

FLOLOGIC SYSTEM WITH GATEWAY CONNECT

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

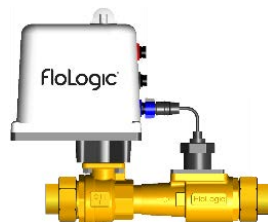
- Installation of the FloLogic System requires a basic knowledge of plumbing as well as specialized tools for cutting pipe and joining fittings.
- A spring-check valve is required on all municipal supply water lines prior to the FloLogic Valve to prevent flow readings from pressure fluctuations
- Installing the FloLogic System prior to irrigation systems or water conditioners with backwash cycles will require integrations to avoid possible nuisance alarms
- The local Connect Module and Power Supply must be protected from moisture, which may require fishing the wire indoors on an outdoor installation
- FloLogic suggests you hire a licensed professional plumber to complete the work and an electrician if deemed necessary
- Outdoor installations must be above grade, protected from freezing and oriented with the connectors facing horizontal or down (valve box/cover recommended)

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.

STANDARD CONTENTS CHECKLIST

- ☐ Connect and Gateway Modules
- ☐ 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
 - Spare flow sensor o-rings



Valve Assembly



Power Supply



Communication Cable



Battery w/ Strap



Connect and Gateway Modules

FloLogic System Specifications

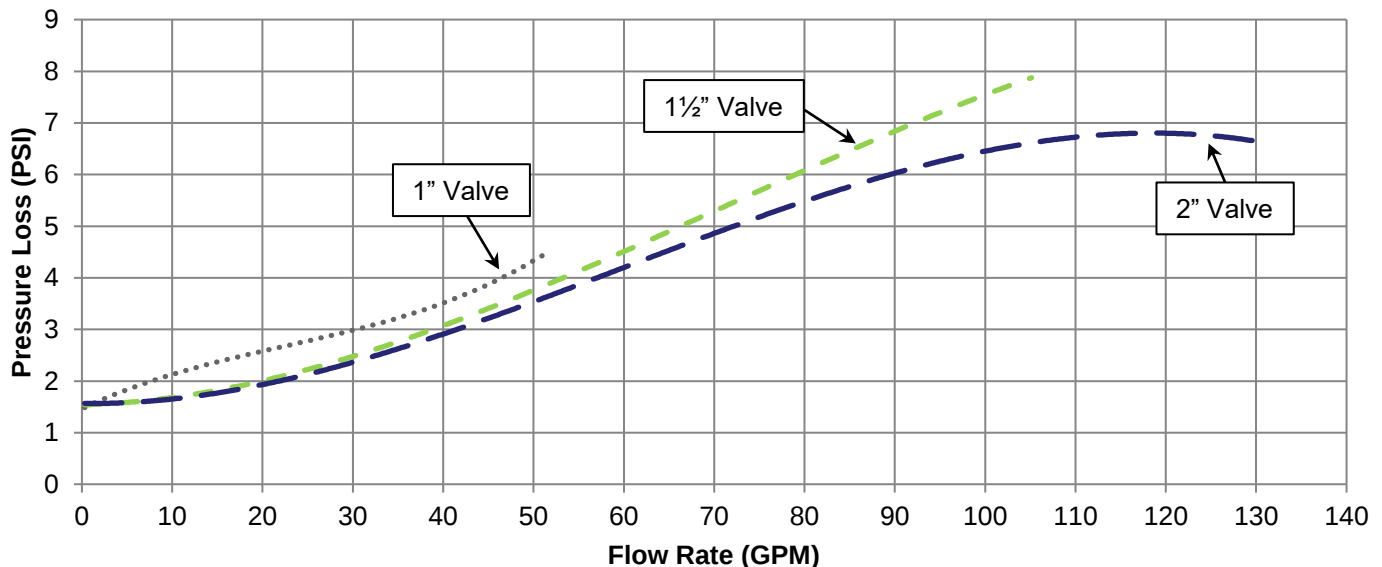
General:	Low Lead (< 0.25%) bronze valve body Full port, stainless steel ball PTFE (Teflon®) seals on ball valve EPDM O-ring seals on all union fittings Integrated manual override (8mm) with included tool Rated for Indoor and Above Grade Outdoor Installations (Valve Assembly ONLY) Works on both HOT and COLD water supply lines (34° to 140° F / 1° to 60° C)		
Valve Assembly:	<u>1" System:</u> <u>1½" System:</u> <u>2" System:</u>	Length: 11", Height: 10", Depth: 4.5", Weight: 11.5 lbs. Length: 12", Height: 11", Depth: 4.5", Weight: 16.5 lbs. Length: 13", Height: 12", Depth: 4.5", Weight: 25 lbs.	
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: Working:	150 psi at 73.4° F (23° C) 100 psi at 73.4° F (23° C)	
Environmental:	Water Temp: Ambient Air:	Min 34° F (1° C) - Max 140° F (60° C) Min 34° F (1° C) - Max 120° F (50° C)	
Local Control:	Connect Module for mode/flow status indication, mode changes		
Limited Warranty:	Up to five-year limited warranty (Details on Page 23)		
Regulatory:			



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.

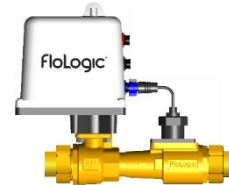
PLANNING AND PREPARATION (15 - 60 minutes)

- 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



ATTACHING CONNECT/GATEWAY MODULES (15 minutes)

- Step 8: Determine Connect Module Location
- Step 9: Run Communication Cable
- Step 10: Install Connect Module (and Gateway if provisioning online)



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 Automatic Water Shutoff Mode on Connect Module
- Step 17: Confirm Water Shutoff



REFERENCE MATERIAL

Installation Troubleshooting	15
External System Interconnect Options	16
Wiring Outputs to External Systems	17
Irrigation Override Using External Relay	18
Water Softener Override Using Flow Switch	19
Pool Fill / Hose Bib Override Using Flow Switch	20
Auto Shutoff of Recirculation Pump Using External Relay	21
Limited Warranty	23
Basic System Layout	24

PLANNING AND PREPARATION

STEP 1 – DETERMINE OPTIMAL VALVE LOCATION

The Valve may be installed in any orientation on a vertical or horizontal plane--except on outdoor installations the cable connectors must face horizontal or down. Install after the pressure tank for a well water installation. On municipal or community well supplies, a check valve is required before FloLogic. Install after the meter, PRV and any booster pumps. See STEP 2 for additional information.

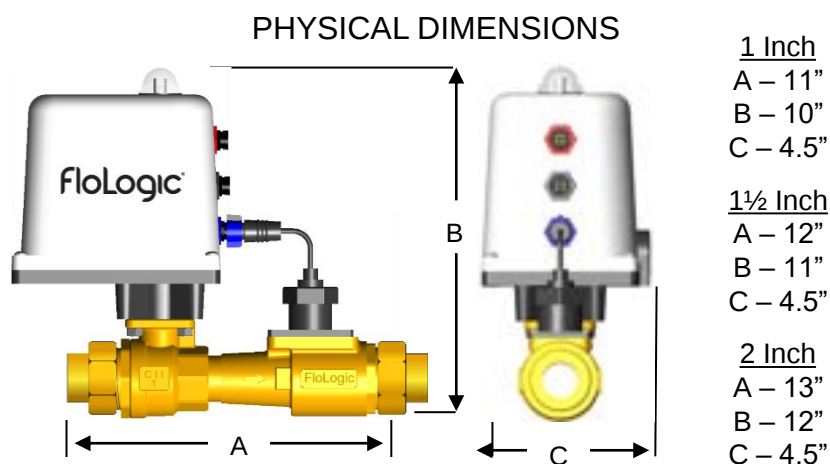
As noted in STEP 10 and 11, the Power Supply and Connect Module can not be exposed to the elements, meaning on an outdoor Valve installation cables may need to be fished into the structure.

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, 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 WILL VOID THE WARRANTY.

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 up to a 50-foot 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. There are no limitations as to orientation when indoors.



