While the Control Panel Monitor is starting up, the screen is blank and the status light glows amber.
4. When the Control Panel Monitor is powered, the status LED will glow green and the LCD screen should look like this:

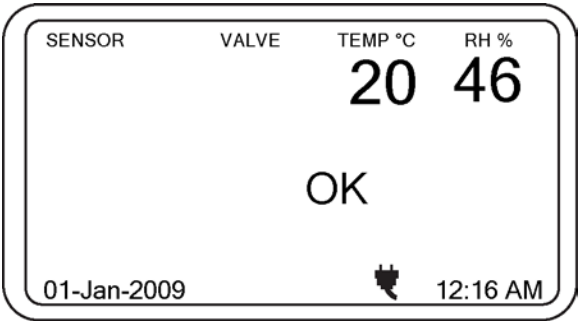


Figure 8. LCD screen at first powerup

Install the Shut-off Valve Assembly

Warning! High voltages are present on the circuit board inside the Shut-off Valve Assembly. Do not open the valve case when powered.

Warning! Do not install the Shut-off Valve Assembly on the fire sprinkler line. Notify the local fire department upon installation and provide information about how to clear a leak alarm.

Caution! Follow all local, state, and national plumbing codes.

Caution! The Shut-off Valve Assembly must be installed by a licensed plumber.

Location

The Shut-off Valve Assembly must be installed on the main water line into the house, either outside the home, in the basement, or in the crawl space.

Caution! Do not submerge the Shut-off Valve Assembly.

Installation Guidelines

Install the valve assembly following these general guidelines:

Guideline	Explanation/Comment
All pipe and valve connections should be free from dirt, grease, and metal.	Unclean pipe/valve connections are the number one cause of connection leakage. All threaded connections are potential leak points and should be minimized in the design of the piping system.
Proper connection and thread seal is generally made by the use of any Teflon™ products, including PTFE-formulated pipe compound or tape.	Teflon pipe compound is recommended on all pipe installations that are not Teflon-restricted applications because of the excellent sealing capabilities at all temperatures and pressures of threaded ball valves. Do not use Teflon in applications restricting its use (oxygen, tobacco, etc.).
All pipe-joint tape and compounds must be non-toxic, NSF/UPS-listed to maintain certifications (UL157).	—
Be sure to apply enough sealant to fill the first 3 to 4 threads.	The screwing action will move the sealant up and around the threads.
Always tighten valve components with two wrenches; one holding the valve on its flats, and the other around the pipe to tighten the connection.	—
To avoid damage to valve, seal, or seat, NEVER over-tighten a valve connection.	Twist the valve on until it stops, and then use the wrenches to make 1-1/2 more turns.

Guideline	Explanation/Comment
Wipe or cut any extra, unused sealant from the connection for a clean, professional result.	—
For ease of maintenance, two-piece valve connections usually have a union connection close to the valve in the pipe system.	—

Install the Valve Controller

Location

The Valve Controller must be able to reach the Shut-off Valve Assembly with the 3.5-foot cable (optional lengths available) and must also be within reach of an electrical outlet.

Caution! The Valve Controller must be installed above the flood plain.

We recommend **3M Scotch Heavy Duty Mounting Tape** to affix the Valve Controller to a wall.

Electrical Connections

1. Connect the 8-pin connector cable from the Valve Assembly to the connector on the Valve Controller case.

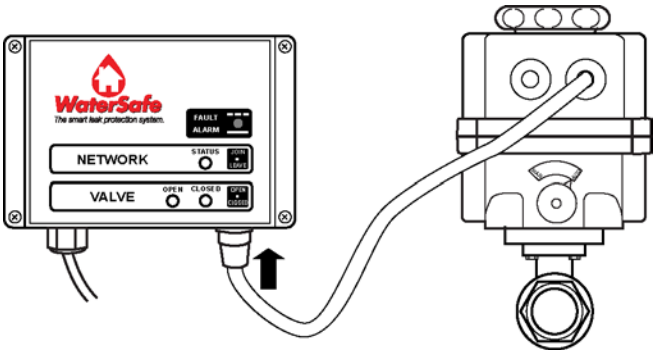


Figure 9. Connect the 8-pin connector cable

2. Plug the power cord into an electrical outlet in order to power the shut-off valve controller.
3. The LEDs on the controller case will power up and look like this if the valve is open:

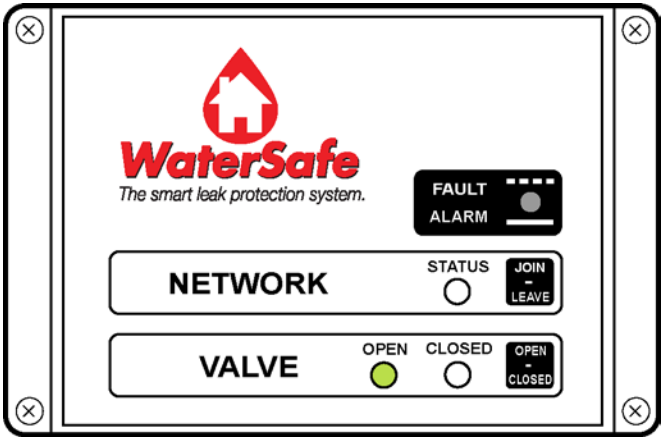


Figure 10. Valve Controller on first power up

Install the Leak-Sensors

Battery Installation

1. Open the battery compartment of the Leak Sensor.
2. Carefully place the 3V battery by matching the "+" and "–" signs and close the battery compartment.

