FLOLOGIC SYSTEM 3.5®

INSTALLATION AND SETUP INSTRUCTIONS

(LEAVE WITH CUSTOMER)

Thank you and congratulations on your selection of the FloLogic System. Please follow these instructions carefully to ensure proper functionality and to validate the warranty.

BEFORE YOU BEGIN - IMPORTANT CONSIDERATIONS

DO NOT INSTALL THE FLOLOGIC SYSTEM ON/BEFORE FIRE SUPPRESSION WATER LINES

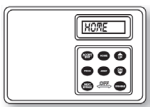
- **Installation of the FloLogic System requires a basic knowledge of plumbing as well as specialized tools for cutting pipe and joining fittings.**
- **A spring-check valve is required on all municipal supply water lines prior to the FloLogic Valve to prevent flow readings from pressure fluctuations**
- **Installing the FloLogic System prior to irrigation systems or water conditioners with backwash cycles will require integrations to avoid possible nuisance alarms**
- **The local Control Panel, CONNECT Module and Power Supply must be protected from moisture, which may require fishing the wire indoors on an outdoor installation**
- **The CONNECT Module mounting location requires a strong 2.4 GHz WiFi signal**
- **FloLogic suggests you hire an experienced professional plumber to complete the work and an electrician if deemed necessary**

UNPACK CARTON AND CHECK CONTENTS

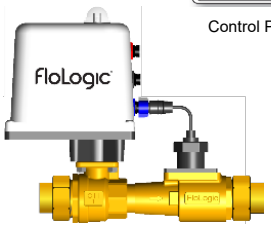
After opening the box containing the FloLogic System ("System"), make a note of any damage to the outer shipping box. If damages were noted to the outer shipping carton, inspect the contents to determine whether the damage affected the various System components. If shipping damage has occurred, report the damages to the shipping company and notify FloLogic at info@flologic.com or call toll-free at 1-877-FLOLOGIC (356-5644) between 9 a.m. and 5 p.m., Eastern.

CONTENTS CHECKLIST

- ☐ Control Panel
- ☐ Power Supply / AC Converter
- ☐ Valve Assembly with Actuator
- ☐ Communication Cable
- ☐ System Battery with Hanging Strap
- ☐ Documentation Pack Including
  - Installation and Setup Instructions
  - Directions for Use Booklet
  - Manual Override Tool
  - Keypad Mounting Screws and Drywall Anchors
- ☐ Optional: CONNECT Module



Control Panel



Valve Assembly


Power Supply


Communication Cable


Battery w/ Strap


Optional CONNECT Module

FloLogic System Specifications

General:
Low Lead (< 0.25%) bronze valve body
Full port, stainless steel ball
PTFE (Teflon®) seals on ball valve
EPDM O-ring seals on all union fittings
Integrated manual override (8mm) with included tool
Rated for Indoor and Outdoor Installations (Valve Assembly ONLY)
Works on both HOT and COLD water supply lines (34° to 140° F / 1° to 60° C)

Valve Assembly:
1" System: Length: 11", Height: 10", Depth: 4.5", Weight: 11.5 lbs.
1½" System: Length: 12", Height: 11", Depth: 4.5", Weight: 16.5 lbs.
2" System: Length: 13", Height: 12", Depth: 4.5", Weight: 25 lbs.
Ingress Protection Class: IP-68

Union O-Rings (EPDM):
1" Valve: Parker #125 (1.299 ID / 1.505 OD)
1½" Valve: Parker #139 (2.175 ID / 2.381 OD)
2" Valve: Parker #149 (2.80 ID / 3.006 OD)

If Needed for Future Replacement

Low Flow Sensitivity: User adjustable, 0.5–48.0 ounces per minute (15 ml – 1.42 liter)

System Battery:
12 Volt, Sealed Lead Acid, AGM, 4.5-6 Amp Hour
Standby time: 3 – 5 days following loss of AC Power
Monitors flow and actuates Valve, if needed

AC Power: 100-240 VAC / 60 Hz, Current draw – 300 mA (0.3 amps)

Pressure Limits:
Maximum: 150 psi at 73.4° F (23° C)
Working: 100 psi at 73.4° F (23° C)

Environmental:
Water Temp: Min 34° F (1° C) - Max 140° F (60° C)
Ambient Air: Min 34° F (1° C) - Max 120° F (50° C)

Control Panel: Backlit LCD with silicone keypad and Security System interfaces

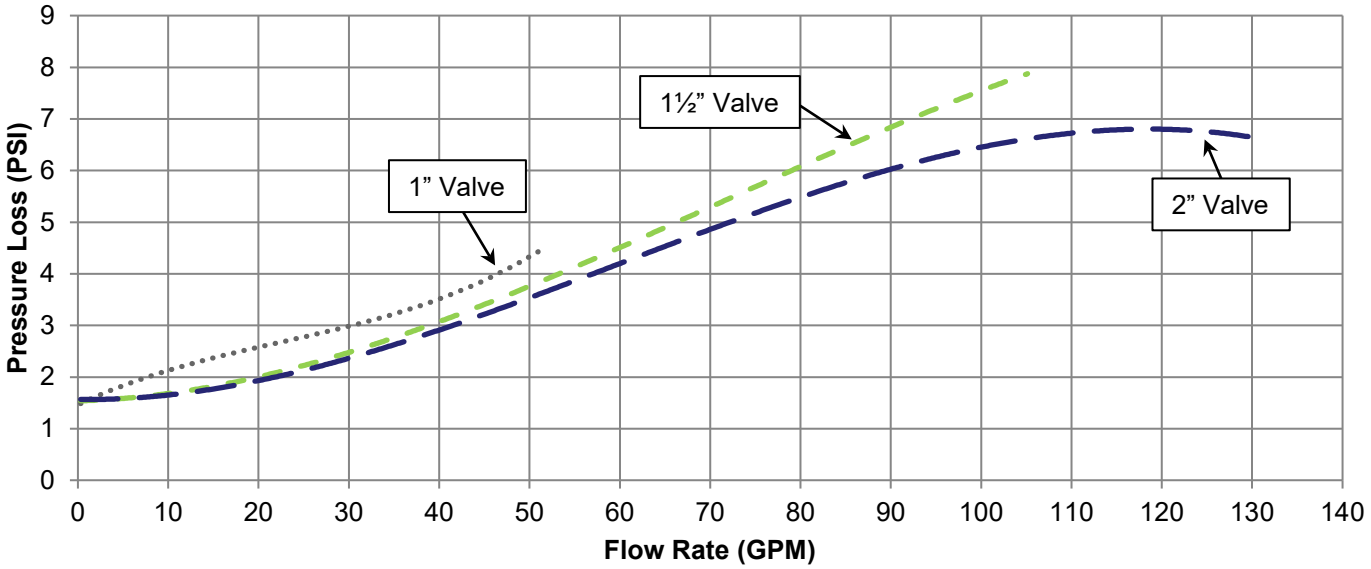
Limited Warranty: Up to five-year limited warranty (Details on Page 23)

Regulatory:
c UL us LISTED FloLogic System 3.5 72YF
LEAD FREE
ANSI / NSF / CAN 61 UPC C

CALIFORNIA PROP 65: WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

NOTE: The warning does not mean our products inevitably cause cancer or reproductive harm. Proposition 65 may be best defined as a "Right To Know" law, and Proposition 65 warnings are not an indication that a product is violating safety standards or regulations.

Pressure Loss versus Rate of Flow



INSTALLATION GUIDE CONTENTS

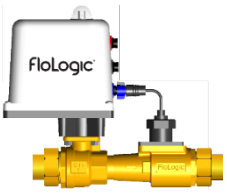
Installation Times are Estimates Based on Field Observations

CAUTION: USE ONLY THE TOOLS AND MATERIALS SPECIFIED; USE OF OTHER TOOLS OR MATERIALS MAY DAMAGE SYSTEM COMPONENTS.

PLANNING AND PREPARATION (15 - 60 minutes)

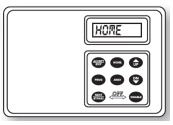
Step 1: Determine Valve Location
Step 2: Locate Existing or Install New Electrical Outlet
Step 3: Shut Off Water Main and Drain Pipes
Step 4: Install Check Valve/Sediment Filter as Advised

VALVE INSTALLATION (45 – 90 minutes)



Step 5: Measure, Mark, and Cut Pipe
Step 6: Install Fittings onto Water Line
Step 7: Install Valve onto Water Line

CONNECTING THE CONTROL PANEL (15 – 30 minutes)



Step 8: Determine Control Panel Location
Step 9: Run Communication Cable
Step 10: Install Control Panel

POWER UP SYSTEM (2 minutes)

Step 11: Connect the Battery to the Power Supply
Step 12: Plug in Power Supply to AC Outlet and Valve

OPERATIONAL TEST (10 minutes)

(Perform after installation and every 6 months thereafter)
Step 13: Confirm System is in HOME Mode
Step 14: Check for Background Water Flow
Step 15: Confirm Flow Detection
Step 16: Confirm Control Panel Water Shutoff
Step 17: Confirm Automatic Shutoff

REFERENCE MATERIAL

PLANNING AND PREPARATION

STEP 1 – DETERMINE OPTIMAL VALVE LOCATION

The Valve may be installed in any orientation on a vertical or horizontal plane. Install after the pressure tank for a well water installation, after the meter and PRV on municipal water installation and after any booster pumps. See STEP 2 for additional information.

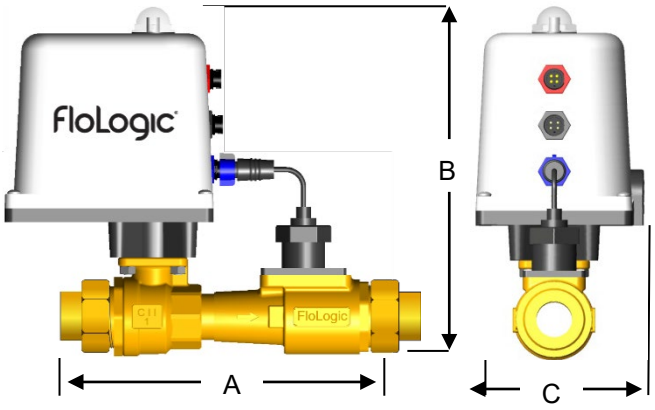
As noted in STEP 10 and 11, the Control Panel, Power Supply and Connect Module can not be exposed to the elements, meaning on an outdoor Valve installation cables may need to be fished into the structure.

The Valve Assembly should be located on the main water line prior to the breakout of any distribution lines serving your plumbing appliances. This will typically be in a basement, crawl space or garage. ***Like any water supply component, the Valve should be located in an area that is not subject to freezing conditions***. If the supply is only accessible outside of the structure, you need to provide an enclosure to protect the Valve from freezing conditions and excessive water exposure. **While the Valve Assembly is rated for weather resistance, it should never be submerged in water or subjected to heavy water exposure. A protective cover/enclosure is recommended on outdoor installations. Below grade installations are not recommended.**

It is simpler to install the FloLogic Valve AFTER distribution lines to automatic irrigation systems, after pool fill lines and after equipment with automatic backwash cycles such as water softeners or reverse osmosis filters. If this is not feasible or desirable, integrations may be required to establish automatic communication from these devices to FloLogic to avoid nuisance alarms. (see Reference Material beginning on page 16). The FloLogic System consumes very little power and does not require a dedicated 110 VAC electrical outlet**. The Power Supply is 21 feet where the final 15 feet is designed for outdoor exposure**. If you need to install the valve more than 20 feet from an available AC source, you can either install a new electrical outlet or purchase a Power Supply Extension cable from FloLogic .