NOTE: Manual Override Access

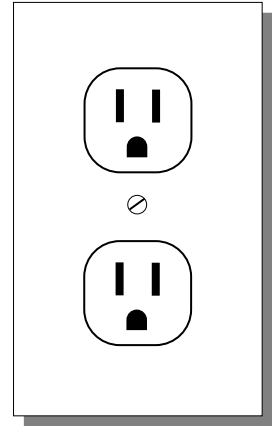
The FloLogic System is equipped with a manual override that will allow you to open or close the Valve with the included override wrench (or a 5/16" or 8 mm wrench) in the event of a complete loss of power. When planning for the location of the Valve, provide sufficient clearance to accommodate access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

PLANNING AND PREPARATION (continued)

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

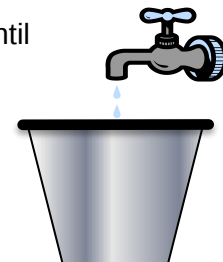
If you do not already have an electrical outlet within 20 feet of the Valve location, you can either add a new outlet or utilize watertight Power Supply Extension cables that are available for purchase from FloLogic up to 50 feet in length. FloLogic does not recommend permanent use of any other type 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 main water should be shut off. For a well supply without a shutoff valve, disable the well pump power. 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. For a multi-story property, open a couple of cold water taps on the upper-most floor to accelerate drainage. Depending on the design of the 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)

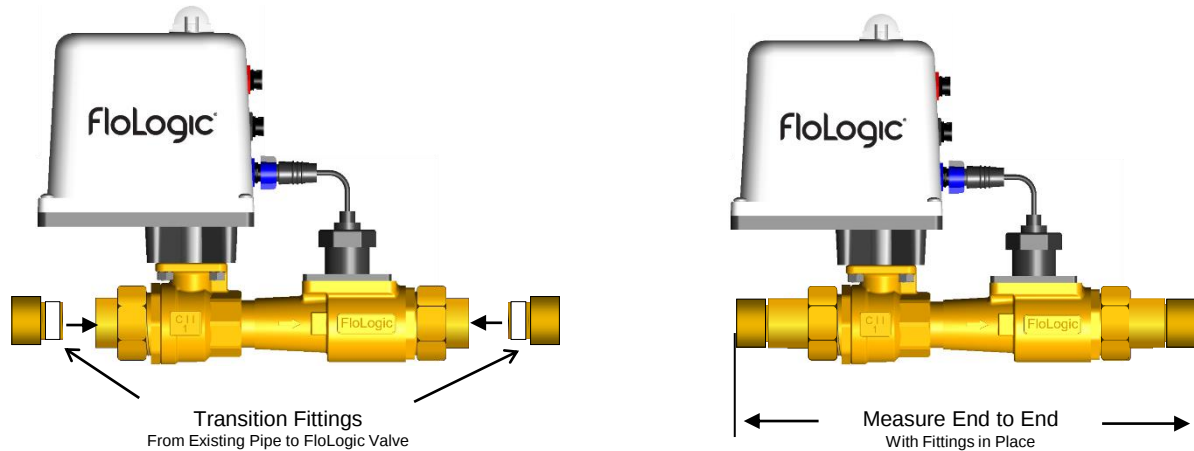
It is recommended that all FloLogic valves be installed after a 120-mesh/125 micron wye strainer or an equivalent water filter. Plumbing supplied by an on-site well is highly recommended to have a filter to protect the flow sensor from silt. Plumbing supplied by a municipality or community well requires a spring-loaded check valve (or backflow preventer) to be in place before the FloLogic valve to prevent pressure fluctuations, which may be registered as flow and cause nuisance alarms. **FloLogic offers custom 1", 1.5" and 2" check valves that screw directly into the inlet side of the valve assembly for ease of installation.** Note that properties with tank water heaters may require adding 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

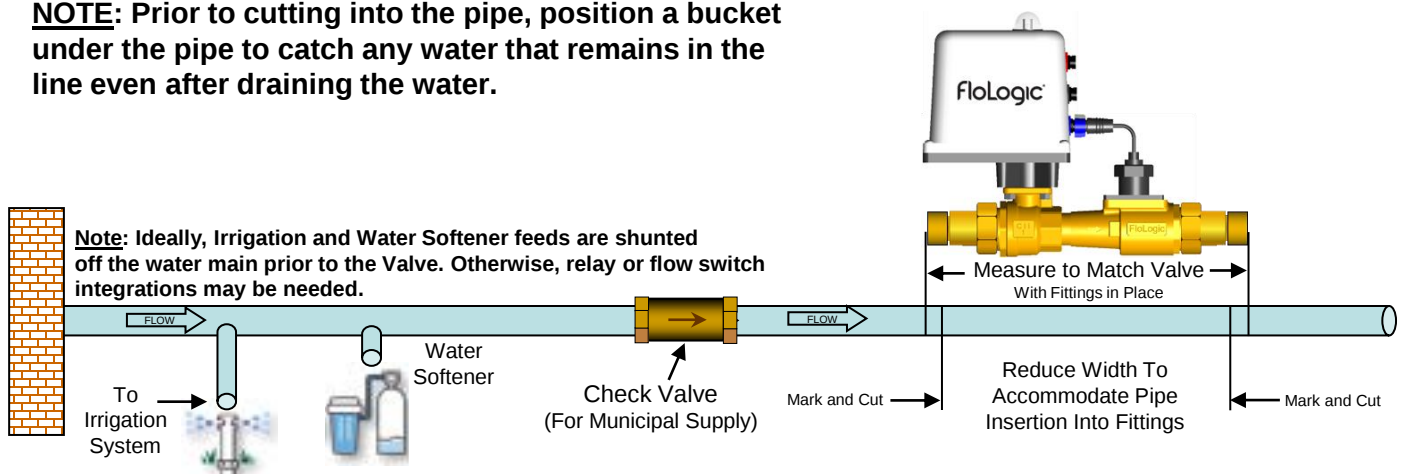
Depending on the pipe material and valve size being installed, you may need one or more pipe fittings to transition to the union connections on the FloLogic Valve. Assemble the fittings required to transition from the main water line to the FloLogic Valve. Securely tighten the union tailpieces on each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



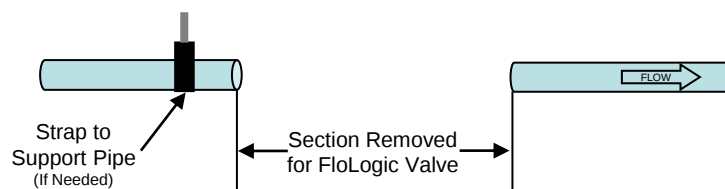
If a FloLogic brand custom check valve is included, install it onto the inlet side of the Valve.

Carefully measure the overall length of the assembled Valve and fittings. Mark this measurement on the installation location of the pipe. 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.



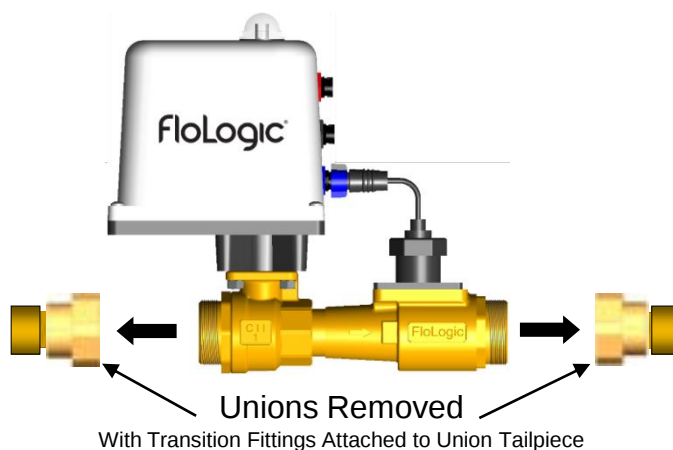
Using the appropriate tools, cut the pipe in the places marked. Be careful to make a clean, square cut to ensure minimal clean-up and prep work before installing the fittings. Additional pipe supports may be required if the cut pipe sags excessively.



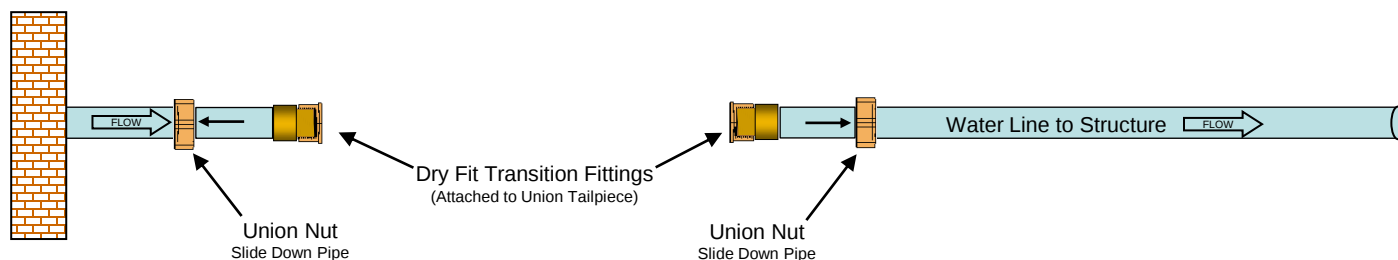
VALVE INSTALLATION (continued)

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.