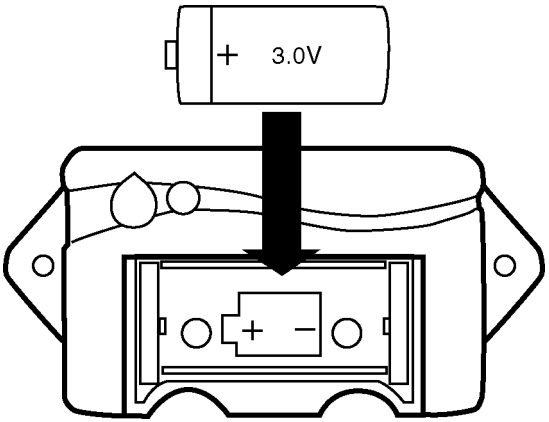


Figure 11. Install battery in Leak Sensor.

3. The red LED should start glowing on the Leak Sensor case.

Extension Cable Connection

For hard-to-reach places where a sensor cannot fit, use an extension cable attached to the Sensor's probes. See Appendix C: Sensor Extension Cable Connection for details on the proper orientation of the connection.

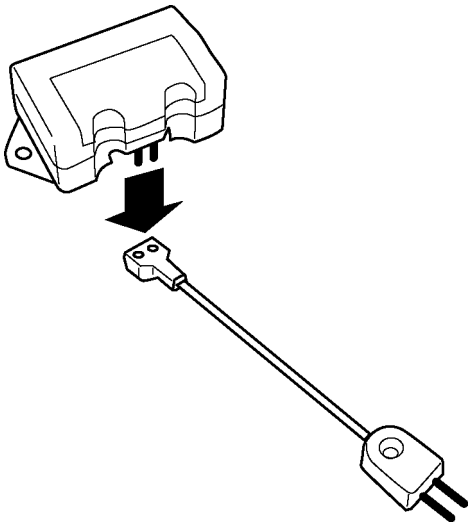


Figure 12. Connect the extension cable to the Leak Sensor.

Programming the Control Panel Monitor

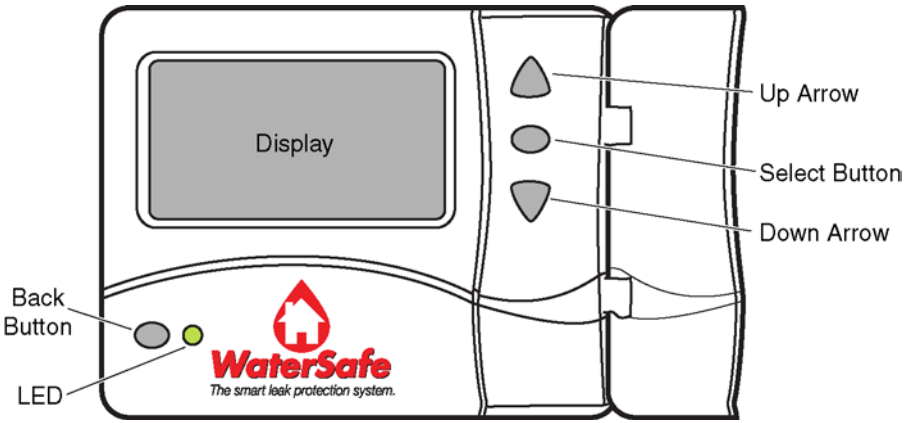


Figure 13. Use the buttons to program the Control Panel Monitor.

Note: At any time that you need to back out of an operation, press the Back button next to the LED on the front of the Control Panel Monitor until you return to the OK or MENU screen.

Settings

Set the Date and Time

1. On the Control Panel Monitor, press either the up or down arrow twice.
2. "Menu" will be displayed along with the default menu option.
3. Press either the up or down arrow until the "Set Up" option is shown.
4. Press the middle button to select the "Set Up" option. "Menu" will change to "Set Up" and the "Date" option is shown.
5. Press the middle button to select the "Date" option. Follow the instructions as they appear on the screen. Use the arrows to go to the desired day, and then press the middle button to set it. Follow the same procedure to set the month and year.
6. When you have completed the instructions, the date appearing in the bottom left portion of the screen should match your input.
7. The menu should have returned to the "Set Up" menu with the "Date" option displayed. From this screen press either the up or down arrow until the "Time" option is shown.
8. Press the middle button to select the "Time" option. Follow the instructions as they appear on the screen.

9. When you have completed the instructions, the time appearing in the bottom right portion of the screen should match your input.

Switch between Fahrenheit (°F) and Celsius (°C)

1. On the Control Panel Monitor, press either the up or down arrow twice.
2. “Menu” will be displayed along with the default menu option.
3. Press either the up or down arrow until the “Set Up” option is shown.
4. Press the middle button to select the “Set Up” Option. “Menu” will change to “Set Up” and the “Date” option is shown.
5. Press either the up or down arrow until the “Temp. Units” option is shown.
6. Press the middle button to select the “Temp. Units” option. “Set Up” will change to “Temp. Units” and the Temperature Unit that is currently being used will be shown.
7. Press the up or down button to display the other Temperature Unit available.
8. When the desired Temperature Unit is displayed, press the middle button to select. The temperature will now be displayed using the new Temperature Unit.

Other Settings

Other setup options are:

- Connection: phone or Ethernet
- Net: <IP ADDRESS xxx.xxx.xxx.xxx>
- Time Format: 12 hr or 24 hr
- Language: English or Spanish
- Svc. Ctr.: enable or disable the connection to the Service Center

Connect the Valve Controller to the Wireless Network

1. On the Control Panel Monitor, press either the up or down arrow twice.
2. “Menu” will be displayed along with the default menu option.
3. Now press either the up or down arrow until the “Join Valve” option is shown.