Supportive brackets will be necessary in many installations. The Valve Assembly weighs 11.5 pounds in the 1" model, 16.5 pounds in the 1½" model,and 25.0 pounds in the 2" model. The Valve can be installed on a horizontal or vertical pipe run. In a vertical pipe, there are no limitations as to orientation. On a horizontal pipe the Valve can be installed with the actuator oriented up or down

PHYSICAL DIMENSIONS



1 Inch
A – 11"
B – 10"
C – 4.5"

1½ Inch
A – 12"
B – 11"
C – 4.5"

2 Inch
A – 13"
B – 12"
C – 4.5"

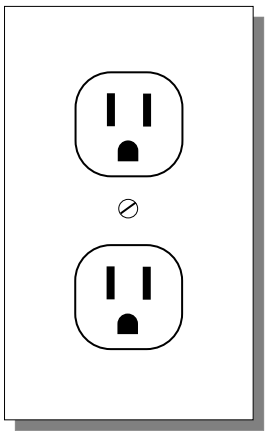
NOTE: Manual Override Access

The FloLogic System is equipped with a manual override that will allow you to open or close the Valve with the included override wrench (or a 5/16" or 8 mm wrench) in the event of a complete loss of power. When planning for the location of the Valve, provide sufficient clearance to accommodate access to this override.

PLANNING AND PREPARATION (continued)

STEP 2 – LOCATE AN EXISTING OR INSTALL A NEW 110 VAC ELECTRICAL OUTLET FOR POWER

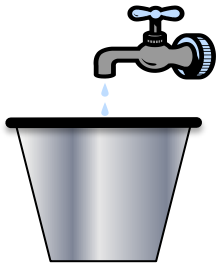
If you do not already have an electrical outlet within 20 feet of the Valve location, you will need to install one yourself or have one professionally installed by an electrician. Alternatively, if an AC source is available, but further than 20 feet from the Valve location, watertight Power Supply Extension cables are available for purchase from FloLogic. FloLogic does not recommend permanent use of any other type of extension cord.



The FloLogic System consumes very little power and as such, does not require a dedicated electrical outlet**.** The Power Supply is configured with a grounded, three-prong plug attached to a 6 foot cord. The Power Supply transformer case has molded “ears” designed for securing it to a wall or exposed floor joist. From the Power Supply, there is a 15 foot cable that connects to the Valve. While the interconnect cable and connector between the Power Supply and the Valve is waterproof, the Power Supply must be protected from weather and kept dry at all times. Contact info@flologic.com or call 877-FloLogic (877-356-5644) to order power cable extensions if needed.

STEP 3 – SHUT OFF WATER MAIN AND DRAIN PIPES

Before beginning the installation of the Valve, the water should be shut off at the water meter. If you are on a well, disable the well pump by switching off the appropriate electrical circuit breaker. Open a cold water faucet at the lowest elevation point and let the water run until it stops. In some structures, the lowest elevation water outlet will be a hose bib on an exterior wall. If you have a multi-story unit, open a couple of cold water taps on the upper-most floor to break any residual plumbing system vacuum and improve drainage. Depending on the design of your plumbing system, the draining of the water line may take as long as 15 minutes.



STEP 4 – INSTALL A CHECK VALVE AND/OR SEDIMENT FILTER (IF NECESSARY)

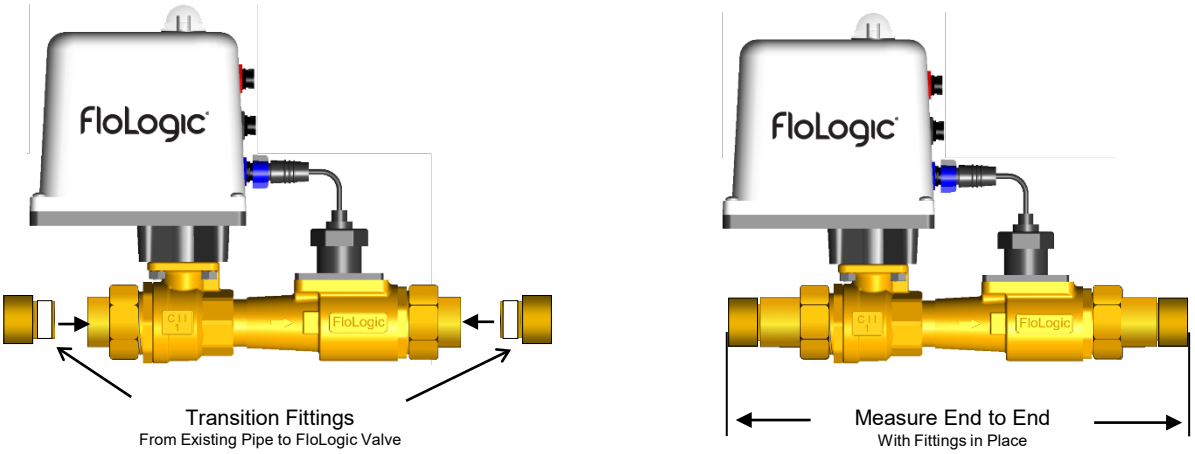
It is recommended that all FloLogic valves be installed after a 120-mesh/125 micron wye strainer or an equivalent water filter. Plumbing supplied by an on-site well is highly recommended to have a filter to protect the flow sensor from silt. Plumbing supplied by a municipality or community well requires a spring-loaded check valve (or backflow preventer) to be in place before the FloLogic valve to prevent the System from seeing water pressure fluctuations, which may be registered as flow and cause nuisance alarms. Note that properties with tank water heaters may require a thermal expansion tank when a check valve is newly installed.

You have now completed the planning and preparation work and are ready to install the Valve and Flow Sensor assembly.

VALVE INSTALLATION

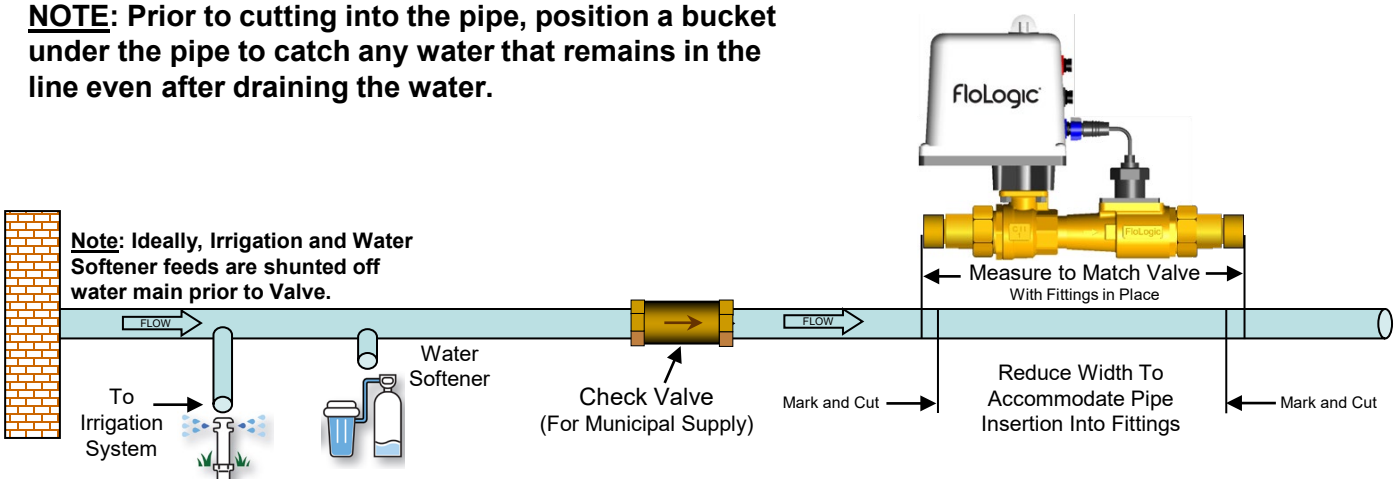
STEP 5 – MEASURE, MARK, AND CUT PIPE

Depending on the pipe material and valve size being installed, you may need one or more pipe fittings to transition to the union connections on the FloLogic Valve. Assemble the fittings required to transition from the main water line to the FloLogic Valve. Securely tighten the union tailpieces on each end of the FloLogic Valve to prepare to mark the cutout.

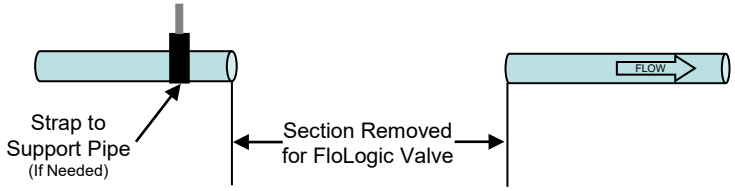


Carefully measure the overall length of the assembled Valve and fittings. Take this measurement and mark it on the water pipe where you intend to locate the FloLogic Valve. Next, determine how far the pipe will insert into each of the transition fittings when assembled after cutting. Reduce the width of the overall measurement by these insertion lengths. Mark the reduced overall length on the pipe and prepare to cut the pipe.

NOTE: Prior to cutting into the pipe, position a bucket under the pipe to catch any water that remains in the line even after draining the water.



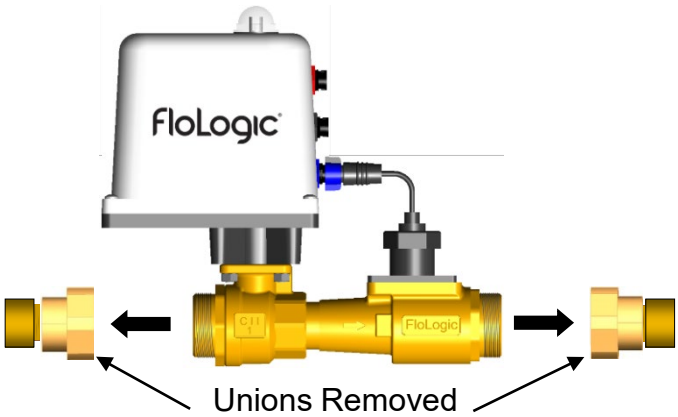
Using the appropriate tools, cut the pipe in the places marked. Be careful to make a clean, square cut to ensure minimal clean-up and prep work before installing the fittings. Additional pipe supports may be required if the cut pipe sags excessively.