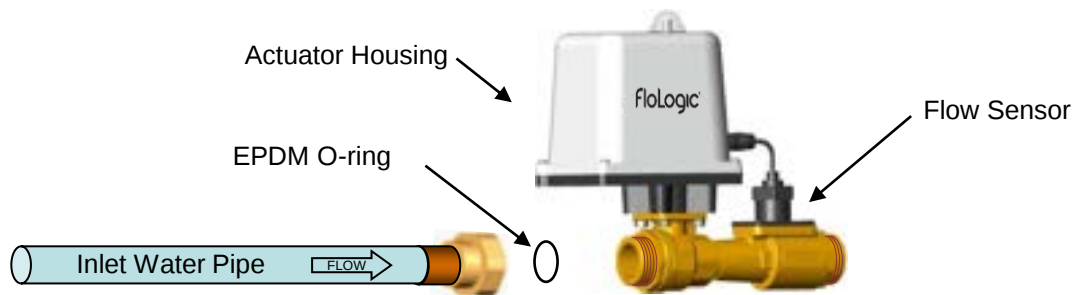
VALVE INSTALLATION (continued)

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 (if not embedded in unions) 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. 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 Connect Module (and legacy Control Panel if included).

INSTALLING THE CONNECT MODULE

STEP 8 – DETERMINE CONNECT MODULE LOCATION

The Connect Module provides basic local operation that independent of internet service or access to the app. An optional legacy Control Panel can be joined with the Connect Module when local integrations are necessary, or when a user does not wish to use the app, as the Control Panel allows settings adjustments that must otherwise be made through the app.

The Connect Module connects to the Valve/Actuator via the supplied, **25 foot** Communication Cable. A longer Communication Cable or an extension may be purchased from FloLogic. The Connect Module can be mounted anywhere that is protected from the elements, but the location should consider wireless connection to the Gateway Module, which physically plugs into the router or a WiFi booster LAN port, and any wired integrations to be made to an optional Control Panel.



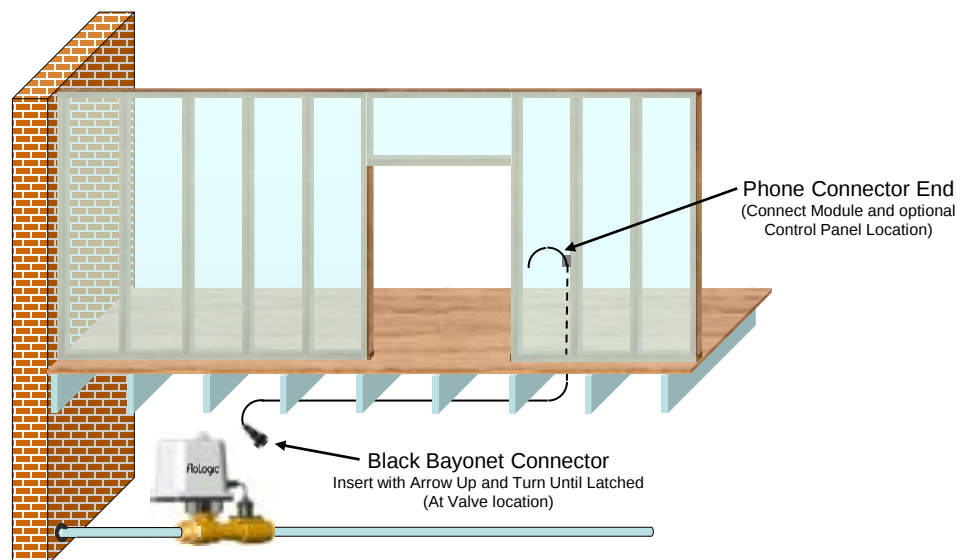
CUTTING AND / OR SPLICING OF THE COMMUNICATION CABLE IS NOT RECOMMENDED. BE CAREFUL NOT TO DAMAGE THE CABLE WITH STAPLES OR OTHER MATERIALS.

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, plug in and turn 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 Connect Module and optional local Control Panel. If the Connect Module 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 Connect Module installation site, be certain to leave at least 6 inches of cable slack to facilitate the Control Panel installation.

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

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.



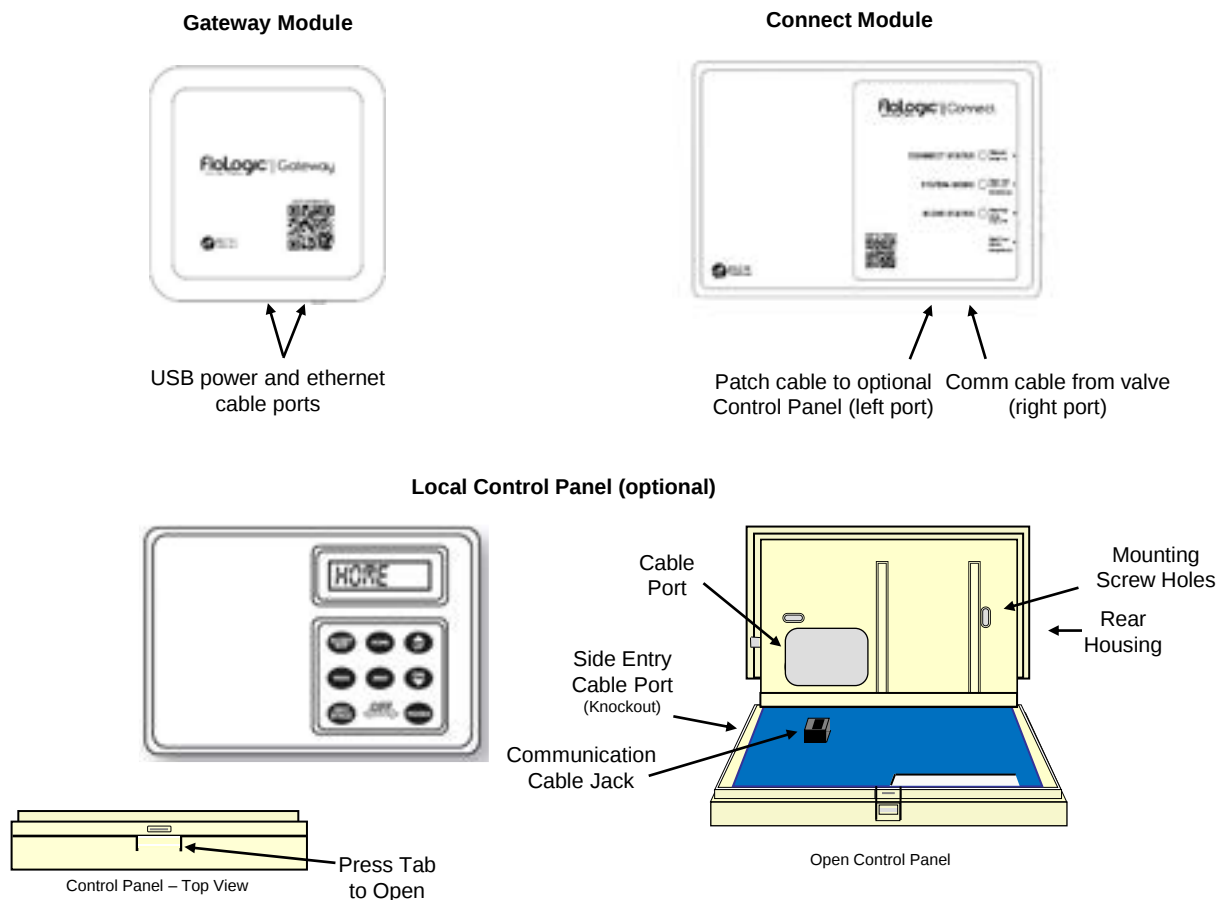
CONNECTING MODULES AND CONTROL PANEL(continued)

STEP 10 – INSTALL CONNECT AND GATEWAY MODULES, OPTIONAL CONTROL PANEL

See the enclosed Gateway Connect Module Setup and Provisioning Instructions for guidance in full setup and provisioning of the Connect and Gateway Modules.

A legacy local Control Panel can be optionally added to provide dry contact connections for integrations into alarms panels, third party environmental sensors, irrigation relays, flow switches on water softeners and pools and connection to hot water recirculating pumps for auto shutoff functionality. A Control Panel allows users to adjust System settings locally, a function otherwise accessed only by app users as the Connect Module does not allow settings adjustments.