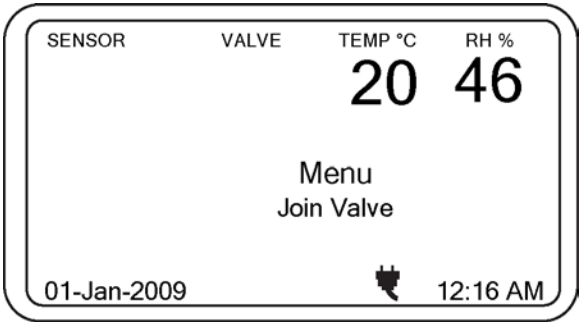


Figure 14. Join Valve option

4. Press the middle button to select the “Join Valve” option. “Menu” will change to “Join Valve”.
5. Press the middle button again and “Join Valve” will change to “Allow Join” and a countdown will begin. You now have 60 seconds to join the Valve Controller to the wireless network.

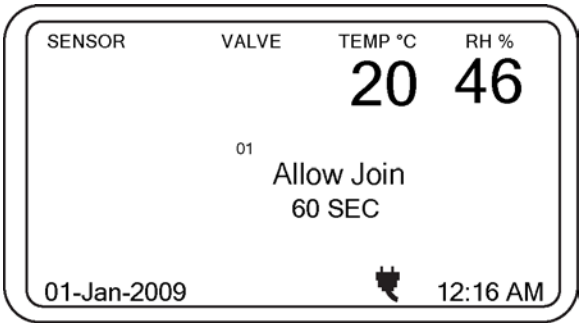


Figure 15. Allow Join countdown for valve

6. On the Valve Controller case, Press the “JOIN-LEAVE” button and hold for about 3 seconds until the green “STATUS” LED begins flashing. The light will continue flashing as the Valve Controller attempts to connect to the Control Panel Monitor.
7. After a few seconds, the “STATUS” LED will glow a steady green light. This indicates that the Valve Controller has successfully connected to the Control Panel Monitor.

8. The presence of the valve on the network will also be indicated on the Control Panel Monitor.

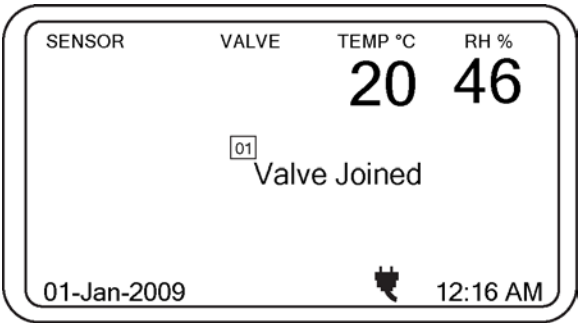


Figure 16. Valve Joined

Connect the Leak-Detection Sensors to the Wireless Network

1. On the Control Panel Monitor press either the up or down arrow twice.
2. "Menu" will be displayed along with the default menu option.
3. Press either the up or down arrow button until the option "Join Sensor" appears on the screen.
4. Press the middle button to select the "Join Sensor" option. "Menu" will change to "Join Sensor".
5. Press the middle button again and "Join Sensor" will change to "Allow Join" and a countdown will begin. You now have 60 seconds to join the Leak Sensor to the wireless network.

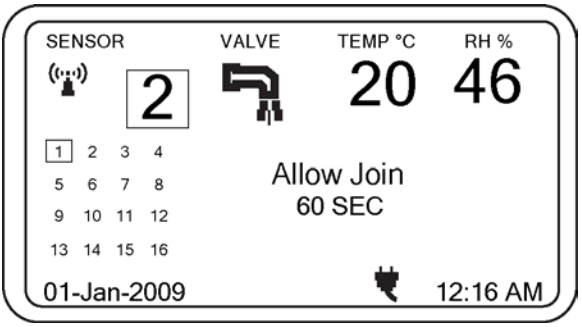


Figure 17. Allow Join countdown for sensor number 2

6. Press the button on the Leak Sensor and hold it down for over 5 seconds until you see the LED flash red and green alternatively. The red and

green flashing means that the Leak Sensor is in the process of joining the wireless network.

7. When the red and green flashing ends, you should see a steady or flashing green light followed by the green LED turning off. This indicates that the Leak Sensor has joined the network. The LED turning off indicates that the Leak Sensor has entered Sleep Mode. The Leak Sensor spends most of its time in Sleep Mode to save on battery life. It wakes up immediately when it detects a water leak. If there is no leak, then the Leak Sensor wakes up every 8 hours to report its status.
8. You should eventually see the Leak Sensor number on the Control Panel Monitor.

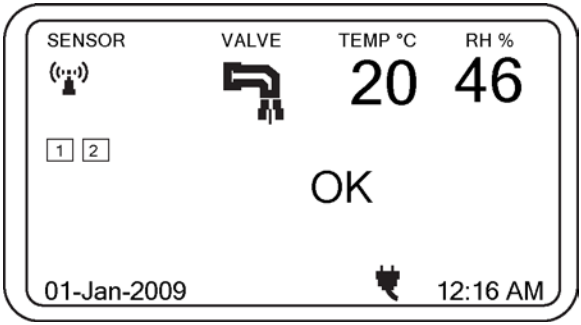


Figure 18. Leak Sensor numbers displayed

9. Keep the Leak Sensor close to the Control Panel Monitor until you see a rectangle around the Leak Sensor number that you have just joined. This rectangle indicates that the Sensor has obtained the Valve Controller's details.
10. In the event of a leak, the Leak Sensor conveys the leak alarm message to both the Control Panel Monitor and the Valve Controller.
11. Now place the Leak Sensor at any place in the house where there is a potential for a water leak to occur.