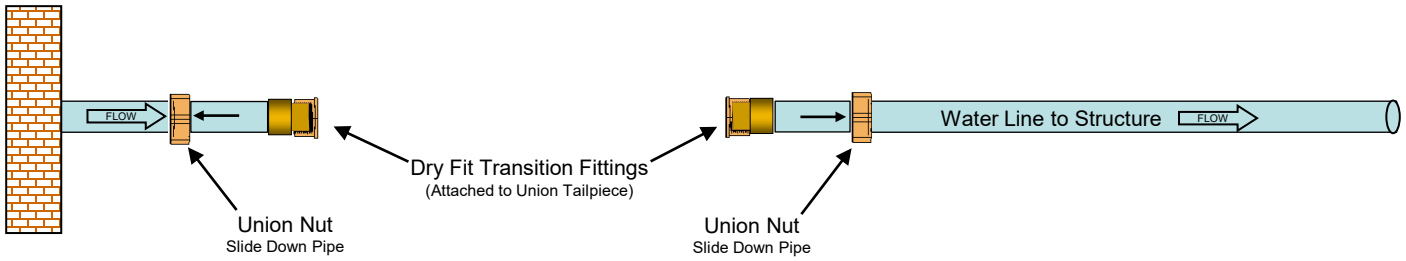
VALVE INSTALLATION (continued)

STEP 6 – INSTALL FITTINGS ONTO WATER LINE

Both ends of the Valve are equipped with union fittings. The transition fittings you install will be threaded or soldered into the union tailpieces. Remove the unions by loosening the large brass nut at each end of the Valve. **If soldering the union, you must temporarily remove the o-ring or flat rubber seal inside each of the unions that provides a sealing surface for the connection**. Be certain to keep the seals with the unions for later re-installation.



Dry fit the transition fittings onto the water line you cut in Step 5. If there is enough clearance for the union nut to slide over the transition fittings and onto the pipe, slip the union nut down the pipe and out of the area where you will be attaching the fittings to the pipe.



Confirm that the Valve will easily slide into the gap between the union tailpieces. Make any adjustments necessary by either moving the pipe or repeating Step 5 if moving the pipe does not work. You are now ready to secure the fittings to the pipe.

CAUTION: BEFORE INSTALLING FITTINGS ONTO PIPE, MAKE SURE THE UNION NUT IS IN PLACE AS DESCRIBED AND DEPICTED ABOVE. IF NOT, YOU WILL HAVE TO REMOVE THE UNION TAILPIECE, INSERT THE UNION NUT AND RE-APPLY THE CONNECTION BETWEEN THE TAILPIECE AND YOUR PIPE FITTINGS.

Follow the fitting manufacturer's instructions for this process. If you are soldering a copper fitting on the pipe, it is recommended that you remove the union tailpiece from the fitting assembly prior to soldering. This can be re-installed after the solder joint has cooled.

CAUTION: ON THREADED FITTINGS, DO NOT USE PLUMBER'S PUTTY OR PIPE JOINT COMPOUND AS THIS CAN INTERFERE WITH, OR FOUL THE FLOW SENSOR.

You are now ready to install the Valve into the water line.

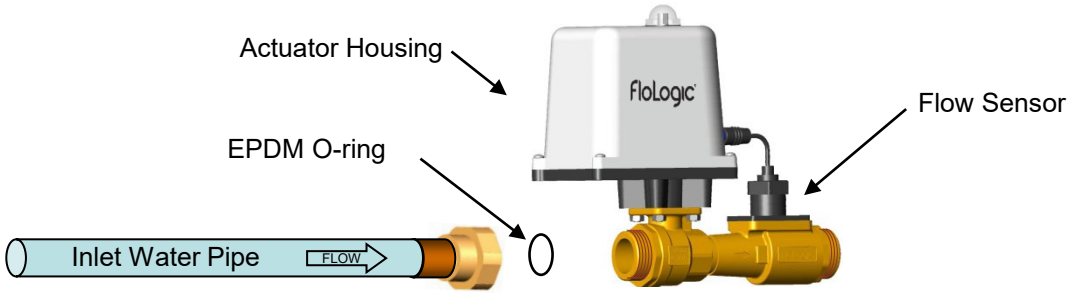
VALVE INSTALLATION (continued)

STEP 7 – INSTALL VALVE ONTO WATER LINE

Orient the Valve so the direction of flow indicated by the arrow cast into the Valve body matches the direction of water flow through the pipe. The Valve and Actuator Housing will be on the inlet side of the installation and the Flow Sensor will be on the outlet side.

Position the Valve between the sections of cut pipe. Make sure the O-rings are in place and hand tighten the large brass union nut onto each end of the Valve.

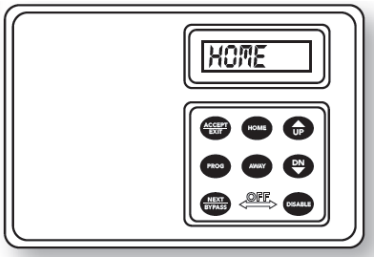
CAUTION: DO NOT USE TEFLON TAPE, PLUMBER'S PUTTY, OR PIPE JOINT COMPOUND ON THE THREADS FOR THE UNION NUT . THE SEALING SURFACE IS THE FACE OF THE O-RING, "FACE SEAL".



After positioning the Valve in an orientation that allows for easy access to the top of the actuator housing, tighten the large brass union nuts with an adjustable wrench or pipe wrench.

You may now turn the water back on at the meter or by restarting your well pump. After restoring the water service, open all the cold-water taps (including exterior hose bibs) and flush all toilets to purge any air that was trapped in the plumbing system during the installation. Depending on your plumbing system, this may take several minutes. Close the cold-water taps (and hose bibs if used) once you note a smooth flow of water with no air entrapment.

You have now completed the plumbing work and are ready to install the Control Panel (and CONNECT Module if included).



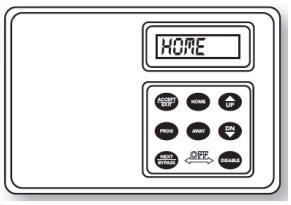
FloLogic System Control Panel

CONNECTING THE CONTROL PANEL

STEP 8 – DETERMINE CONTROL PANEL LOCATION

The local Control Panel provides operation not dependent on internet connectivity and when joined with the CONNECT Module, stay in sync with the app.

The Control Panel houses dry contacts allowing local integration. Common integrations include: security system for leak alarm notification and automatic Home/Away mode changes, irrigation relay for automatic override during irrigation cycles, water softener flow switch for automatic Bypass mode during regeneration cycles, pool line flow switch for automatic override of monitoring during pool filling, hot water recirculating pump relay to stop power to a pump during a shutoff event and integration of water sensors for triggering external leak alarm/auto shutoffs. Typically, the security controller is located in a lockable metal enclosure. See the section on External System Integration on pages 16, 17, and 18 of this installation guide for more information and wiring diagrams for the various options. Security integration is highly recommended if you are not planning to use the FloLogic app.



The Control Panel connects to the Valve via the supplied, 50 foot Communication Cable. A longer Communication Cable or an extension may be purchased from FloLogic. The Control Panel can be mounted anywhere that is protected from the elements, but the location should consider any wired integrations to be made to the dry contacts and the optional CONNECT Module, which plugs in next to the Control Panel and requires a strong 2.4 GHz WiFi signal.

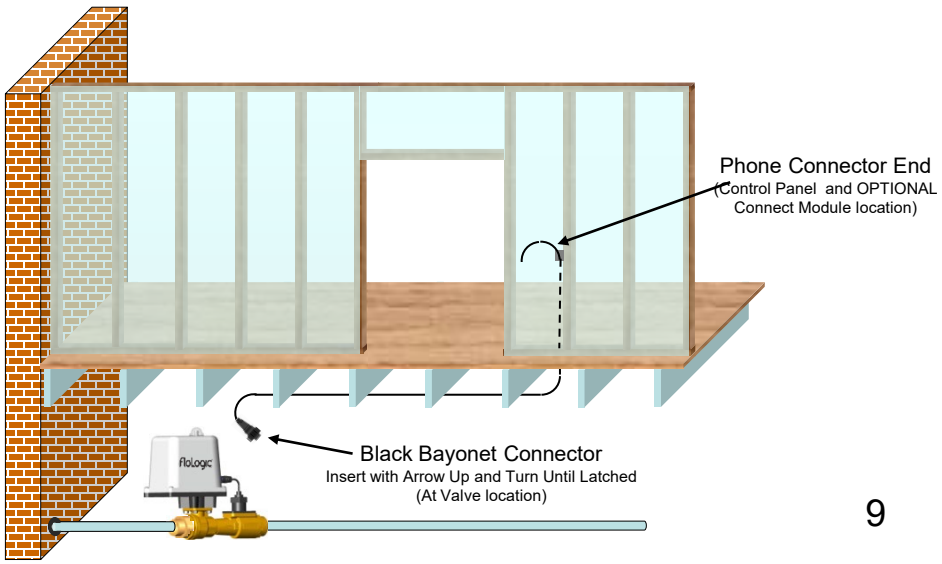
CUTTING AND / OR SPLICING OF THE COMMUNICATION CABLE IS NOT RECOMMENDED. BE CAREFUL NOT TO DAMAGE THE CABLE WITH STAPLES OR OTHER MATERIALS.

STEP 9 – RUN COMMUNICATION CABLE

Plug in the black connectorized end of the Communication Cable to the matched connector on the Valve. Align the arrow on the connector with the notch in the receptacle on the actuator. Insert the connector and rotate the locking ring until latched. Run the smaller, phone-type (RJ) connectorized end of the cable to the location where you plan to install the Control Panel. If the Control Panel is to be installed in on an outdoor valve installation or room away from the valve indoors, this may require you to pull the wire through one or more wall cavities and up through sub-flooring. At the Control Panel installation site, be certain to leave at least 6 inches of cable slack to facilitate the Control Panel installation.

<u>NOTE</u>: No electrical box is required. The wire should exit the wall behind the planned location for the Control Panel and OPTIONAL Connect Module.

When inserting the connector into the Valve Assembly, check to see that both the connector on the cable and receptacle on the Valve are free of moisture.



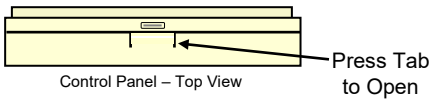
CONNECTING THE CONTROL PANEL (continued)

STEP 10 – INSTALL CONTROL PANEL

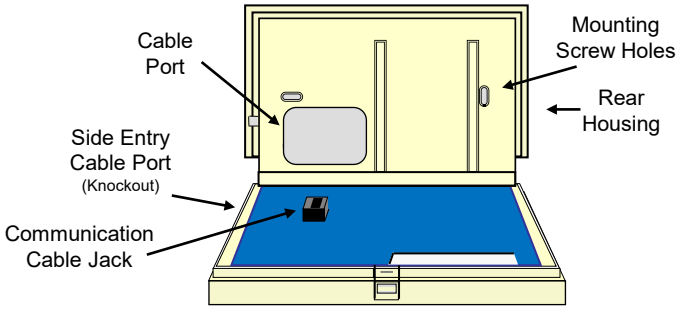
The local Control Panel and CONNECT Module are installed in the same location. The Control Panel mounts using the supplied mounting screws. The mounting holes are accessible when the panel is opened, achieved by pressing the tab at the top of the panel and swinging the panel open. Gently separating the back housing may making mounting the Control Panel easier. The CONNECT Module mounts using the supplied command strips.

If there is only a local Control Panel, the Communication Cable plugs directly into the Control Panel. If a CONNECT Module is included, the Communication Cable plugs into the right-side port of the CONNECT Module as you look at its front. Then use the included connector to plug into the left-side port of the Module and plug this into the local Control Panel. If necessary, you can use pliers, to remove the plastic knockout from the lower left side of the Control Panel rear housing to allow side access for the cable.