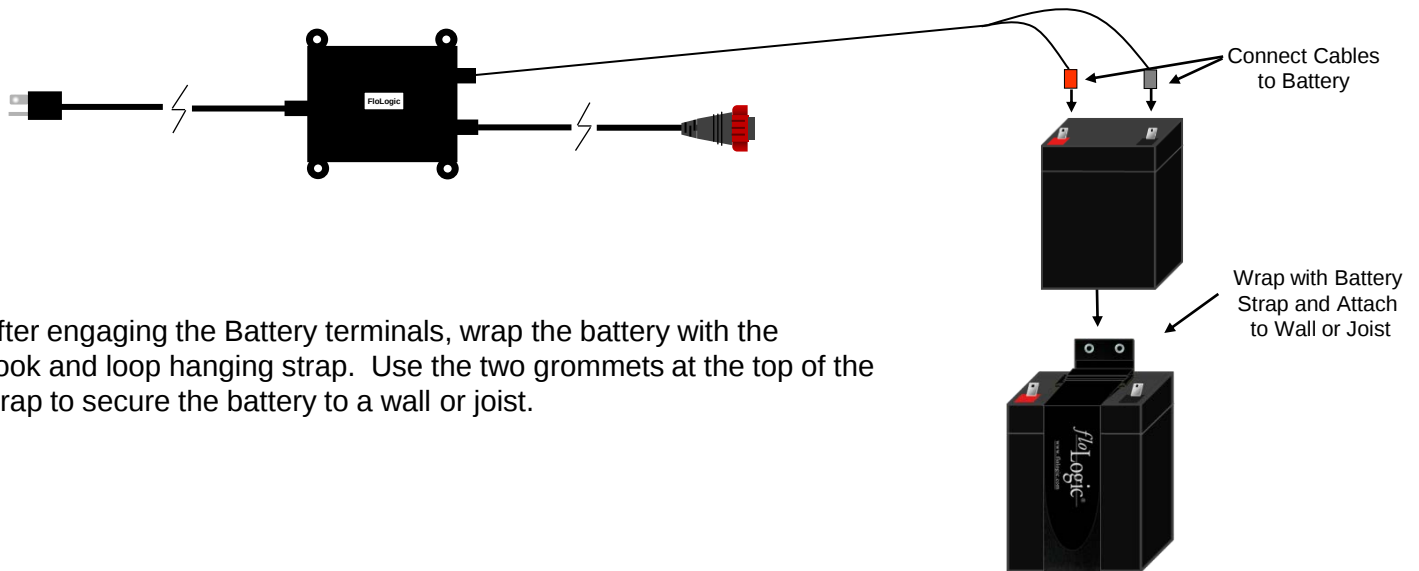
The Communication Cable plugs into the right-side port of the CONNECT Module. To add a Control Panel, use the included patch cable to plug into the left-side port of the Connect Module and plug the other end into the local Control Panel. The Control Panel mounts using the included screw-mount hardware. 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. If there is only a local Control Panel, the Communication Cable plugs directly into the Control Panel.



POWER UP SYSTEM

STEP 11 – Connect the Battery to the Power Supply

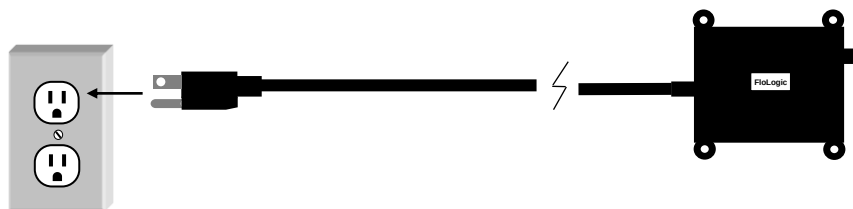
Prior to plugging the Power Supply into the AC outlet connect the Battery to the Power Supply by sliding the quick disconnect terminals onto the Battery. Connect the insulated red quick disconnect to the red (+) battery terminal and the insulated black quick disconnect to the black (-) battery terminal. 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.

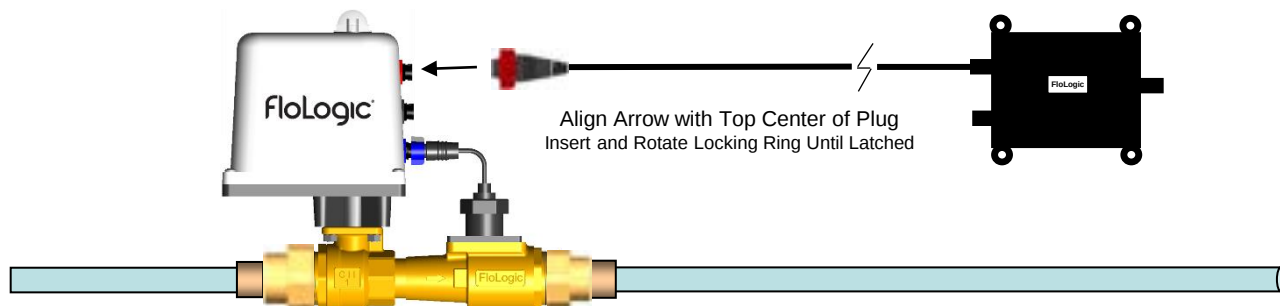


You are now ready to connect the Power Supply to the Valve.

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 that includes an auto-exercise of the valve. Once the start-up is completed, the SYSTEM MODE will turn green indicating flow monitoring in the Home mode is activated.



Green SYSTEM MODE light indicates Home mode in effect.
Connect Status light may remain blinking until unit is provisioned to an app user. Local mode changes and System operation are enabled prior to provisioning a device online to an app user.

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, confirm the FloLogic System is in the Home mode, indicated by the SYSTEM MODE light being solid green.

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 FLOW STATUS light to be solid green, indicating no flow is being recognized. When the FloLogic System detects flowing water the FLOW STATUS light will slowly blink blue indicating flow that is below the sensitivity setting (default setting 2 ounces/min). It will blink quickly blue indicating flow above the sensitivity setting (monitored flow) and turn solid blue for high flow (monitored flow above 48 ounces/min). You may have a thermal expansion tank that was installed to mitigate water heater tank pressure buildup. If so, it may take additional time for flow indication 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. If the FLOW STATUS continues to indicate flow, you could have stealthy running toilet, dripping faucet, running evaporative humidifier or other source of flow to address, or you may need to adjust the flow sensitivity in the app to “allow” known low flow to occur unmonitored. See the Directions for Use booklet and app user video for more information about adjusting the flow sensitivity.

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 blue FLOW STATUS light indicating flow detection

OPERATIONAL TEST (Continued)

CAUTION: THIS TEST SHOULD BE REPEATED DURING THE INITIAL INSTALLATION AND AGAIN 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 Away/Water Off button. The Valve will close, the SYSTEM MODE light will turn solid red. **Ensure the water stops from the still-open tap.**

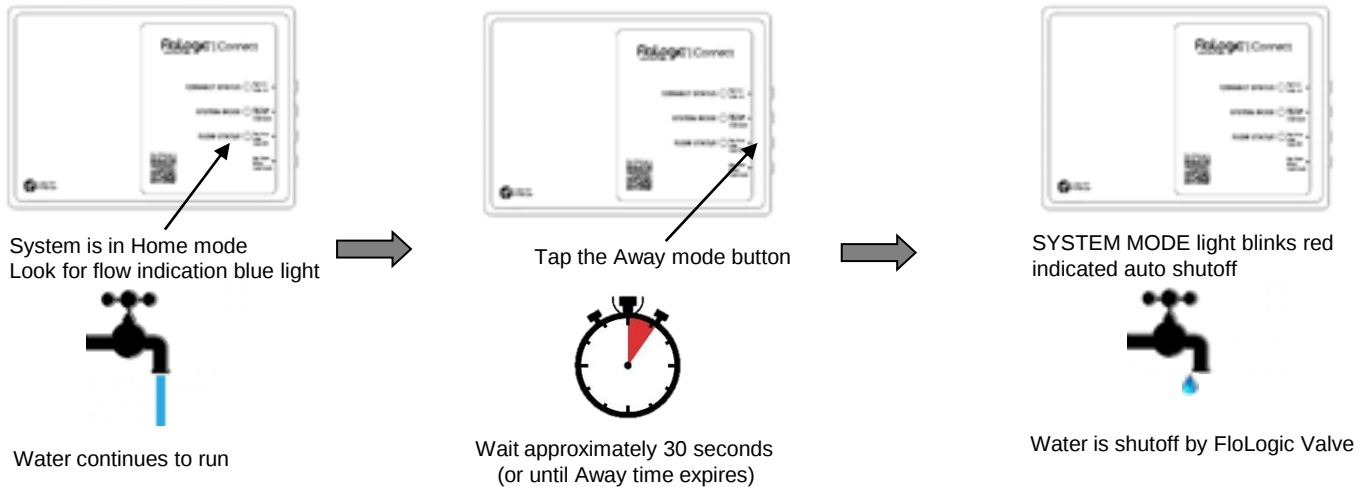
NOTE: In the lower level of a multistory building or in one equipped with a thermal expansion tank, the flow may continue for several minutes even after the Valve is closed.

To restore water service, press the Home/Water On button on the Connect Module.

STEP 17 – CONFIRM AUTOMATIC SHUTOFF

With the water running, place the System into the Away mode by pressing the Away button on the Connect Module. The Valve will cycle, perform a self-check auto-rotation, and update the SYSTEM MODE will turn solid yellow. Unless a different timer value has been set by the user, after 30 seconds of water flow (the default Away time setting), the Valve will rotate 90° to turn off the water, the VALVE MODE light will blink red indicating an auto shutoff.

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



To restore water service, press the Home/Water on button.