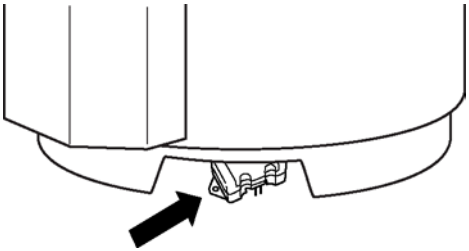


Figure 19. Leak Sensor positioned under water heater

12. Note this Leak Sensor's number and its corresponding location on the space provided on the hinged door of the Control Panel Monitor. Also record this information on the information sheet included with the product. Now press the clear button and

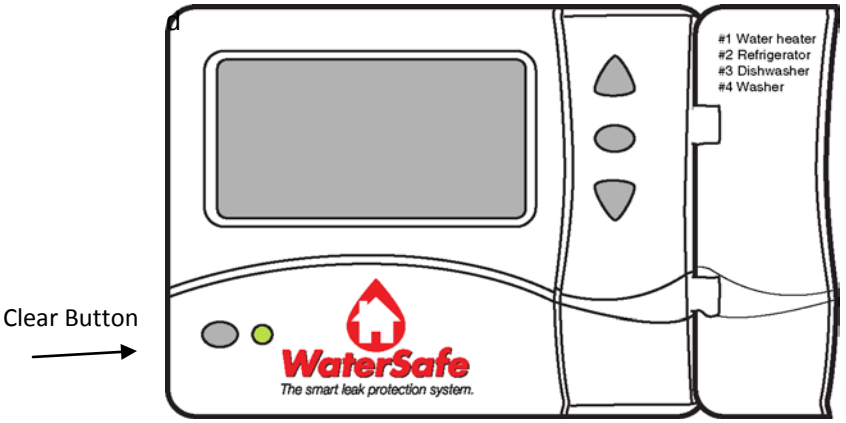


Figure 20. Record the sensor locations inside the cover of the Control Panel Monitor. Also record this on the information sheet included.

repeat this procedure to join the remaining sensors to the network.

Toggle the Shut-Off Valve

From the Control Panel Monitor

1. On the Control Panel Monitor press either the up or down arrow twice.
2. "MENU" will be displayed along with the default menu option.
3. Press either the up or down arrow until the "Operate Valve" option is shown.

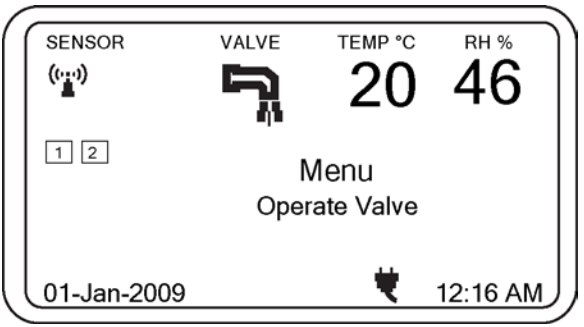


Figure 21. Operate Valve option

4. Press the middle button to select the “Operate Valve” option. “Menu” will change to “Operate Valve” and the “Close” option will be flashing.

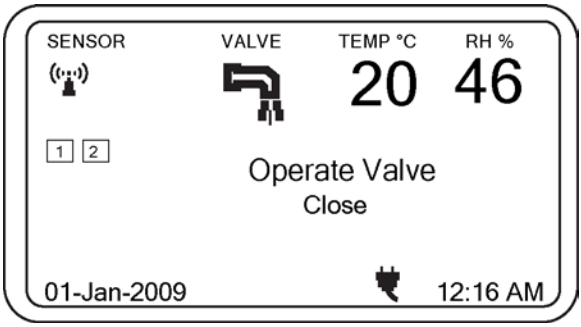


Figure 22. Close Valve option

5. In order to close the valve, press the middle button now. The message will change as shown in the figure below. If you are near the valve, you should be able to hear it move.

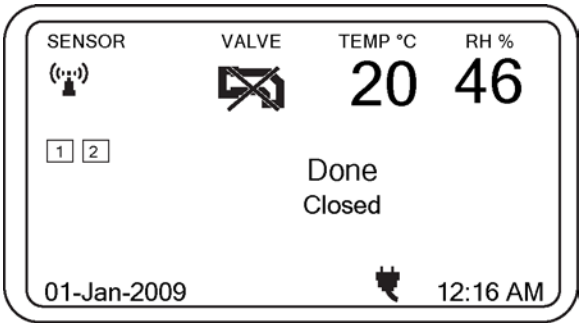


Figure 23. The valve has been closed.

6. In order to open the valve, press the down arrow and the “Open” option will be flashing. Press the middle button to activate the command. The Valve should start to move now.
7. The valve position icon display is updated in a few seconds.

From the Shut-Off Valve Controller

1. On the Shut-off Valve Controller there is an “OPEN/CLOSE” button. Press this button for 3 seconds and you will hear the valve move to a new position.