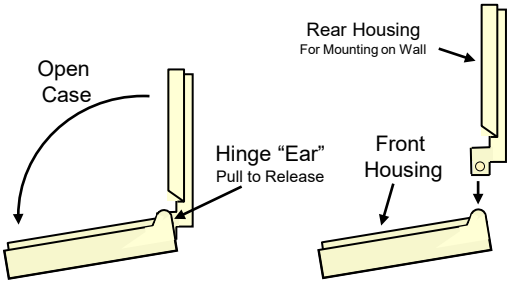
Once powered up, the CONNECT Module will default to a provisioning mode (Connection light blinks red). The local Control Panel will function independent of the Module being connected to the internet for app use. Use the Control Panel to complete the setup and testing. The CONNECT Module can be provisioned online at a later time.



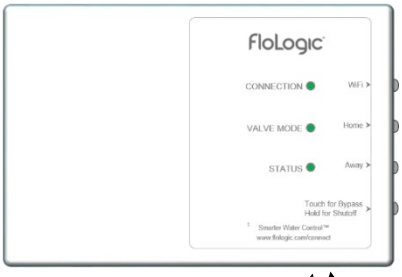
Control Panel – Top View



Open Control Panel



Control Panel – Side View



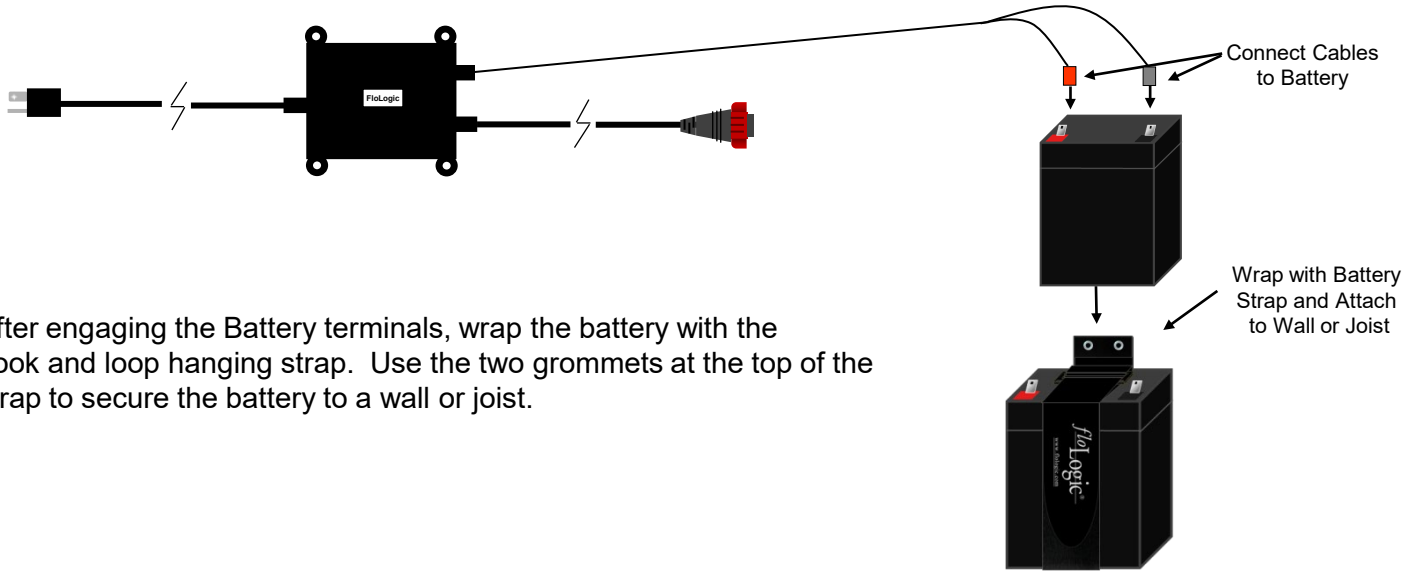
When CONNECT Module included, plug Communication cable from Valve into right-side port, then join the local Control Panel using the supplied connector cable from the left-side port of the Module into the Control Panel

You have now completed the installation of the Control Panel and are ready to install the System Battery and Power Supply.

POWER UP SYSTEM

STEP 11 – Connect the Battery to the Power Supply

Prior to plugging the Power Supply into the AC outlet connect the Battery to the Power Supply by sliding the quick disconnect terminals onto the Battery. Use care to match the insulated red quick disconnect to the red (+) battery terminal and the insulated black quick disconnect to the black (-) battery terminal. The battery powers the System during AC power loss and will need to be maintained.



After engaging the Battery terminals, wrap the battery with the hook and loop hanging strap. Use the two grommets at the top of the strap to secure the battery to a wall or joist.

STEP 12 – Plug in Power Supply to AC Outlet

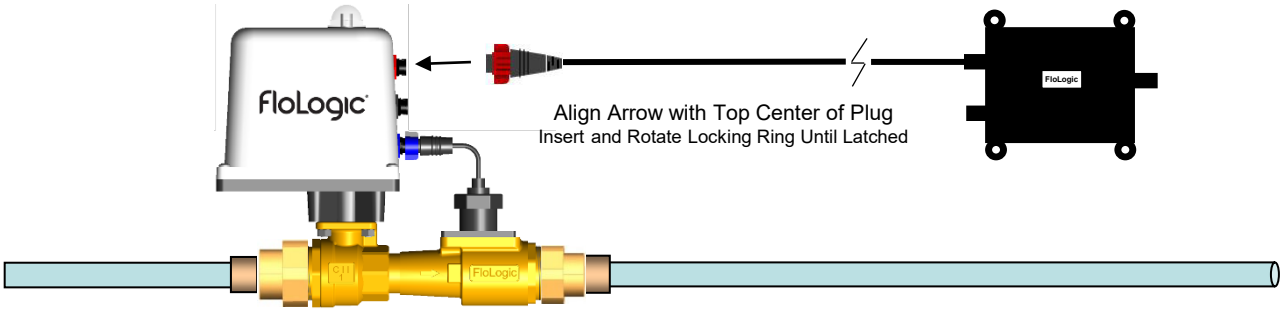
After connecting the Battery to the Power Supply, plug in the grounded power cord to the previously located AC electrical outlet.

You are now ready to connect the Power Supply to the Valve.

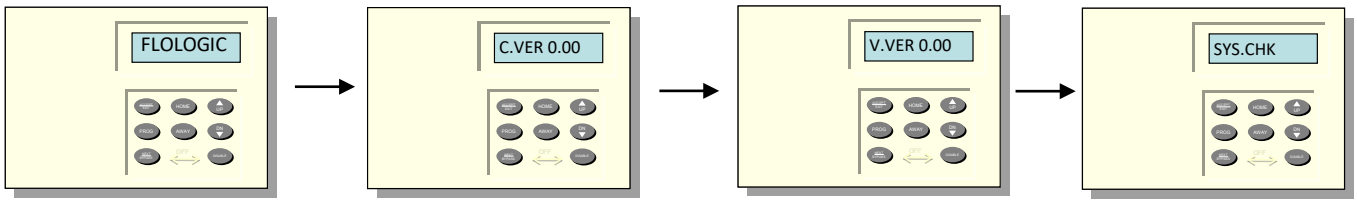
POWER UP SYSTEM (continued)

STEP 12 (cont.) – Connect Power Supply to Valve

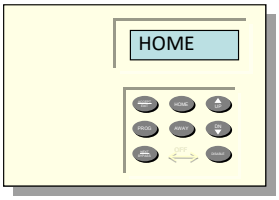
After confirming the connector on the cable and the receptacle on the Valve are dry, insert the RED connector with the arrow on top until its fully engaged. Rotate locking ring until the connector is latched.



The Valve will now automatically begin a start-up routine to confirm all System components are working properly. During this start-up the display will progress through four (4) screens as follows. The numbers following C.VER and V.VER are software version codes and will vary depending on your System ship date.



Once the start-up is completed, the display will read “HOME” indicating the System is ready for use.



CAUTION: MAKE SURE THAT ANY RESIDUAL AIR IS PURGED FROM THE PLUMBING SYSTEM BY OPENING ALL COLD-WATER FAUCETS FOR AT LEAST TWO MINUTES AND FLUSHING ALL TOILETS. TRAPPED AIR MAY PRODUCE INACCURATE WATER USE READINGS AND REDUCE PERFORMANCE OF THE SYSTEM.

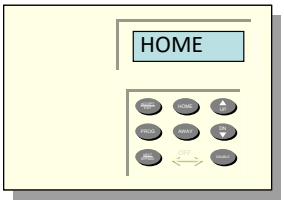
You have now completed the physical installation and are ready to test the operation of the System.

OPERATIONAL TEST

CAUTION: THIS TEST SHOULD BE REPEATED IMMEDIATELY AFTER INSTALLATION AND EVERY SIX MONTHS TO CONFIRM SYSTEM FUNCTIONALITY

STEP 13 – CONFIRM SYSTEM IS IN HOME MODE

Prior to starting the operational test, please confirm the FloLogic System is in the Home mode. If the display reads "AWAY" or anything other than "HOME", press the HOME key to place the System into the Home mode.

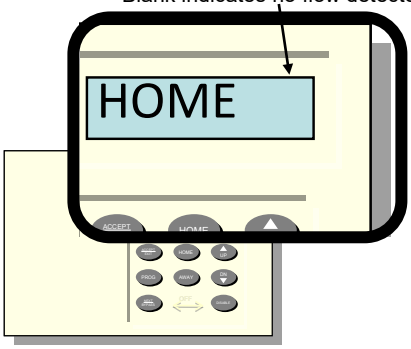


Control Panel is in Home mode

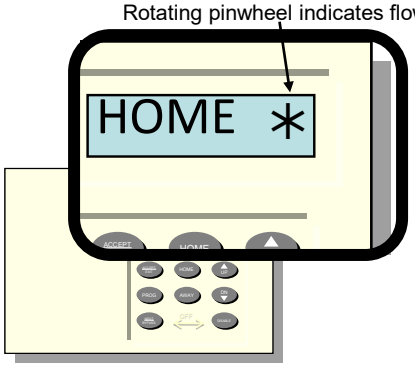
STEP 14 – CHECK FOR BACKGROUND WATER FLOW

After you have purged the residual air out of your pipes, all taps are securely closed and no toilets are running, look at the right corner of the display on the Control Panel for an indication of water flow. When the FloLogic System detects flowing water a rotating pinwheel is displayed. You may have an expansion tank that was installed to prevent pressure build up due to thermal expansion from the water heater. If so, it may take additional time for the rotating pinwheel to stop after the water has been shut off as the expansion tank refills. This is normal and should not be a cause for concern.

Blank indicates no flow detected (above Drip Rate)



Rotating pinwheel indicates flow detected



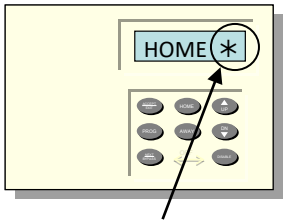
NOTE: If you believe you have no water running in the building and the pinwheel continues to be illuminated after you have purged all of the residual air, you will need to check the amount of flow the System detects by using the Programming Menu. Instructions for using the Programming Menu can be found in the *Directions for Use* booklet beginning on page 20.