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

INSTALLATION TROUBLESHOOTING

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

ERRORS AND RESOLUTIONS

No Power to System or Loss of AC Power	Connect Module lights are not illuminated, System not responding. AC Lost Message on App.	Check cables for secure connection and signs of damage. Check AC power outlet for voltage. Disconnect red power cable, then re-attach
Communication Error	SYSTEM MODE light is blinking blue. Valve not responding to button commands.	. Check all cables for secure connections and signs of damage. Disconnect red power cable, then re-attach. Hold the "Home/Restart" button to reboot System. Check battery and change if necessary.
System Down	SYSTEM MODE light is solid orange, indicating System is down or valve can not identify its position (open or closed).	Check all cables for secure connections and signs of damage. Disconnect red power cable, then re-attach. Hold the "Home/Restart" button to reboot System. Check battery and change if necessary.
Low Battery or Change Battery Message	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.
Internet Connection or App Provisioning Issue	Difficulty getting device connected online or questions about operating System via the app	Scan the QR code located on the Connect Module or simply visit www.flologic.com/gateway for guidance.

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 should clear.

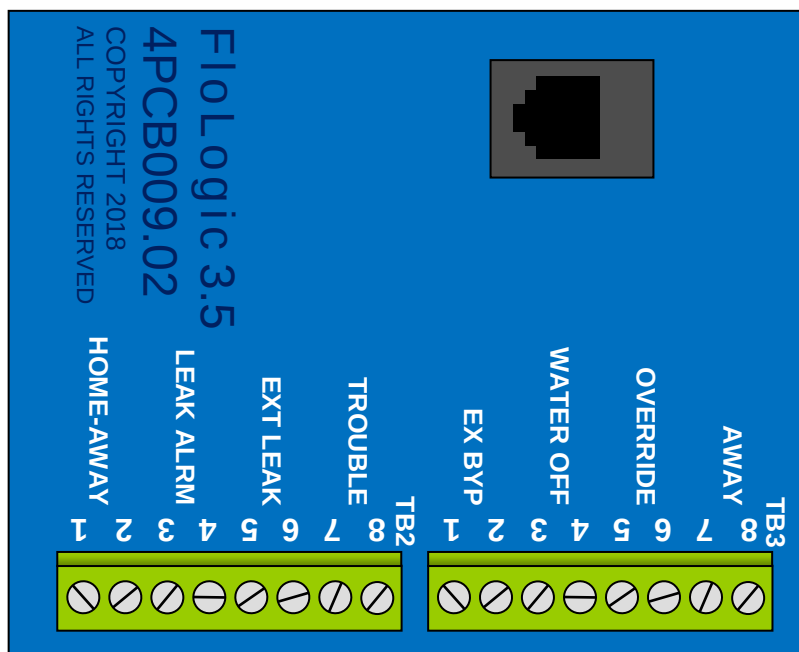
AIR ENTRAPMENT

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.

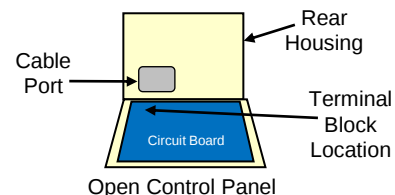
See the *Directions for Use* enclosed in the shipping box for complete instructions on both System operation and programming for your specific requirements. You must register your purchase at www.flologic.com by clicking on **Register Product** to receive updates and Field Notifications. Failure to do 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

Requires Legacy Control Panel/Circuit Board available at www.flologic.com or 877-356-5644



The Control Panel dry contacts enable communication with devices including: alarm panels, irrigation systems, water softeners, pool fillers, hot water recirculating pumps and well pumps. See below for dry contact functions and refer to the following pages for relay or flow switch requirements and integration schematics.



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 (SSR) is Normally Open. Connection with security system provides central station alerts. Relay will close when a leak event is detected. Relay reverts to open when water turned back on.
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	SSR is Normally Open. Relay will close 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 external device such as a flow switch on a water softener where contacts 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 (user-prompted or automatic shutoff)	TB3 Pins 3 & 4	SSR is Normally Open and will close when the water is turned off by the FloLogic System. Connect to external device such as hot water recirculation pump relay. Contacts open when water is turned back on.
OVERRIDE – Latching contact closure triggers System to disable flow timers. Flow timers reactivated when Override ends.	TB3 Pins 5 & 6	Connect to external device such as irrigation relay with contacts that latch close (short) to suspend flow detection.
AWAY – Communicates to external device or system that FloLogic is in the AWAY mode.	TB3 Pins 7 & 8	SSR is Normally Open. Relay will close when the FloLogic System is placed in the AWAY mode and revert to open when in the HOME mode.

WIRING OUTPUTS TO EXTERNAL SYSTEMS

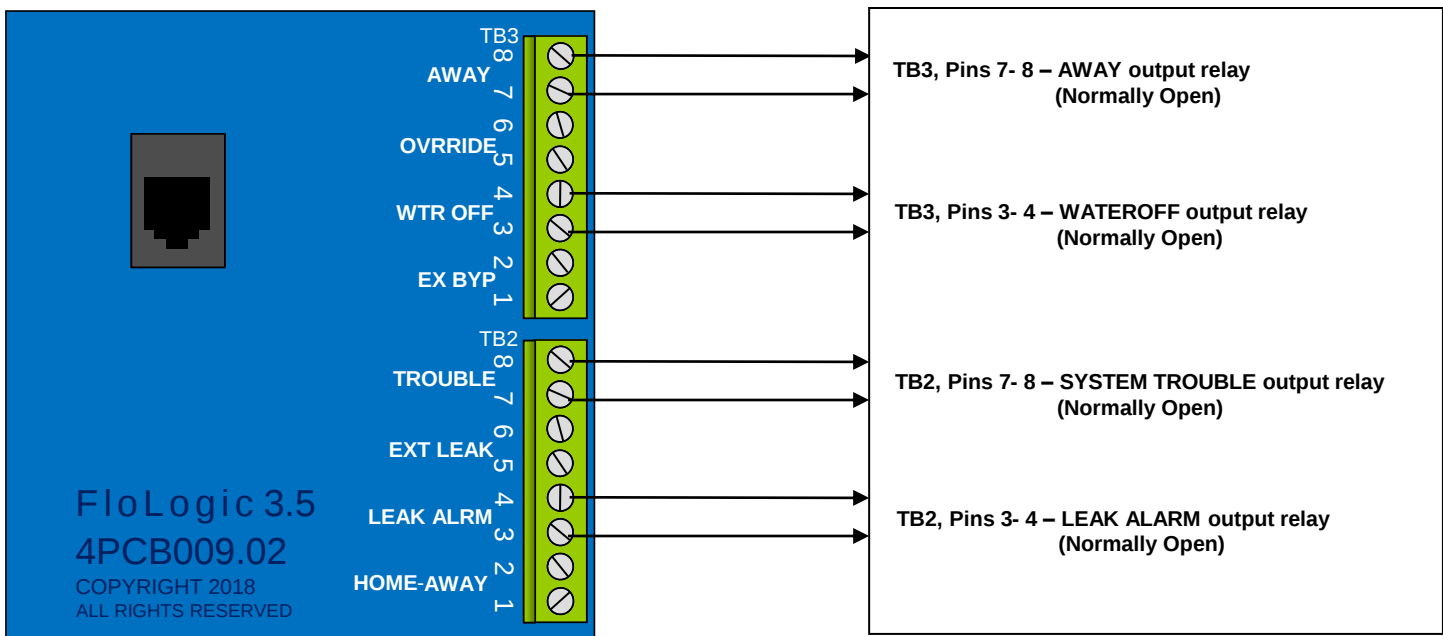
Using Onboard Solid State Relay (SSR) Outputs

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



<u>Output</u>	<u>Trigger Event</u>	<u>Location</u>	<u>Normally</u>	<u>Action on Event</u>
LEAK ALRM	Leak suspected, 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