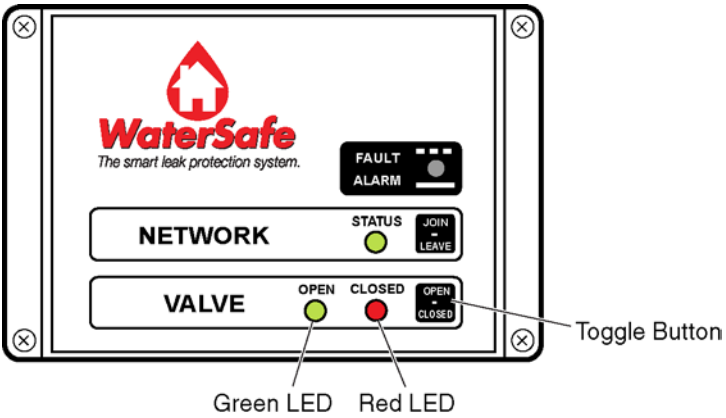


Figure 24. Open or close the valve from the Valve Controller.

2. The LED indicators on the Shut-off Valve Controller will change to reflect the new valve position.
3. The new valve position can also be seen on the Control Panel Monitor.

Remove the Shut-Off Valve from the Wireless Network

1. Confirm that the shut-off valve is on the network. To check this, make sure that the “STATUS” LED on the Shut-off Valve Controller case is shining a steady green.
2. Make sure that the Valve’s presence is indicated on the LCD of the Control Panel Monitor.
3. Press either the up or down arrow until the “Remove Valve” option is shown.
4. Press the middle button to select the “Remove Valve” option. “Menu” will change to “Remove Valve”.
5. Press the middle button again to remove the valve. There should no longer be a square surrounding the Shut-off Valve Controller number.

6. Now press and hold the “JOIN/LEAVE” button on the Shut-off Valve Controller for about 3 seconds.

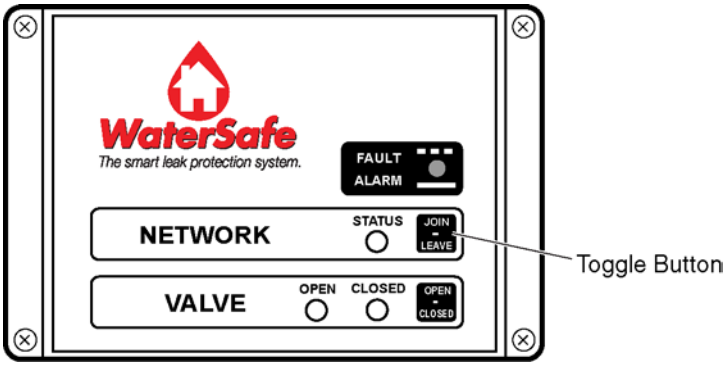


Figure 25. Hold down the Join/Leave button.

7. The Green “STATUS” LED will flash momentarily and then turn OFF, indicating that the Shut-off Valve Controller has left the wireless network.
8. Power down the Shut-off Valve Controller if you do not wish it to attempt to join again. To power it down unplug its power cable from the power outlet.

Remove the Leak-Detection Sensor from the Wireless Network

1. Confirm that your Leak Sensor is on the network. To check this, make sure that the LED on the Leak Sensor is either off or is shining a steady green.
2. Make sure that the presence of the Leak Sensor is indicated on the Control Panel Monitor.
3. Press either the up or down arrow until the “Remove Sensor” option is shown.
4. Press the middle button to select the “Remove Sensor” option. “Menu” will change to “Remove Sensor”.
5. Press the up or down arrow until you have selected the Leak Sensor number of the sensor you are removing.
6. Press the middle button again to remove the sensor. There should no longer be a square surrounding the Leak Sensor’s number.
7. Now press the button on the Leak Sensor for longer than 5 seconds.
8. The Leak Sensor’s LED will flash with alternative red and green light indicating that the Leak Sensor is in the process of leaving the network.

9. When the Leak Sensor has left the network the LED will change to a steady red light.

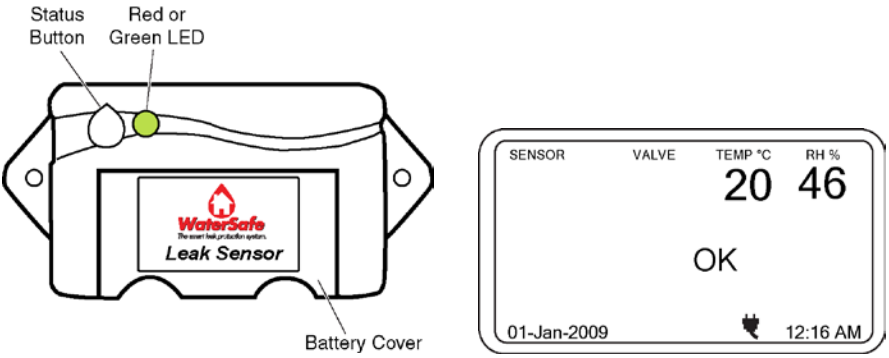


Figure 26. Leak Sensor has left the network.

10. Remove the battery from the Leak Sensor if you do not wish it to attempt to join the network again.

Connecting to the Network Operations Center (NOC)

Connect to the Internet

Depending upon the current Internet setup in the home, the Control Panel Monitor can be connected via Ethernet or phone line. When connection is made, the Control Panel Monitor is automatically recognized by the Network Operations Center.

See the section “Install the Control Panel Monitor” for more details.

Set up Alerting with the Call Center

When system installation and configuration have been successfully completed, and an Internet connection has been established, you can call the GMMS Call Center at 1-877-994-2672 in order to register your system and subscribe to the optional alerting service.