STEP 15 – CONFIRM FLOW DETECTION

Turn on a cold water tap to confirm that the pinwheel flow indicator is displayed. It may take a few seconds for it to display after you turn on the water.

Turn on cold water tap

Wait five to ten seconds



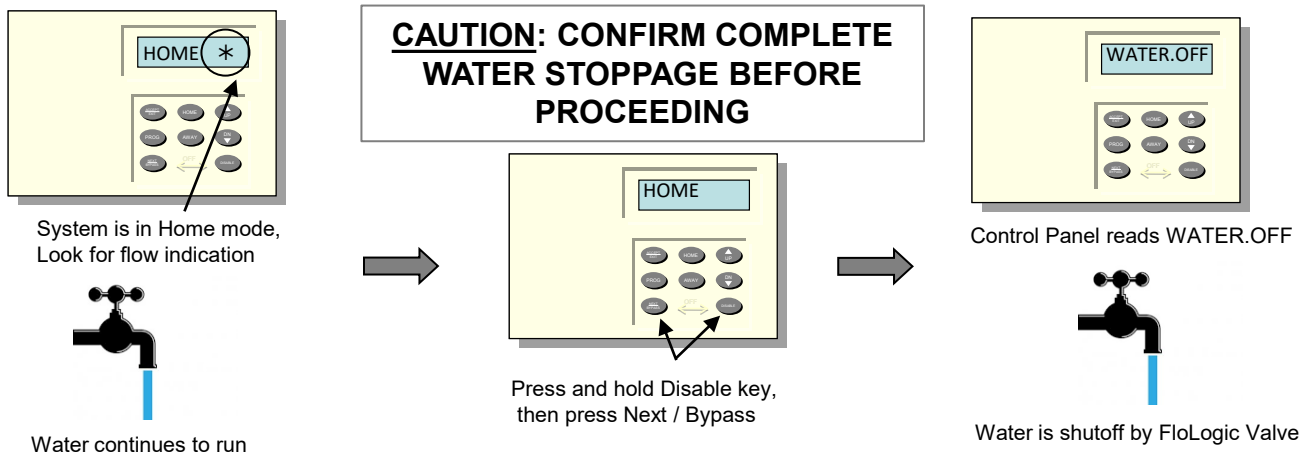
Look for flow indication

OPERATIONAL TEST (Continued)

CAUTION: THIS TEST SHOULD BE REPEATED IMMEDIATELY AFTER INSTALLATION AND EVERY SIX MONTHS TO CONFIRM SYSTEM FUNCTIONALITY

STEP 16 – CONFIRM VALVE OPERATION

While water continues to run from the open tap, press and hold the DISABLE key and then press the NEXT / BYPASS key on the Control Panel. The Valve will close, the display will read "WATER.OFF", and the water will stop flowing from the still-open tap. **NOTE**: *In the lower level of a multistory building or in one equipped with a thermal expansion tank, the flow may continue for several minutes even after the Valve is closed.*



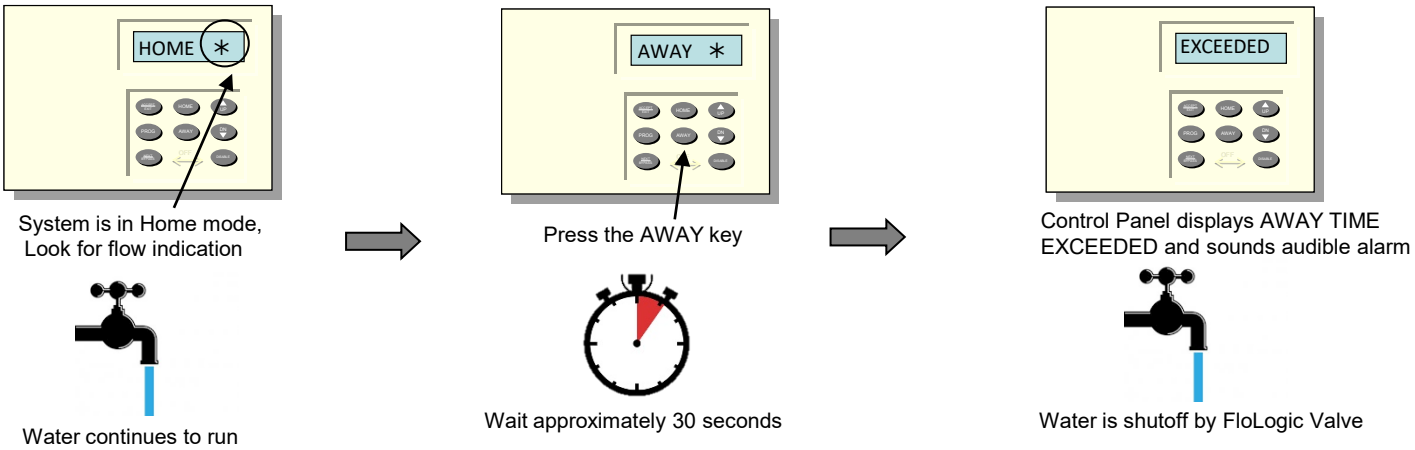
NOTE: If the display reads "BYPASS", you have pressed the NEXT / BYPASS key before you pressed the DISABLE key. If this happens press the Home key and repeat the keystrokes described above until "WATER.OFF" is displayed.

To restore water service, press the HOME key on the Control Panel.

STEP 17 – CONFIRM AUTOMATIC SHUTOFF

With the water running, place the System into the Away mode by pressing the AWAY key on the Control Panel. The Valve will cycle, perform a self-check, and update the display to read "AWAY". Unless a different timer value has been set by the user, after 30 seconds of water flow, the Valve will rotate 90° to turn off the water, an audible alarm will be sounded at the Control Panel, and the display will read "LEAK".

»» WAIT FOR A COMPLETE STOPPAGE OF WATER FLOW TO CONFIRM VALVE CLOSURE ««



To silence the audible alarm, press the DISABLE key. To restore water service press the HOME key.

CONGRATULATIONS, YOU HAVE NOW COMPLETED THE INSTALLATION OF THE FLOLOGIC SYSTEM

INSTALLATION TROUBLESHOOTING

For Toll Free Phone Support Call 1 (877) FloLogic (356-5644)

ERROR MESSAGES AND RESOLUTIONS

AC LOST	AC power not detected, System operating solely on Battery power. Alarm output is delayed one hour to prevent alarm cycling during intermittent power outages.	Check to make sure Power Supply is plugged in and there is power at the electrical outlet used by the System. Error message will automatically clear when AC power is restored.
COMM ERR	Communication between Valve and Control Panel inoperative. When 30 seconds passes with no handshake between the Valve and Control Panel, this message is displayed.	Check cable between Valve and Control Panel. Make sure there is no damage to the cable. Disconnect RED Power Supply connector, wait 15 seconds and reconnect. System will reboot (Valve cycles) and message should clear.
VAL FAIL	Valve unable to execute software command to open or close. May be due to a relay, power or motor failure, misaligned position sensor or override shaft in depressed position.	Press and hold DN (down key) on Control Panel until beeping stops. Release button. Valve will cycle (within 15 seconds) and error will clear if Valve rotation is detected.
CHG BATT	Dead Battery, Battery recovering from backup power discharge or Battery has reached end of life.	Check / Replace Battery. Press and hold DN on Control Panel until beeping stops. Valve will cycle (within 15 seconds) and System will reset.

NOTE: In the event that none of the suggested resolutions above are effective in clearing an error condition, the entire System may be powered down and re-started. Known as a hard-reboot, this is accomplished by disconnecting the Power Supply from the Valve by removing the RED power connector. Wait approximately 15 seconds and reconnect the RED connector to the actuator. The Valve should cycle and the error code should clear.

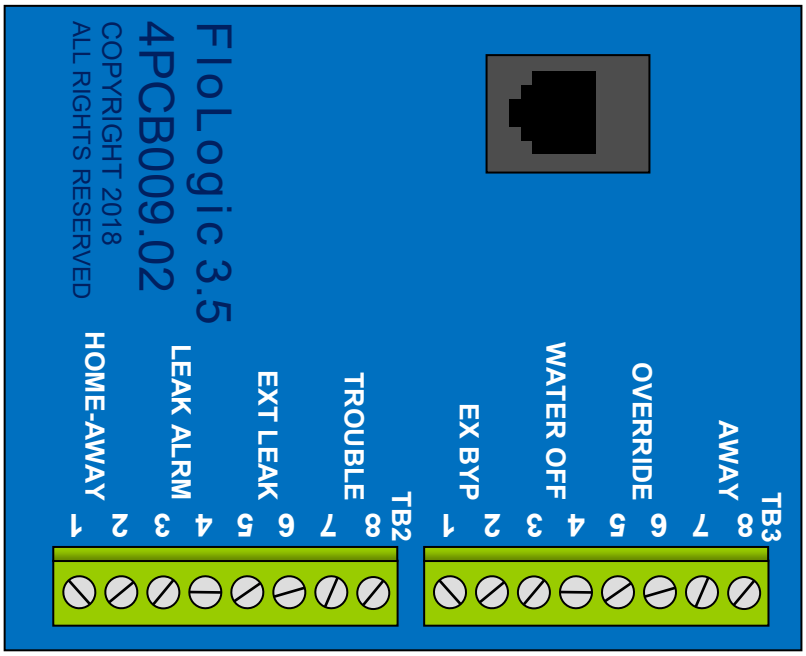
AIR ENTRAPMENT

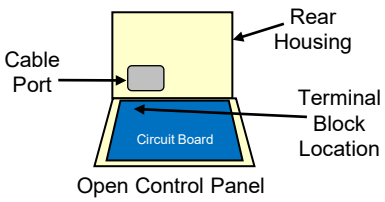
For accurate, low-flow detection of water usage, residual air must be purged from the plumbing lines. Air will have entered the plumbing system when it was drained during the installation process. To purge this air, open each cold water tap until the water flows without sputtering and coughing, flushing all toilets and running the cold water in your bath / shower to complete this process. This should eliminate any entrapped air.

See the *Directions for Use* enclosed in the shipping box for complete instructions on both System operation and programming for your specific requirements. You must register your purchase at www.flologic.com by clicking on **Register Product** to receive updates and Field Notifications. Failure to do so will not allow us a means of contacting you. Keep a record of your purchase in the event of any warranty needs.