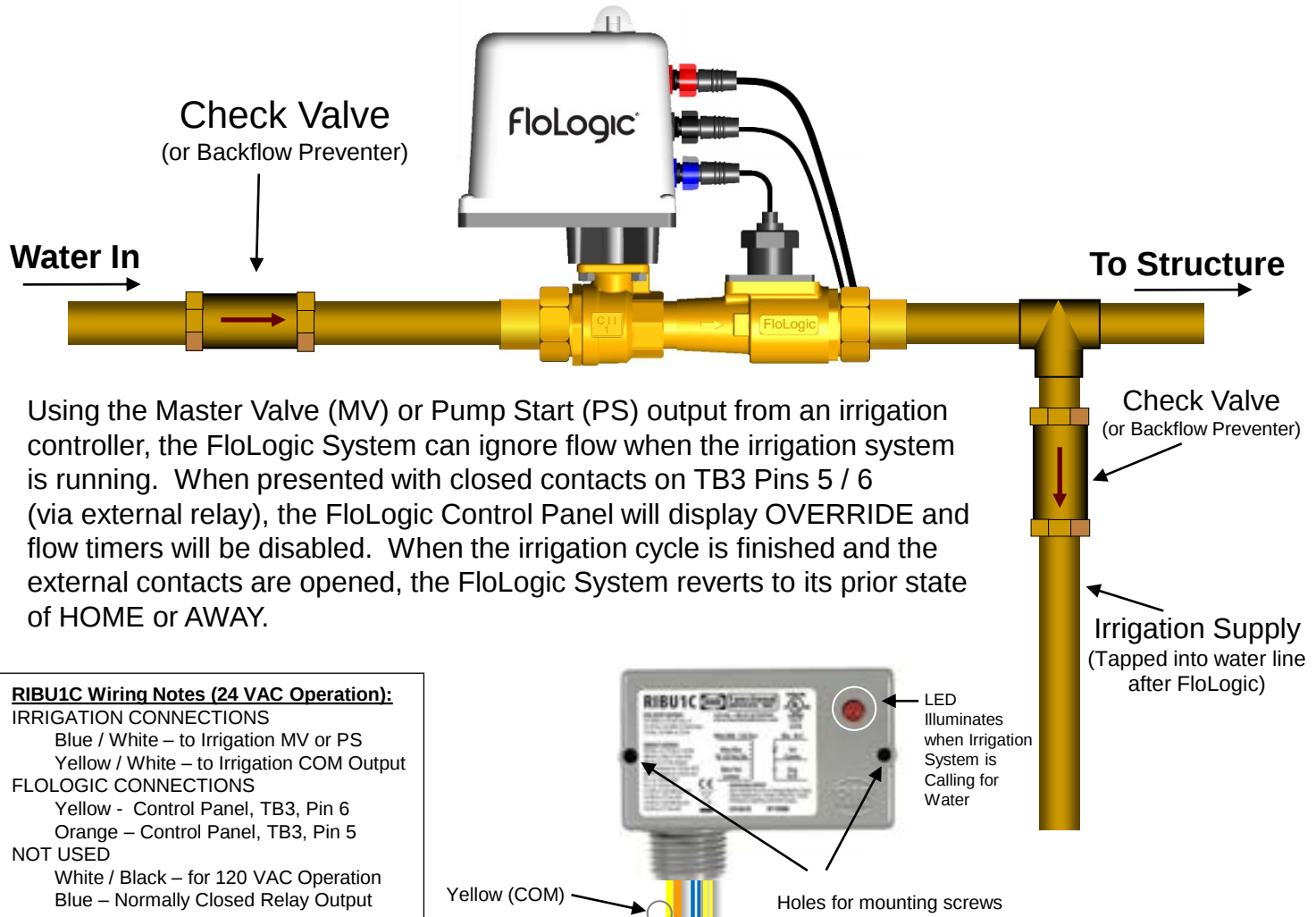
Application Notes:

- AC Lost trouble output is delayed for one hour to prevent cycling of alarm during brief power outages
- Water Off or Away Mode 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

(When irrigation is upstream no relay connection require, but be sure a check valve is installed between the irrigation tee and FloLogic Valve to avoid backflow sensing)



RIBU1C Wiring Notes (24 VAC Operation):

IRRIGATION CONNECTIONS

Blue / White – to Irrigation MV or PS

Yellow / White – to Irrigation COM Output

FLOLOGIC CONNECTIONS

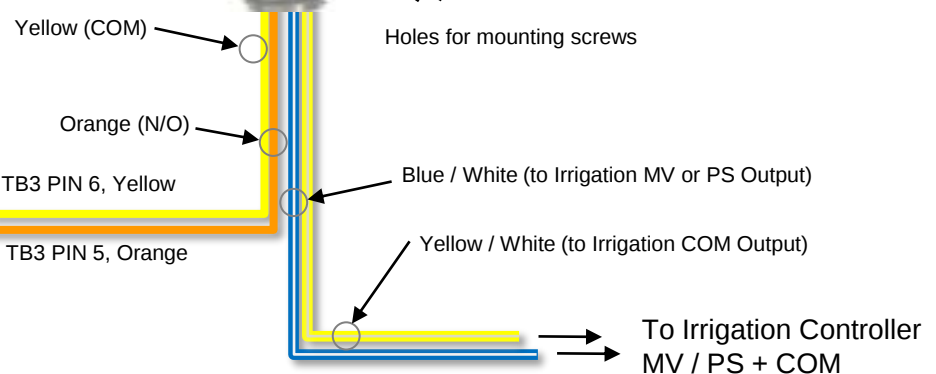
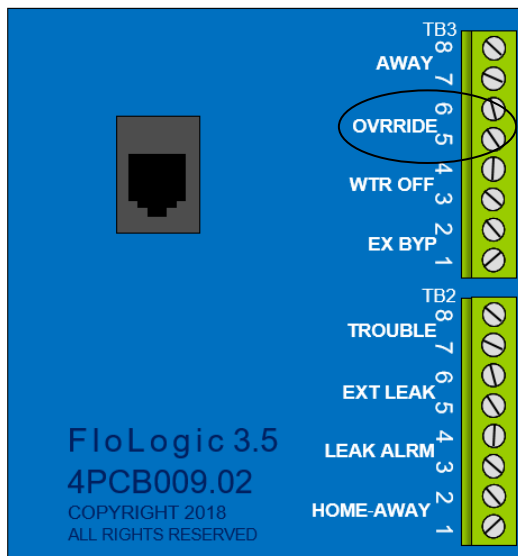
Yellow - Control Panel, TB3, Pin 6

Orange – Control Panel, TB3, Pin 5

NOT USED

White / Black – for 120 VAC Operation

Blue – Normally Closed Relay Output



Two wire connection to external relay.

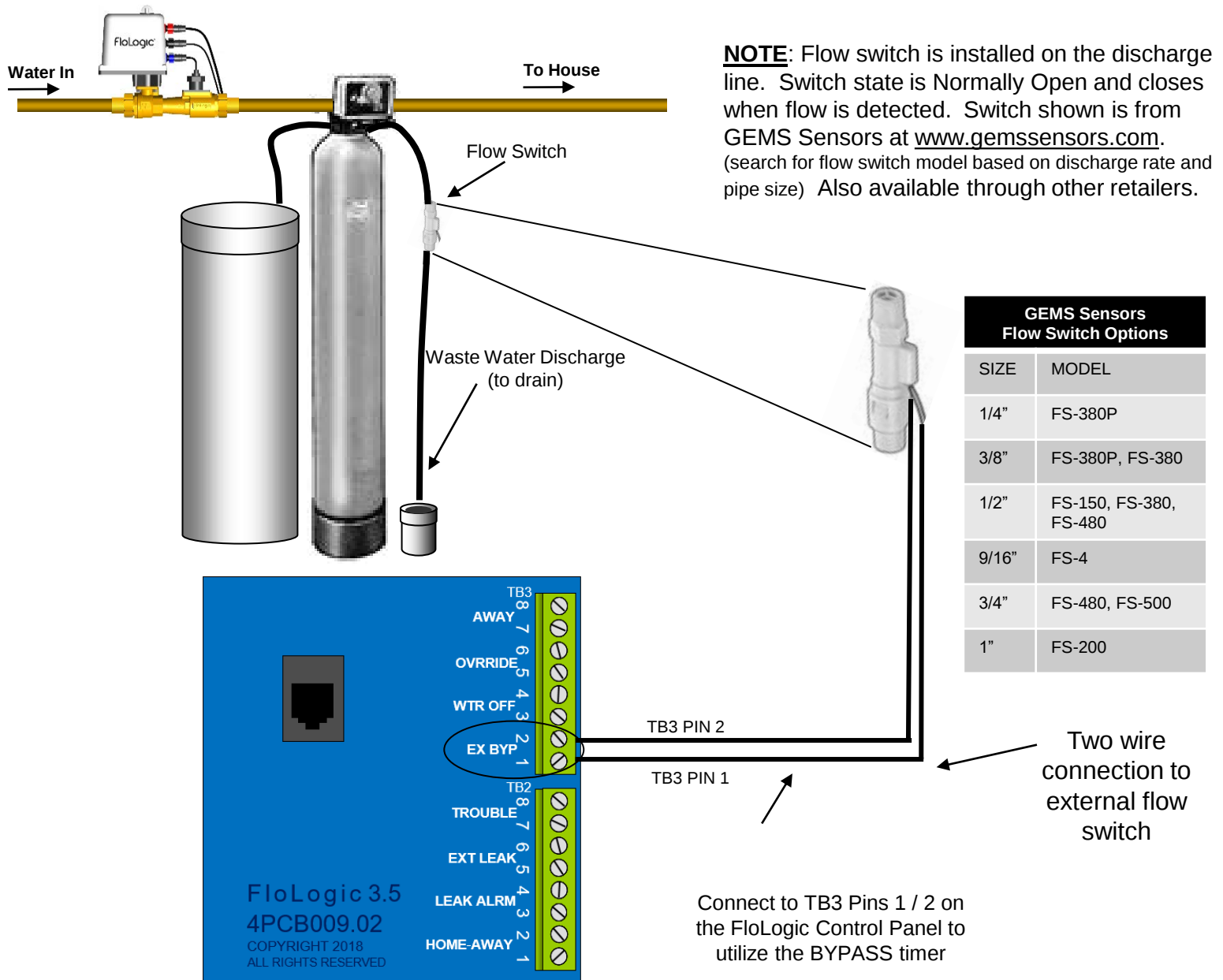
Use Master Valve (MV) or Pump Start (PS) output from irrigation controller to close **external** relay and override FloLogic timers when irrigation is running. Relay pictured as example is Functional Devices RIBU1C connected to Override Input (TB3 Pins 5 / 6) on the FloLogic Control Panel.