1. Fill out the information sheet that was enclosed with the product.
2. Call the GMMS Call Center.
3. Provide basic information to register the system for warranty purposes.
4. If you choose to subscribe to the alerting service, be prepared to provide additional contact information and financial information for purchasing the service.
    - WaterSafe system serial number
    - Homeowner’s home phone number
    - Homeowner’s work phone number
    - Homeowner’s cell phone number
    - Installer’s phone number
    - Homeowner’s email address
    - Credit card or bank checking information for purchasing a subscription to the alerting service
    - Username and password for on-line monitoring
5. Also fax or mail a copy of the completed information sheet to GMMS.

GMMS – WaterSafe

Mailing Address:

GMMS – WaterSafe
11132 Broad River Rd.
Suite A
Irmo, SC 29063

Phone Number:

1-877-994-2672

Email:

customerservice@thewatersafe.com

Set up On-line Monitoring

When you have subscribed to the alerting service you will be able to use the on-line monitoring portal to update contact information and check system status.

1. Go to the WaterSafe website: www.thewatersafe.com
2. Click on “Customer Login.”
3. On the Login page, enter your username and password.
4. The Dashboard is displayed giving status information. There are links to further details such as log files and temperature and humidity charts.
5. Go to the Setup page in order to change your contact information for alerting.

System Operation

Detecting a Water Leak

1. When a Leak Sensor has water between its terminals, it immediately wakes up and waits 3 seconds. At the end of 3 seconds, if the leak persists, then it will convey the leak alarm message to the Control Panel Monitor and the Shut-off Valve Controller. In addition to the wireless alarm message, the Leak Sensor also beeps continuously with a flashing red LED.
2. When the Control Panel Monitor receives a leak alarm message from a Leak Sensor, it shows on the display the number of the sensor that has found the leak. It also sends an alarm message to the Shut-off Valve Controller. The Control Panel Monitor sends an acknowledgement to the Leak Sensor that it has recognized the leak alarm message. In addition to these actions, the Control Panel Monitor beeps.
3. When the Shut-off Valve Controller receives a leak alarm message from either the Leak Sensor or the Control Panel Monitor, it will immediately CLOSE the valve and will turn on the “FAULT ALARM” LED. The Shut-off Valve Controller will also send an acknowledgement to the Leak Sensor.
4. When the Leak Sensor receives acknowledgements from both the Control Panel Monitor and the Shut-off Valve Controller, it changes its continuous beep to a low-frequency beep.
5. If the system is set up for NOC alerting, the Control Panel Monitor sends a notification to the NOC, which then sends a message to the pre-established contacts.
6. In the event of a water spill (false alarm) there is a 60 second delay before notifications are sent out to the proper contacts. The system can be reset during this time. .

Clearing the Water Leak Alarm

1. Remove the Leak Sensor from the water.
2. On the Control Panel Monitor, press the button next to the LED or the middle button to send a “CLEAR ALARM” message.
3. When the “CLEAR ALARM” reaches the Leak Sensor and the Shut-off Valve Controller, all beeps will stop.
4. The “FAULT ALARM” LED on the Shut-off Valve Controller and the flashing red LED on the Leak Sensor will also turn off.

5. Restore the Leak Sensor to its previous location after the leak is all cleared and repaired.
6. Open the valve from the Control Panel Monitor or the Shut-off Valve Controller. See “Toggle the Shut-Off Valve” for instructions.

Maintenance

Batteries

The display on the Control Panel Monitor shows if its battery is low or if the battery in one of the Leak Sensors is low. Replace batteries accordingly. See “Install the Control Panel Monitor” or “Install the Leak-Sensors” for instructions on installing the batteries.

Shut-off Valve Assembly

Operate the valve periodically (quarterly) in order to ensure that it is free from mineral deposit buildup from the water supply. See “Toggle the Shut-Off Valve” for instructions on closing and opening the valve.

Troubleshooting

Leak Sensor does not join the wireless network

- Sometimes, it might take few attempts to join the Leak Sensor to the wireless network, depending on the existing wireless traffic. Keep the Leak Sensor close to the Control Panel Monitor and try a few times.
- Check the battery connections.
- Replace the battery.

Shut-off Valve Controller does not join the wireless network

- Check the power cord connections.
- If possible, take the Shut-off Valve Controller close to the Control Panel Monitor and attempt a “Join”. When joined, power down the Shut-off Valve Controller and return it to its original location. Plug into its regular location and wait several minutes for the connection to be re-established.

Cannot toggle the Valve Assembly

- Press the OPEN/CLOSE button on the Shut-off Valve Controller and hold for three seconds. This will open the valve if it is stuck in a “FAULT” condition.
- If the valve does not respond to any toggle commands, then have the valve checked by a plumber. The “FAULT ALARM” red LED will be lit on the Shut-off Valve Controller.

Leak Sensor does not detect a leak

- Replace the battery.
- If the Leak Sensor still does not detect a leak (test this by placing the detector terminals on a small pool of water), the unit is probably damaged.

Low battery indicator on Control Panel Monitor

- The display on the Control Panel Monitor shows if its battery is low or if one of the Leak Sensors’ battery is low. Replace batteries accordingly.

Leak Sensor keeps beeping after alarm is cleared

- Make sure that there is no water between the terminals on the Leak Sensor.
- Take the Leak Sensor close to the Control Panel Monitor and try to clear the leak-alarm message.
- Press the button on the Leak Sensor for one second.
- If all attempts fail, then power-cycle (power down and then power up) the Control Panel Monitor and the Leak Sensor.