EXTERNAL SYSTEM AND SECURITY CONNECTIONS

Located on Control Panel Circuit Board





DESCRIPTION	LOCATION	WIRING
HOME-AWAY – Contact closure triggers the System to the AWAY mode.	TB2 Pins 1 & 2	Connect to security system contacts that close (short) when security system is armed to away. Contacts should open when security system is disarmed.
LEAK ALARM – Communicates LEAK event to external system or device.	TB2 Pins 3 & 4	Solid State Relay is Normally Open. Relay will close when a leak event is detected. Relay reverts to open after alarm is cleared at keypad.
EXT LEAK – Momentary contact closure triggers the System to shut the Valve and sound EXT LEAK alarm. Used to connect external moisture sensor or low temp sensor.	TB2 Pins 5 & 6	Connect to external system contacts that momentarily close (short) when water is detected by moisture sensors or freezing is reported by temperature sensors. Once triggered, water service must be restored at the Control Panel.
TROUBLE - Communicates loss of AC power or other system trouble events needing attention. Connect to external alarm or monitoring system.	TB2 Pins 7 & 8	Solid State Relay (SSR) is Normally Open. Relay will close when any System trouble event is detected and open when cleared. AC LOSS reporting is delayed for one hour. To ensure continuous protection, customers should ensure this is included with security monitoring.
EXT BYPASS – Momentary contact closure starts the BYPASS timer and disables flow timers for a fixed duration of time.	TB3 Pins 1 & 2	Connect to any external device with contacts that momentarily close (short) when the external device begins using water.
WATER OFF – Communicates to external device or system that Valve is closed and water is shutoff (LEAK, EXT LEAK, or WATEROFF).	TB3 Pins 3 & 4	Solid State Relay is Normally Open. Relay will close when the water is turned off by the FloLogic System for any reason (LEAK, WATEROFF, EXT LEAK). Relay opens when water service is restored.
OVERRIDE – Latching contact closure triggers System to disable flow timers. Flow timers reactivated when Override ends.	TB3 Pins 5 & 6	Connect to any external device with contacts that latch close (short) when flow detection needs to be disabled. Typical uses include water softeners and irrigation.
AWAY – Communicates to external device or system that FloLogic is in the AWAY mode.	TB3 Pins 7 & 8	Solid State Relay is Normally Open. Relay will trigger closed when the FloLogic System is placed in the AWAY mode and revert to open when in the HOME mode.

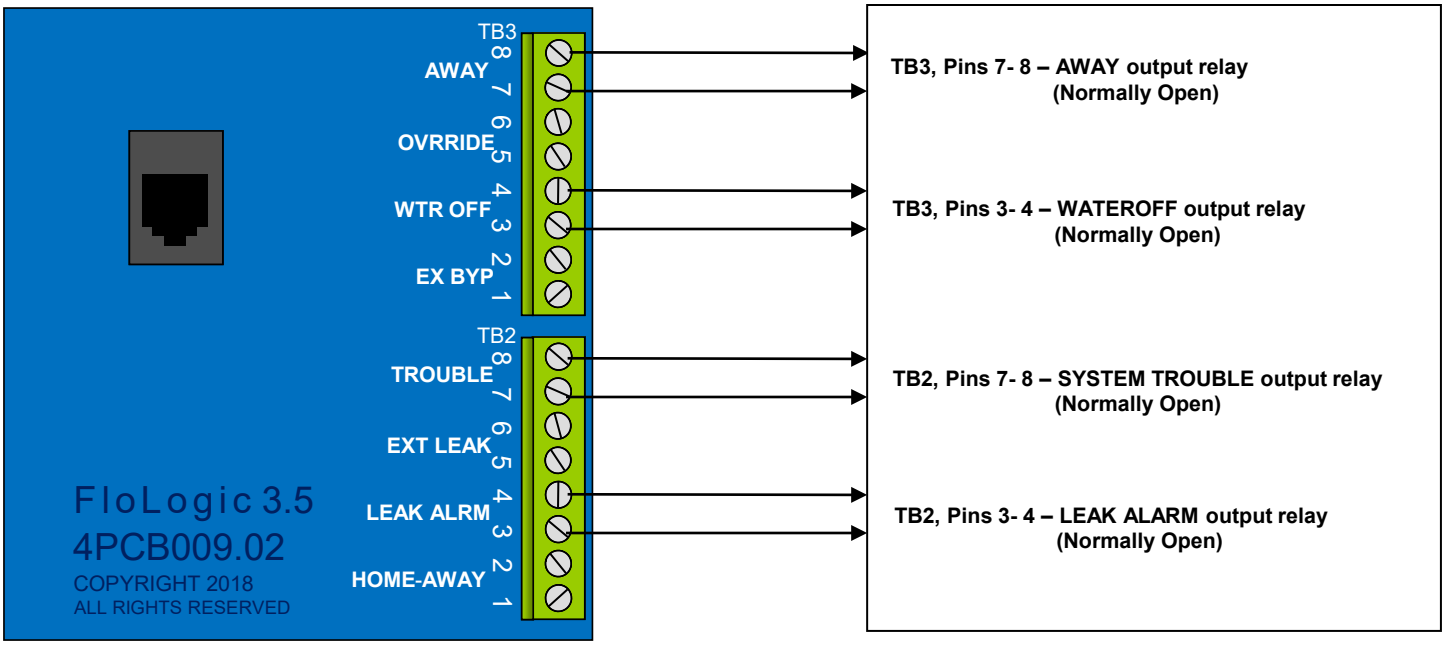
WIRING OUTPUTS TO EXTERNAL SYSTEMS

Using Onboard Solid State Relay (SSR) Outputs

WIRING NOTES:
The onboard SSR outputs can switch DC power of 3V to 48V, and AC power of 3V to 24V. 48VAC is not supported. Maximum load current through the SSR is 110mA at 50C (120F). Onboard relay has 14 ohm resistance on closure, 22 ohm max.

If switched voltage or the required load current exceeds the specified limits, an external relay will be required.

Available Relay Outputs:
Using Onboard Solid-State Relays



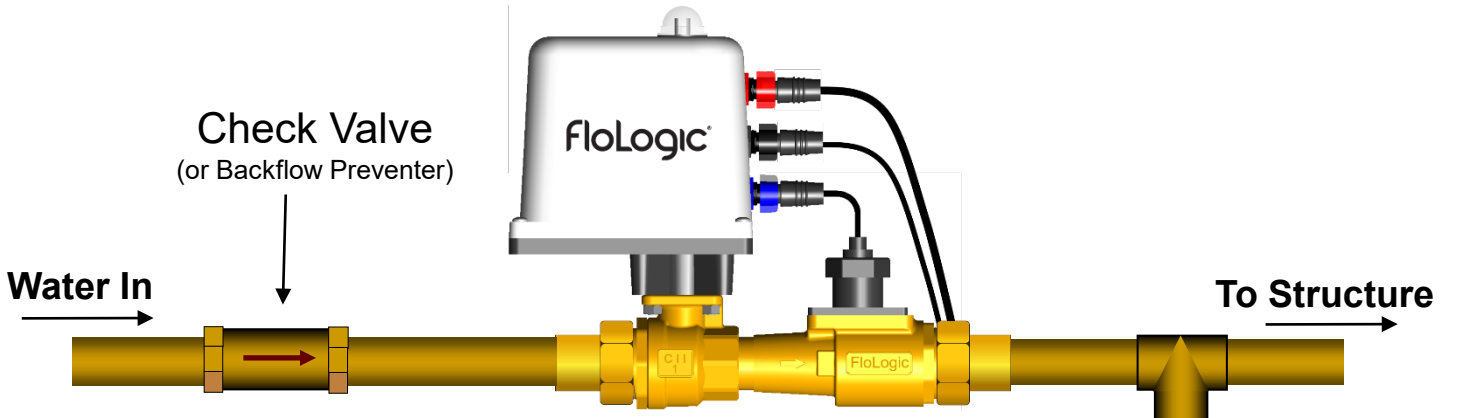
Output	Trigger Event	Location	Normally	Action on Event
LEAK ALRM	Leak detected, Valve closed	TB2 Pins 3 / 4	Open	Relay closes
TROUBLE	System fault, Attention needed	TB2 Pins 7 / 8	Open	Relay closes
WTR OFF	Valve closed for any reason	TB3 Pins 3 / 4	Open	Relay closes
AWAY	System in AWAY mode	TB3 Pins 7 / 8	Open	Relay closes

Application Notes:

- AC Lost trouble output is delayed for one hour to prevent cycling of alarm during brief power outages
- Water Off output is useful for shut-down of hot water recirculation pumps or well pumps
- Away Mode output can be directly connected to second FloLogic HOME-AWAY input

IRRIGATION OVERRIDE

If Sprinkler Feed is Tapped Downstream of FloLogic Valve



Using the Master Valve (MV) output from an irrigation controller, the FloLogic System can be overridden when the irrigation system is running. When presented with closed contacts on TB3 Pins 5 / 6 (via external relay), the FloLogic Control Panel will display OVERRIDE and flow timers will be disabled. When the irrigation cycle is finished, the contacts are opened and the FloLogic System reverts to its prior state of HOME or AWAY.

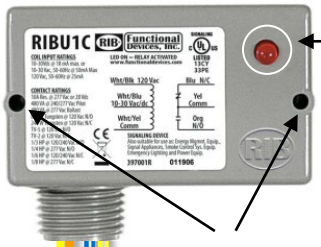
Check Valve
(or Backflow Preventer)

Irrigation Supply
(Tapped into water line after FloLogic)

RIBU1C Wiring Notes (24 VAC Operation):
IRRIGATION CONNECTIONS
- Blue / White – to Irrigation MV or PS
- Yellow / White – to Irrigation COM Output

FLOLOGIC CONNECTIONS
- Yellow - Control Panel, TB3, Pin 6
- Orange – Control Panel, TB3, Pin 5

NOT USED
- White / Black – for 120 VAC Operation
- Blue – Normally Closed Relay Output



LED Illuminates when Irrigation System is Calling for Water

Holes for mounting screws

Yellow (COM)

Orange (N/O)

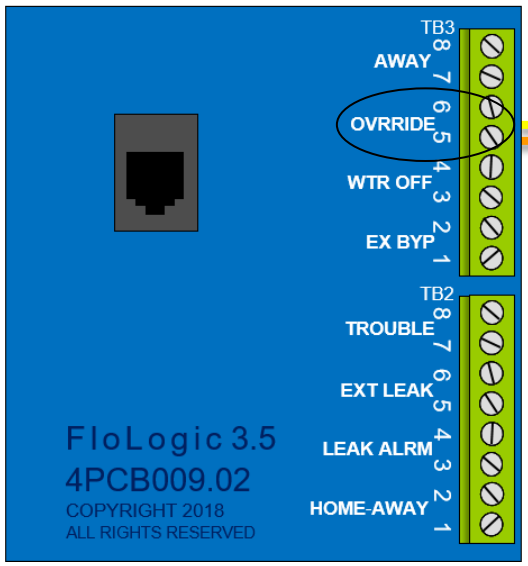
TB3 PIN 6, Yellow

TB3 PIN 5, Orange

Blue / White (to Irrigation MV or PS Output)

Yellow / White (to Irrigation COM Output)