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)



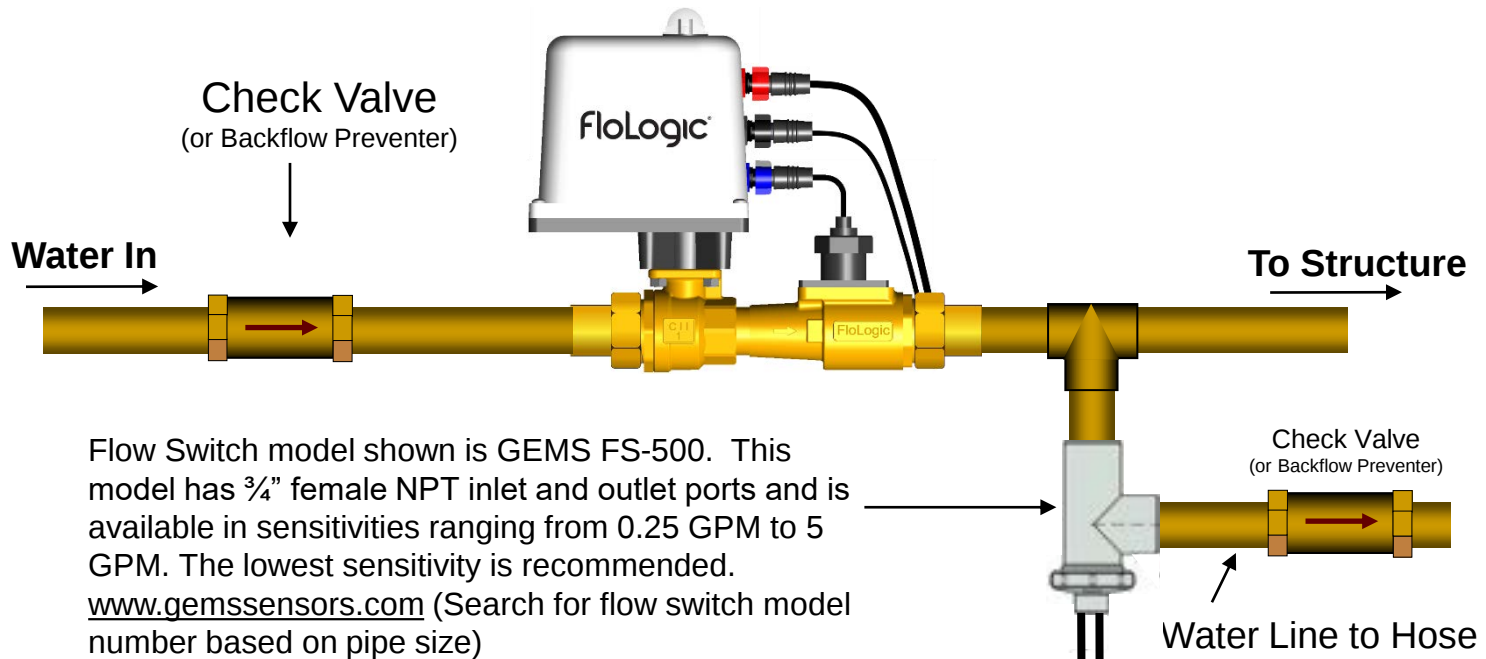
When connected to EX BYP input, the bypass timer will be started when water flow is detected in the discharge tube and the display will read EX.BYPASS alternating with HOME or AWAY.

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.

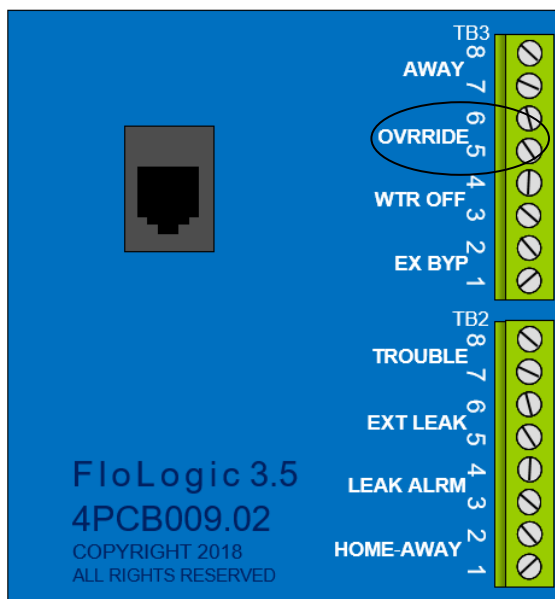
HOSE BIB / POOL FILL - OVERRIDE WITH FLOW SWITCH

If Water Feed is Tapped Downstream of FloLogic Valve



Flow Switch model shown is GEMS FS-500. This model has $\frac{3}{4}$ " 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.

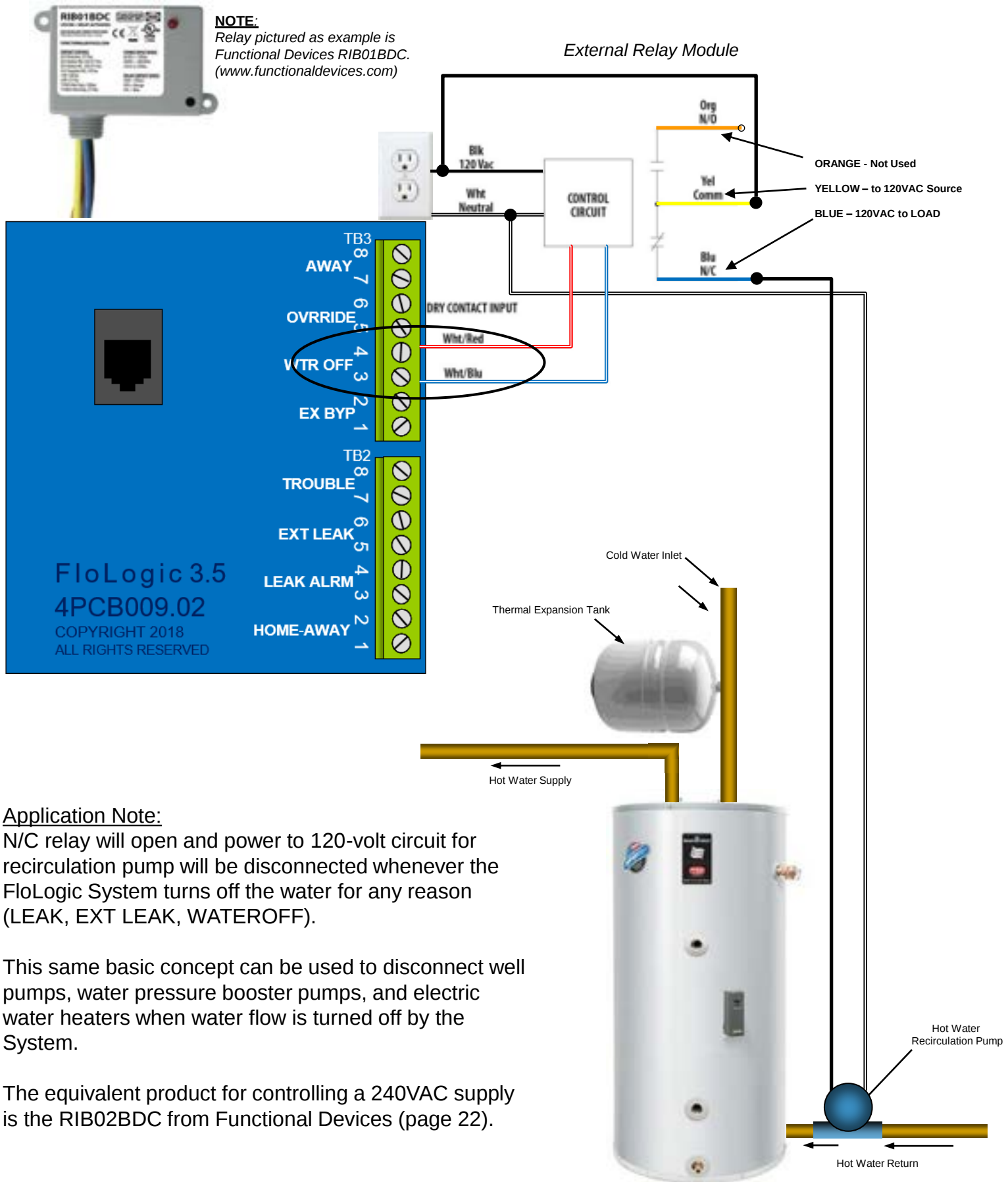


GEMS Sensors Flow Switch Options	
SIZE	MODEL
1/4"	FS-380P
3/8"	FS-380P, FS-380
1/2"	FS-150, FS-380, FS-480
9/16"	FS-4
3/4"	FS-480, FS-500
1"	FS-200

Two wire connection to flow switch.