Leak Sensor starts to beep when joining the wireless network

- You might have accidentally pressed the button twice (instead one continuous 5-second press) and put the system in test mode. Press the button one more time for over one second and the beep should stop.

Control Panel Monitor display is blank

- Check the power cord connections.
- Also check the battery connections.

Not all sensors are displayed on the Control Panel Monitor, or the red LED on the sensor is steady on

- If the Leak Sensor was never a part of the network, then join it to the network.
- Move the Leak Sensor that is missing on the display close to the Control Panel Monitor and press the button on the Leak Sensor for one second. If it comes back on the display after a few seconds, then probably the Leak Sensor went out-of-range on the wireless network.
- Check the battery on the Leak Sensor.

Shut-off Valve is not displayed on the Control Panel Monitor or the status LED on the Valve Controller is off

- If the Shut-off Valve Controller was never a part of the network, then join it to the network.
- If the “STATUS” LED on the Shut-off Valve Controller is flashing GREEN, wait for a few seconds for the valve to join the network and show up on the Control Panel Monitor.
- If the “STATUS” LED on the Shut-off Valve Controller is off, it means that the Shut-off Valve has left the network. Bring the Valve Controller closer to the Control Panel Monitor to allow it to JOIN again. The Shut-off Valve Controller is probably placed at distance which is out-of-range for the wireless network.

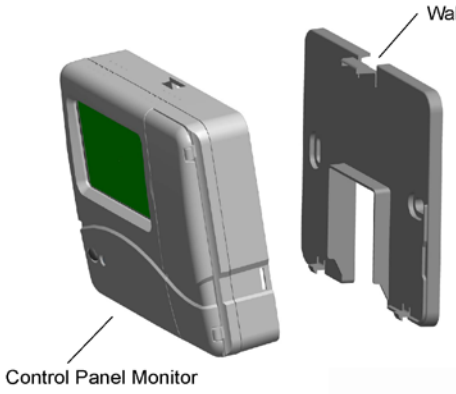
Appendix A: Control Panel Monitor Icons

	Valve open
	Valve closed
	Sensors on network
	Sensors removed from network
	Power connected
	Power disconnected
	Leak alarm
	Service Center enabled
	Low battery

Appendix B: Wall-Mount Installation

Install the Control Panel Monitor on the Wall

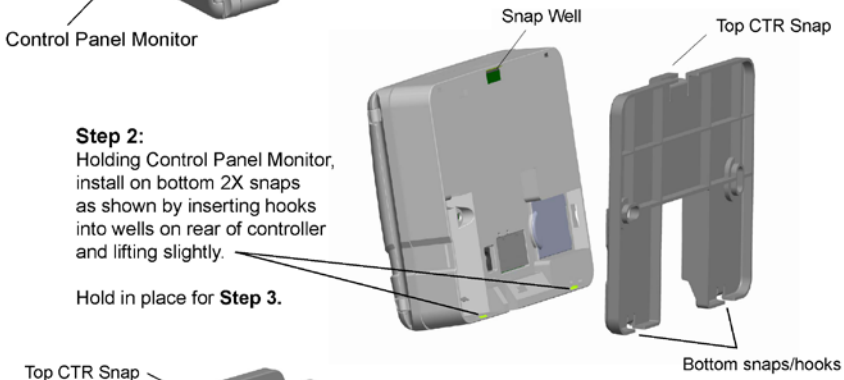
Follow these instructions to mount the Control Panel Monitor on the wall, using the wall-mount bracket.



Step 1:
Install Wall Mount Bracket to wall using quality commercially available dry-wall anchor kits in #10 screw size.

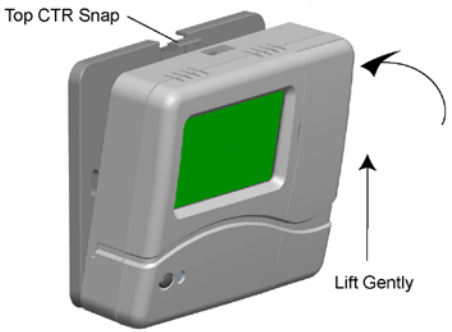
2X Screws required.

Bracket will allow for Pan, Truss or Binder Heads in a #10 size.



Step 2:
Holding Control Panel Monitor, install on bottom 2X snaps as shown by inserting hooks into wells on rear of controller and lifting slightly.