To Irrigation Controller
MV / PS + COM



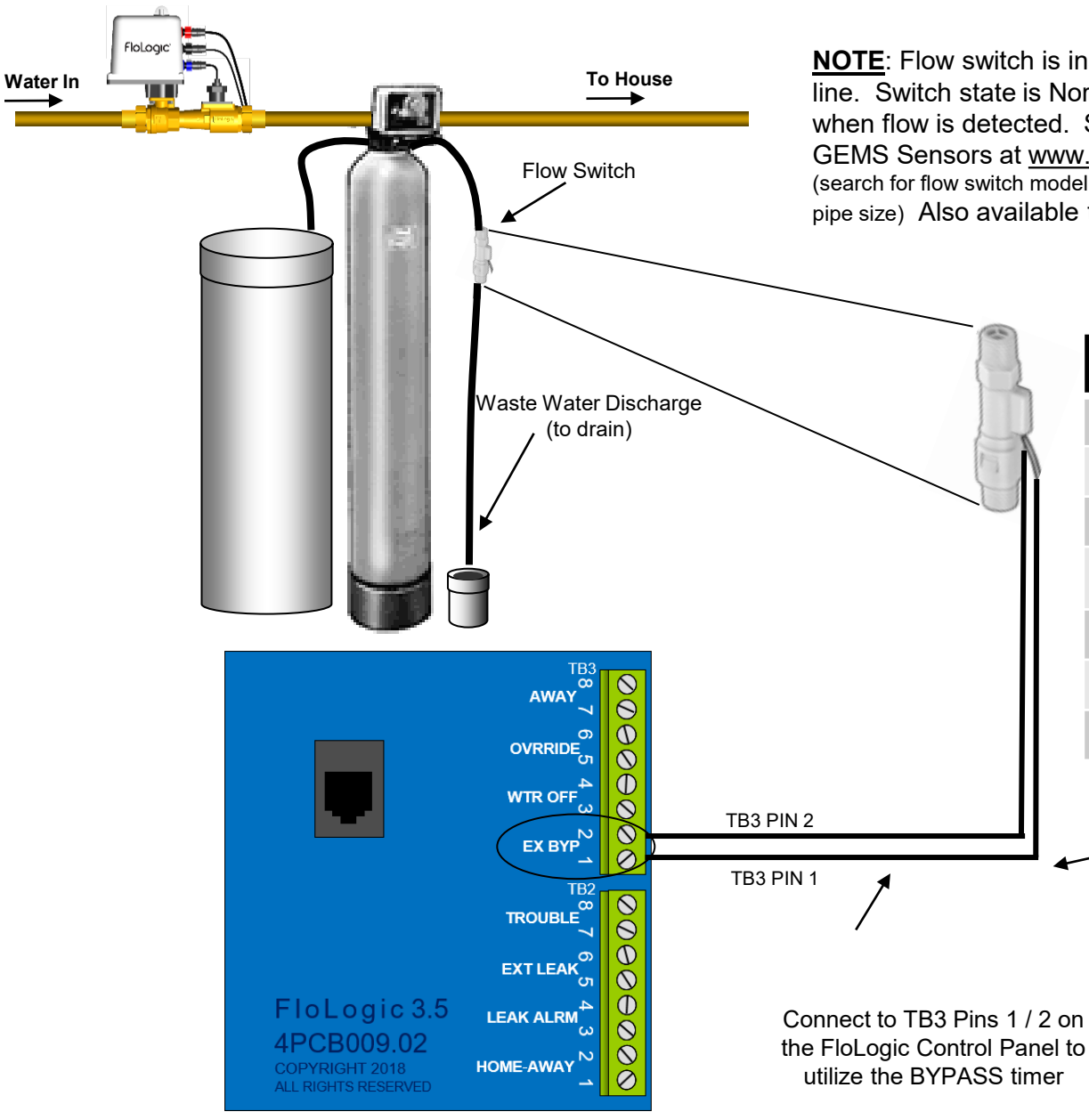
Two wire connection
to external relay.

Use Master Valve (MV) or Pump Start (PS) output from irrigation controller to close **external** relay and override FloLogic timers when irrigation is running. Relay pictured as example is Functional Devices RIBU1C connected to Override Input (TB3 Pins 5 / 6) on the FloLogic Control Panel.

WATER SOFTENER - REGEN CYCLE OVERRIDE

When Softener is Installed AFTER the FloLogic System
Use Flow Switch to Trigger EXT BYPASS

(**NOTE**: Can Be Used for Any System with an Automatic Backwash)



NOTE: Flow switch is installed on the discharge line. Switch state is Normally Open and closes when flow is detected. Switch shown is from GEMS Sensors at www.gemssensors.com. (search for flow switch model based on discharge rate and pipe size) Also available through other retailers.

GEMS Sensors Flow Switch Options	
SIZE	MODEL
1/4”	FS-380P
3/8”	FS-380P, FS-380
1/2”	FS-150, FS-380, FS-480
9/16”	FS-4
3/4”	FS-480, FS-500
1”	FS-200

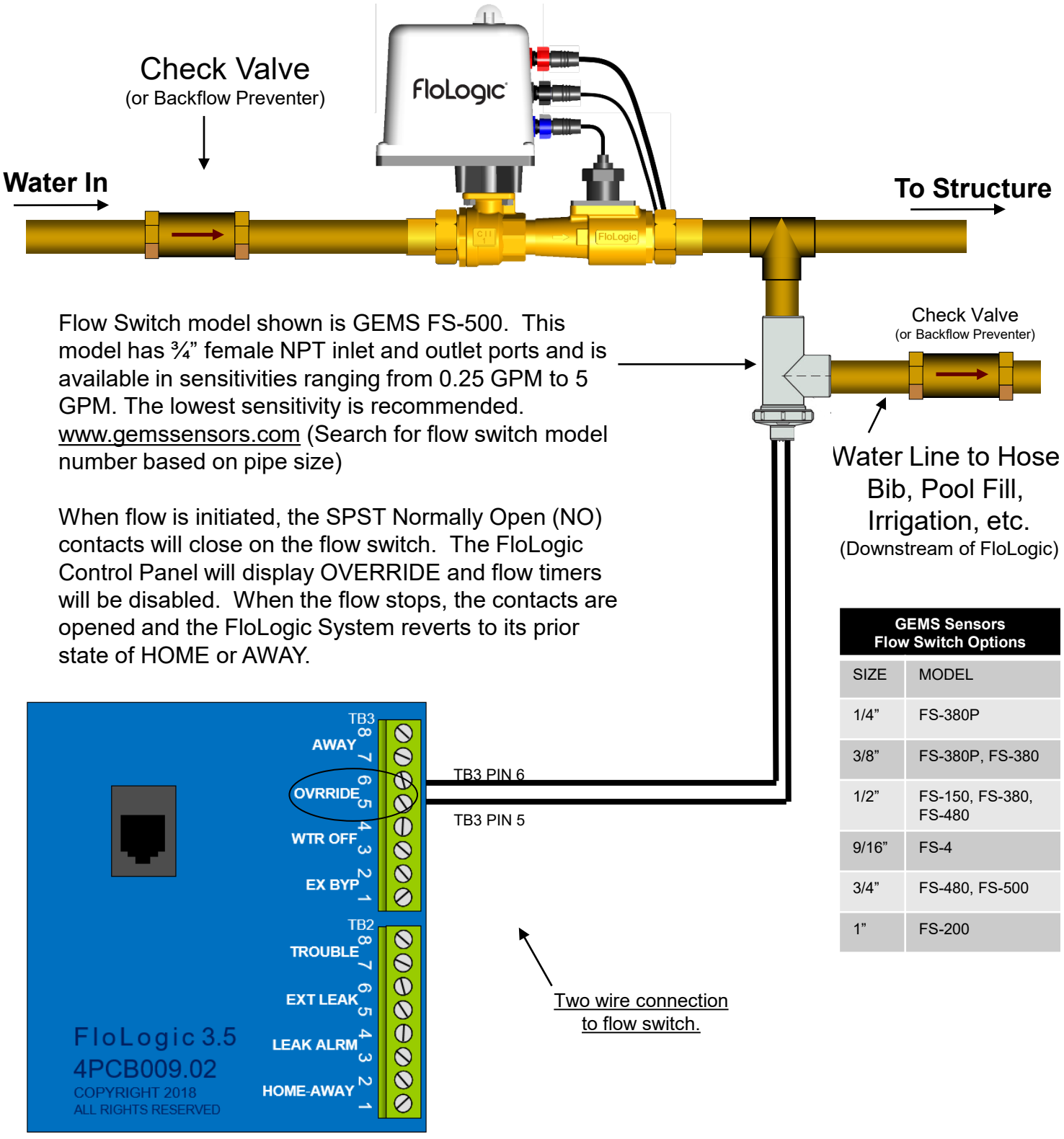
When connected to EX BYP input, the bypass timer will be started when water flow is detected in the discharge tube and the display will read EX.BYPASS alternating with HOME or AWAY.

The bypass time should be set to a value that is equal to or greater than the time required for the regeneration cycle of the softener. Typically this will be around 90-100 minutes. The System is shipped with a default setting of 120 minutes for the bypass time.

When the bypass time expires, the System will revert to HOME or AWAY.

HOSE BIB / POOL FILL - OVERRIDE WITH FLOW SWITCH

If Water Feed is Tapped Downstream of FloLogic Valve



Flow Switch model shown is GEMS FS-500. This model has ¾" female NPT inlet and outlet ports and is available in sensitivities ranging from 0.25 GPM to 5 GPM. The lowest sensitivity is recommended. www.gemssensors.com (Search for flow switch model number based on pipe size)

When flow is initiated, the SPST Normally Open (NO) contacts will close on the flow switch. The FloLogic Control Panel will display OVERRIDE and flow timers will be disabled. When the flow stops, the contacts are opened and the FloLogic System reverts to its prior state of HOME or AWAY.

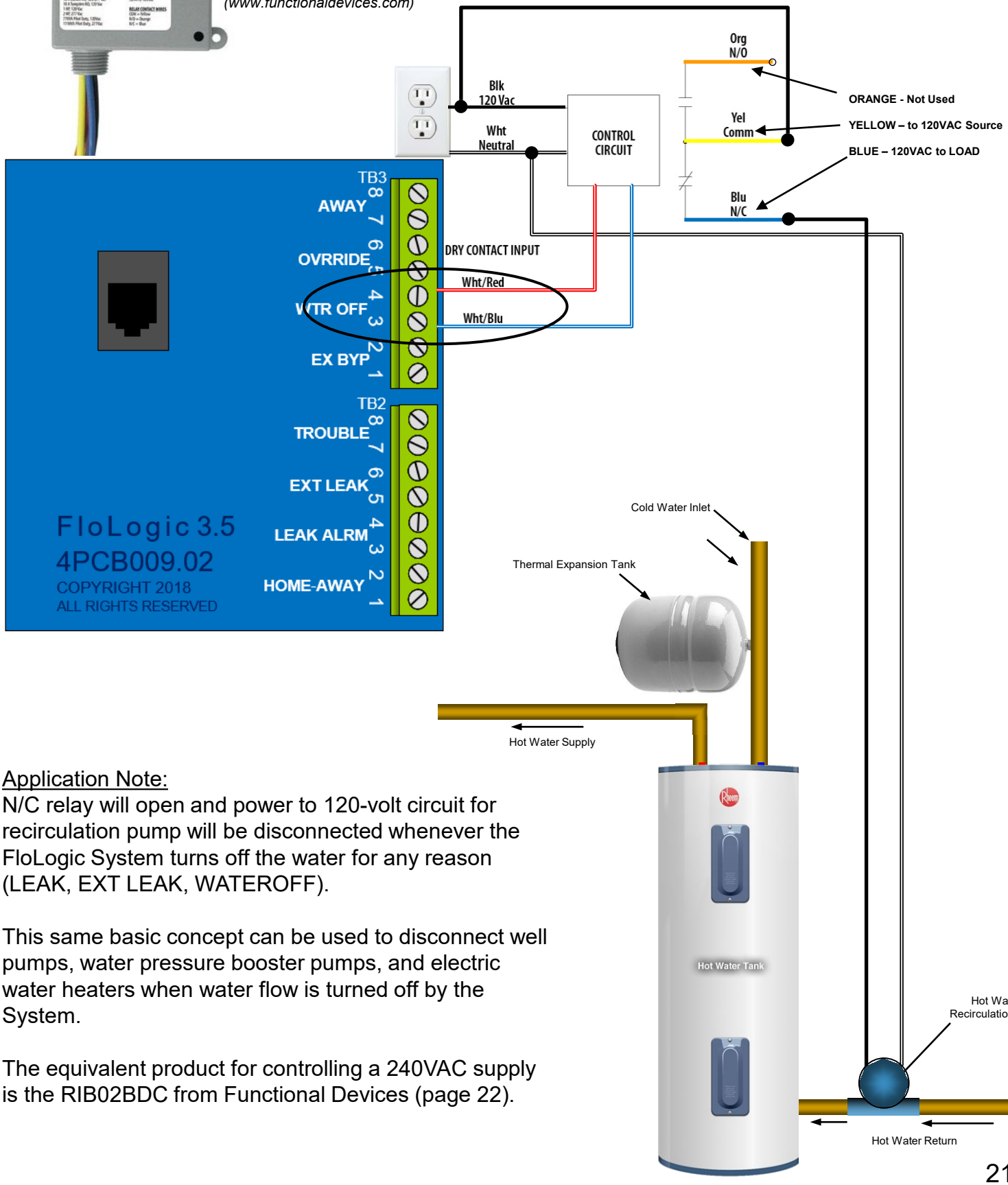
GEMS Sensors Flow Switch Options	
SIZE	MODEL
1/4"	FS-380P
3/8"	FS-380P, FS-380
1/2"	FS-150, FS-380, FS-480
9/16"	FS-4
3/4"	FS-480, FS-500
1"	FS-200