CONTROLLING A 120 VOLT AC CIRCUIT

External Relay Switches AC Power



Application Note:

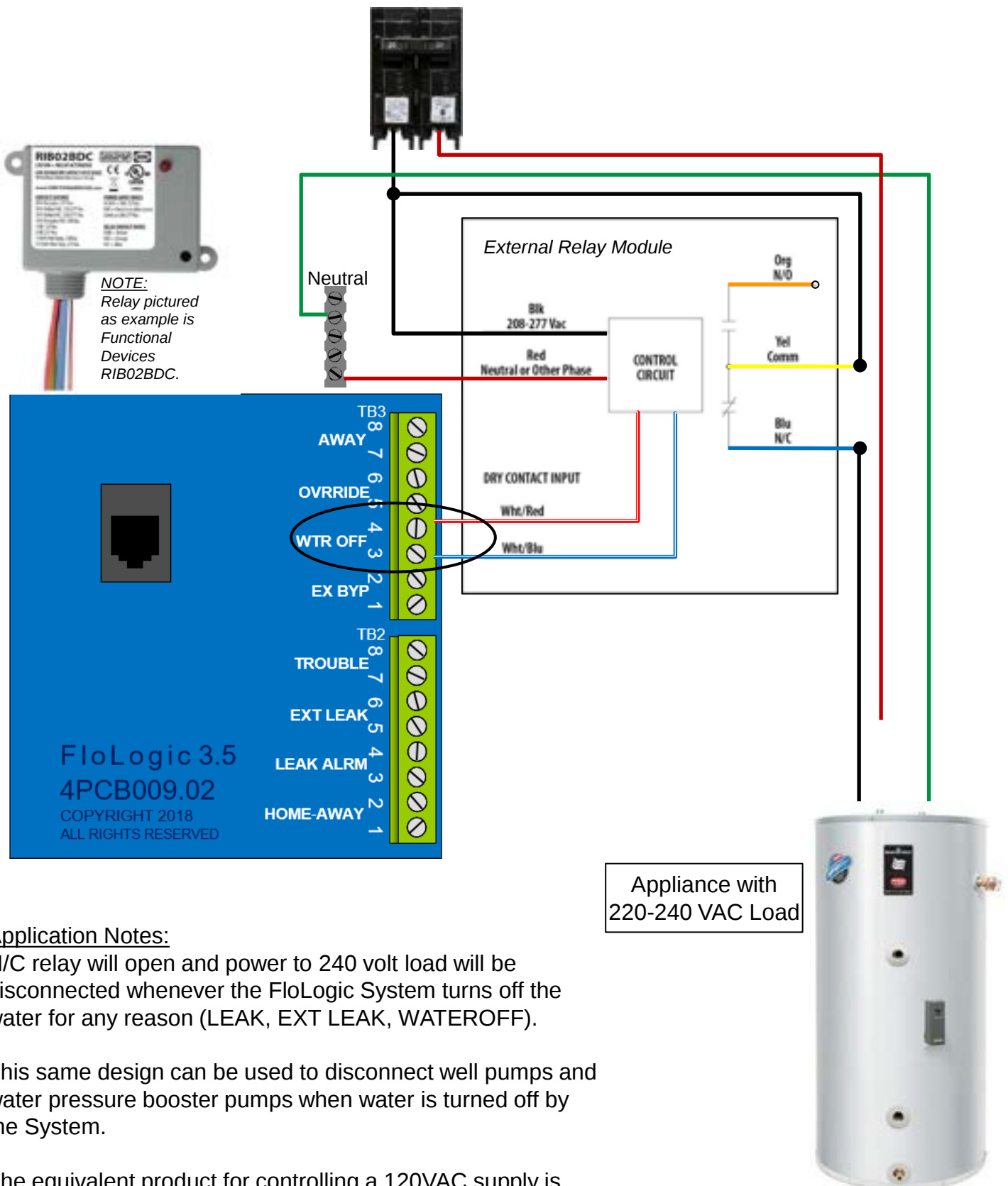
N/C relay will open and power to 120-volt circuit for recirculation pump will be disconnected whenever the FloLogic System turns off the water for any reason (LEAK, EXT LEAK, WATEROFF).

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:

Two-years from the date of purchase

PLUS an additional

Three-years if the product is registered and 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 except for the Flow Sensor, which is warranted for two years from purchase. During this **limited two-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.
- Flow Sensors that are affected by water quality issues.
- 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.***

BASIC SYSTEM LAYOUT

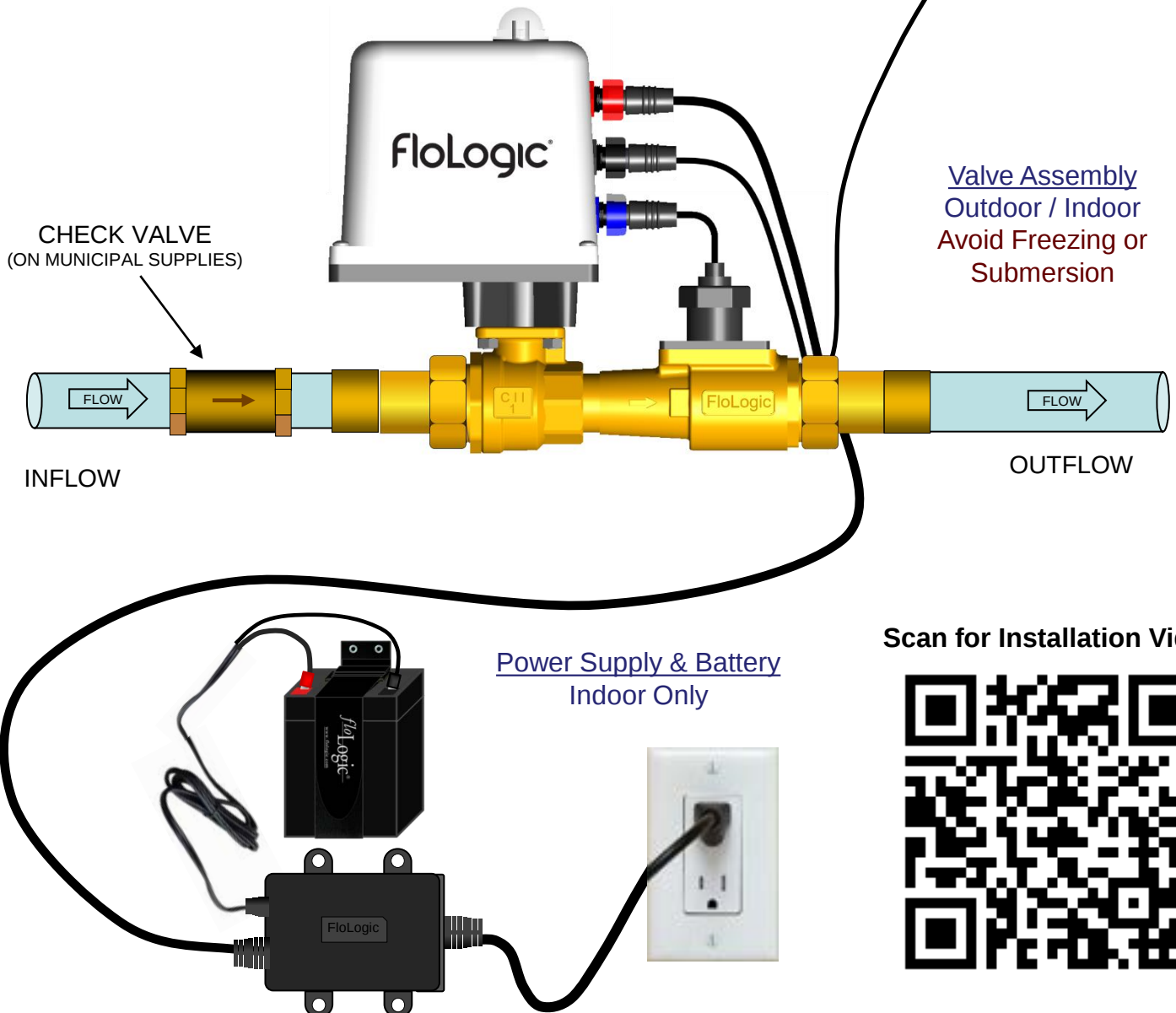
CAUTION: PREVENT ALL COMPONENTS FROM FREEZING

Control Panel (optional)
Indoor Only



Comm cable plugs to right port of Connect Module, Control Panel plugs into left port of Connect Module using patch cable.

Connect and Gateway Modules
Indoor Only



Valve Assembly
Outdoor / Indoor
Avoid Freezing or Submersion

Scan for Installation Video