Hold in place for **Step 3.**

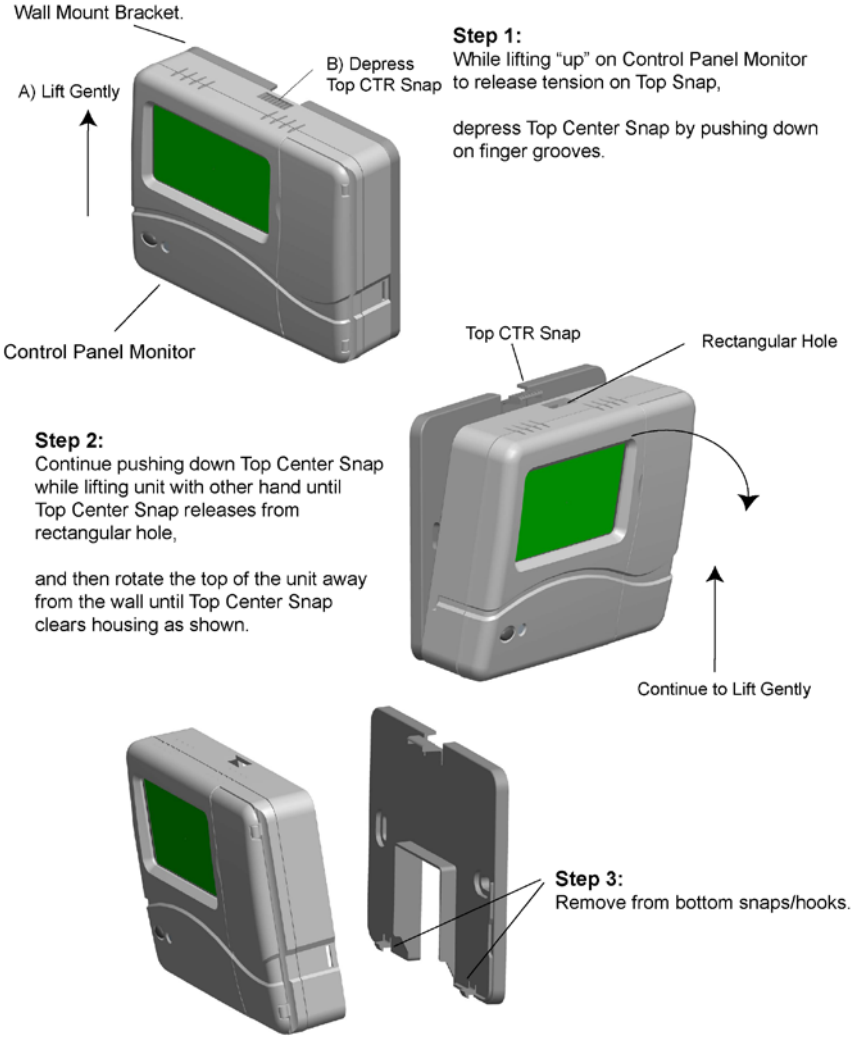


Step 3:
While continuing to lift slightly, rotate Control Panel Monitor up and depress center Top Snap to start it into snap well.

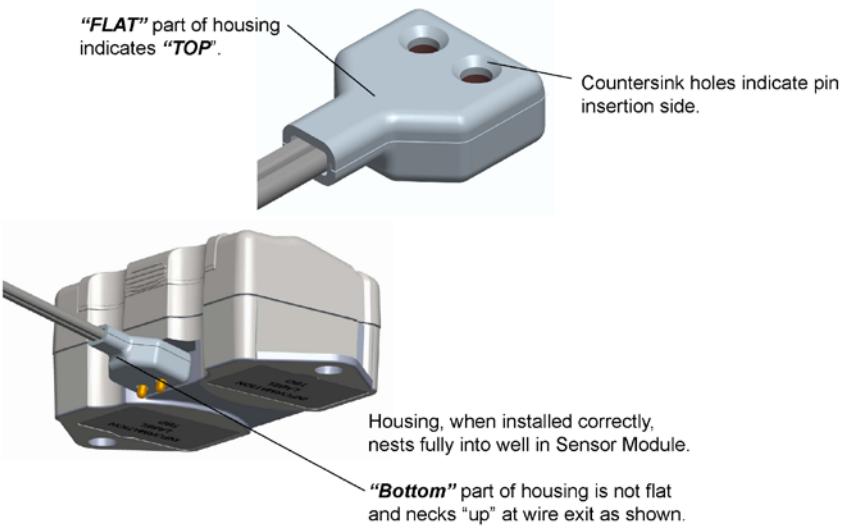
Continue rotating unit towards wall until top center snap seats in top snap well (audible click).

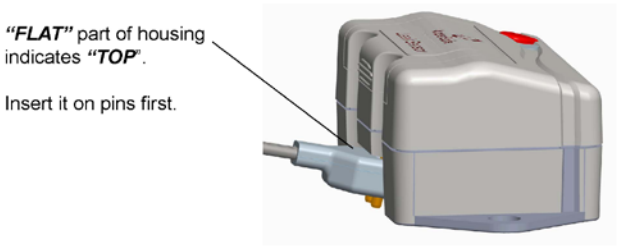
Remove the Control Panel Monitor from the Wall-Mount Bracket

Follow these instructions to remove the Control Panel Monitor from the wall when you need access to the back of the unit for battery replacement and other servicing.



Appendix C: Sensor Extension Cable Connection





Optional Accessories for the WaterSafe Valve

SKU Number:	Name:	Description:
GR016	Drain Pan Sensor with cradle stand	This sensor alerts when drain pan is filling up before it overflows by sending phone call, text alert, and email. Monitoring service must be purchased for this feature.
GR011	Sensor Extension	This cable will allow the sensor probes to extend into hard to reach places.
GR018	Phone Modem and Phone cable	This allows internet connection for the system when only a phone line is available. An additional phone line is recommended.
GR014	Threshold Sensor	This sensor is used where tile or marble floor of a bathroom meets the carpet. It allows for multi coverage of toilet, sink, and shower or tub area.
GA104	Battery Packets	Packets of the AAA and 123 sensor Batteries are available. Call 1-877-994-2672 for pricing.
GR080	Signal Repeater	Zigbee wall router continues signal in homes or buildings that contain construction obstacles (concrete and steel) that may block the signal to valve
GR020	7 ft, Extension cable	This cable allows for greater distance between the valve and Hammond box.
GR030	12ft. Extension cable	
GR040	20ft. Extension cable	This allows for greater protection for Hammond box if valve is outside. or in locations that need protection.
GR050	50ft. Extension cable	

GR010	1 Sensor	additional wireless Sensor
GR012	5 Sensors	additional wireless Sensors

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