CONTROLLING A 120 VOLT AC CIRCUIT

External Relay Switches AC Power

NOTE:
Relay pictured as example is Functional Devices RIB01BDC. (www.functionaldevices.com)

External Relay Module



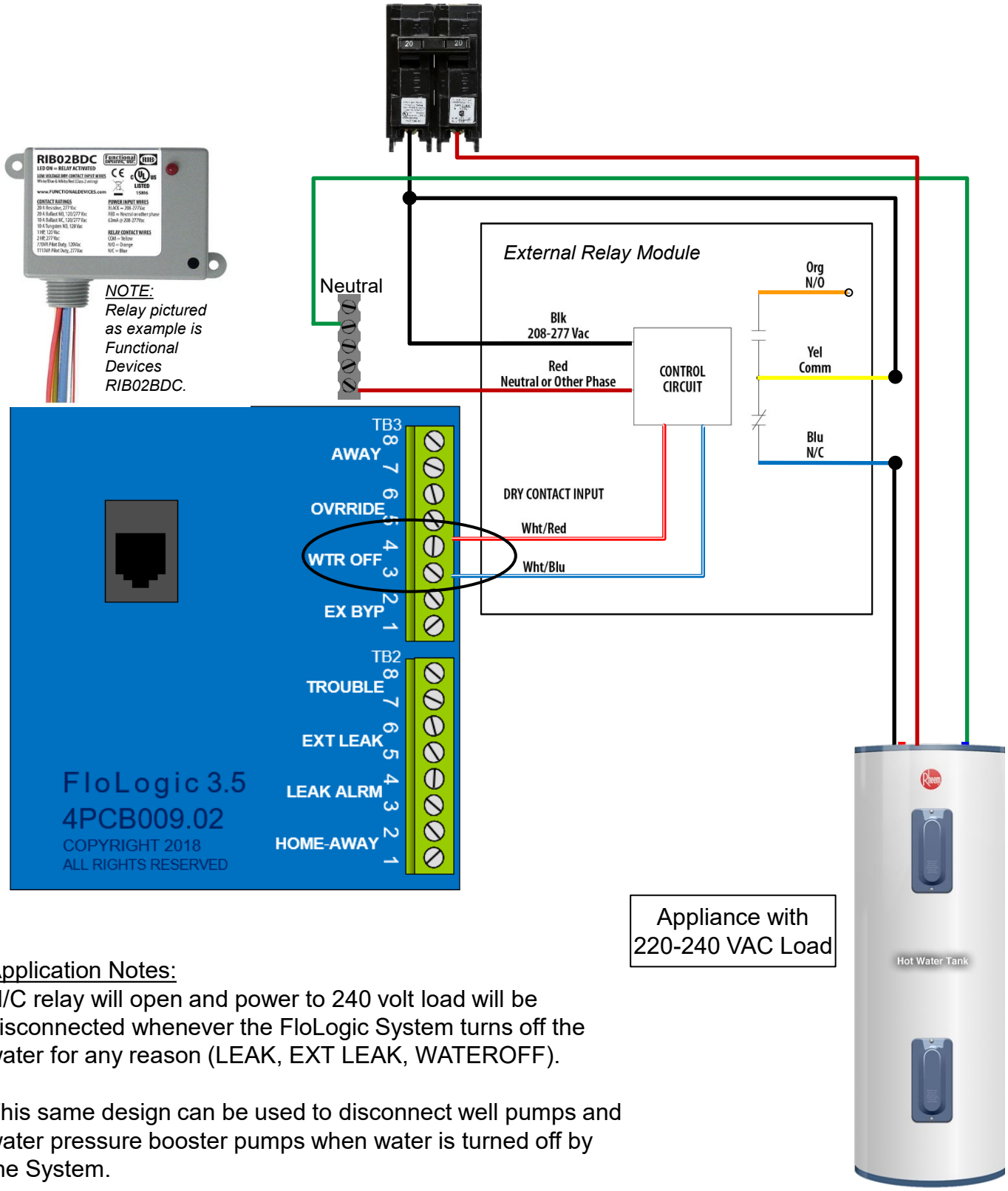
Application Note:
N/C relay will open and power to 120-volt circuit for recirculation pump will be disconnected whenever the FloLogic System turns off the water for any reason (LEAK, EXT LEAK, WATEROFF).

This same basic concept can be used to disconnect well pumps, water pressure booster pumps, and electric water heaters when water flow is turned off by the System.

The equivalent product for controlling a 240VAC supply is the RIB02BDC from Functional Devices (page 22).

CONTROLLING A 240 VOLT AC CIRCUIT

External Relay Switches AC Power



Application Notes:

N/C relay will open and power to 240 volt load will be disconnected whenever the FloLogic System turns off the water for any reason (LEAK, EXT LEAK, WATEROFF).

This same design can be used to disconnect well pumps and water pressure booster pumps when water is turned off by the System.

The equivalent product for controlling a 120VAC supply is the RIB01BDC from Functional Devices (page 21).

LIMITED WARRANTY

IMPORTANT: Register your product at flologic.com and connect your System to the app to extend your warranty to five years and to receive any product or software update news.

FloLogic® System Warranty (for Customers in the United States and Canada

In consideration for your purchase of the FloLogic System,

***Keep your receipt**. Proof of the original purchase date is needed to obtain service under the warranty*

For The Period Of:	***We Will Replace:***
Three-years from the date of purchase PLUS an additional **Two-years** if the product is connected online via the FloLogic app (Five-years total)	***Any part** of the FloLogic System which fails due to a defect in materials or workmanship. During this **limited three-year or five-year warranty,** FloLogic will repair or replace, **free of charge**, any component of the System that fails due to manufacturing defects. You will be responsible for any labor charges and return shipping of the defective part to FloLogic.*

Items Not Covered by the Warranty

- Service trips to your property to teach you how to use the product.
- Replacement of fuses or resetting of circuit breakers.
- Damage to the product caused by accident, fire, floods, or acts of God.
- Battery replacements.
- Any indirect, incidental, special, punitive or consequential damages.
- Physical damage caused after delivery.
- Damage or operational deficiencies due to water quality issues.
- Damage caused by electrical surges

This Warranty is Voided by

- Damage due to improper installation, use, or maintenance.
- Failure of the product if it is modified or altered or used for other than the intended purpose.
- Damage to the product caused by accident, fire, floods, third-parties, or acts of God.
- Defective operation of the System due to user programming errors.
- Disassembly of any of the System components.
- If the operational test described on pages 13-14 is not performed every six months.

This warranty is extended to the original purchaser and is not transferable to any succeeding owner for products purchased for use within the USA and Canada. In Alaska and Hawaii, the warranty excludes the cost of shipping repair or replacement parts.

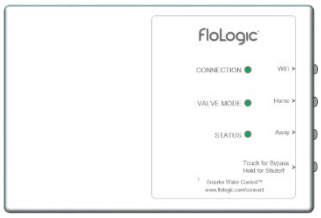
Some states / provinces do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may have other rights which vary depending on where you reside. To know what your legal rights are, consult your local consumer affairs office or your state or province's Attorney General. **EXCEPT AS PROVIDED HEREIN, FLOLOGIC EXPRESSLY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE.**

Warrantor: FloLogic Inc. Morrisville, NC 27560
www.flologic.com

BASIC SYSTEM LAYOUT

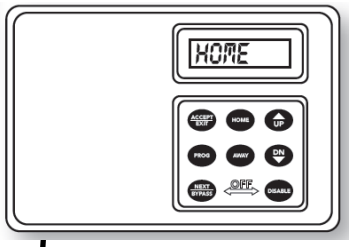
CAUTION: PREVENT ALL COMPONENTS FROM FREEZING

CONNECT Module (optional)
Indoor Only



(When present, comm cable plugs to right port,
then jumper cable joins left port to Control Panel)

Control Panel
Indoor Only



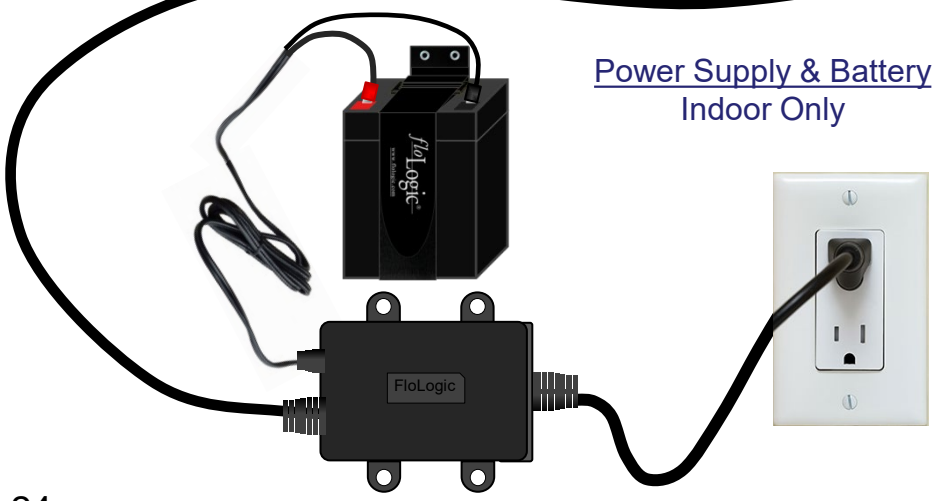
Valve Assembly
Outdoor / Indoor
Avoid Freezing or Submersion

CHECK VALVE
(ON MUNICIPAL SUPPLIES)

OUTFLOW

INFLOW

Power Supply & Battery
Indoor Only



Scan for Installation Video