

Serial Number

Date of Purchase

Attach receipt here

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GENERAL INFORMATION

Congratulations on your purchase and installation of the FloLogic System[™] 3.0 ("System"). You can now relax knowing that your home or business is protected 24 hours a day, seven days a week, against flooding due to leaks or failures in its plumbing system. The FloLogic System is designed to monitor and control virtually all water flowing through a residence or building's plumbing system.

The System works by detecting and timing the flow of water through the inlet water pipe of any protected structure. There are two basic operating modes for the System, Home and Away; the difference is the occupancy status of the building and thus the amount of water that is expected to be used. The default detectable flow rate has been embedded in the software at 2.0 ounces per minute. Once flow above 2.0 ounces per minute is detected, the System allows water to flow for whatever length of time the user has stipulated for each of the modes. The default timer interval for the Home mode is 30 minutes, and the Away mode is 30 seconds.

Switching from Home mode to Away mode, and conversely from Away mode to Home mode, is accomplished by simply pressing the corresponding key on the Control Panel. When water flow is detected that exceeds the preset timer intervals, the water is turned off, an audible alarm is sounded and the wall-mounted LCD panel displays the message "LEAK". If connected to a security system, the System will communicate the leak condition to your security monitoring company so they can notify you of the problem. The FloLogic System also includes several convenience features and allows the user to change any of the default timer intervals if so desired. Another feature that separates the FloLogic System from others in the market is a software function that periodically "exercises" the ball valve to ensure the System is operating correctly and will respond when called upon. No one else in the market today provides this unique and comforting feature.

Control Panel



BASIC OPERATION

Home vs. Away

HOME

Upon System start-up, following installation, the LCD panel will read "HOME", indicating that the Home timer is in effect. Unless previously changed by the user, the timer interval for the Home mode is 30 minutes. When the display reads "HOME", this is the length of time that water will be allowed to run uninterrupted before the System sounds an alarm and turns off the water.



Mode

When you wish to change to Away mode, press the AWAY key. Unless previously changed by the user, the timer interval for the Away mode is 30 seconds. When you switch from Home mode to Away mode, the display will read "AWAY" and the Valve will enter an exercise cycle that results in the Valve closing and then reopening. During this time you may hear the motor turning the valve. To exit the Away mode, simply press the HOME key to return to the Home mode.

Flow Indication

AWAY



When water is running anywhere in the building monitored by the FloLogic System, a rotating pinwheel will appear on the right side of the LCD screen. On the left side of the display, a text message will continue to indicate the current operating mode for the System. The pinwheel is illuminated within 2 seconds once water begins running and will disappear within a few seconds after the water has stopped running.

BASIC OPERATION (Cont'd)

As an added security feature, the FloLogic System will automatically place itself into the Away mode (Auto Away) after detecting no water flow for an extended period of time. The default interval timer embedded in the software for this function is 18 hours and can be changed to a value as low as 1 hour and as high as 99 hours, or it can be disabled by the user (see Programming Instructions on page 18).

Clearing Alarms



When either the Home or Away timer limits are exceeded, the System will turn off the water, display "LEAK" on the LCD and sound a low-decibel, audible alarm at the control panel. To disable the audible alarm, press the DISABLE key.



Restores Water Service

Once the source of the leak has been identified and corrective action taken, press the HOME key to restore water service. During the first few minutes of water service restoration, the pinwheel may illuminate as any previously emptied pipes are refilled with water. This is normal and will stop as your plumbing system refills and is purged of air.

Water Shutoff from Keypad





Restores Water Service

HOME

If you want to manually turn off the water to the building protected by the FloLogic System, you can accomplish this by **simultaneously** pressing the NEXT / BYPASS key and the DISABLE key at the Control Panel. When the valve is closed by this keystroke command, the display will read "WATER.OFF".

Restoration of water service is accomplished by simply pressing the HOME key.

SYSTEM COMPONENTS

There are four major components to the FloLogic System:

Ball Valve and Actuator ("Valve")

This is normally mounted in the main water line after it enters the structure, prior to the point where the distribution lines are broken off to the various floors, rooms and plumbing appliances. The Valve may alternatively be installed out-of-doors in a meter box or in other locations left exposed to the environment, provided that it is not subject to temperatures below 35 degrees F or above 115 degrees F.



Ball Valve

The Valve unit is comprised of a full-port, one-inch brass ball valve connected to an actuator contained in a sealed housing. Extending from the actuator housing are three electrical connectors. One connector interfaces to the Flow Sensor, the second to the Power Supply and the third to the Control Panel. This unit should be mounted to provide easy access to the manual override, i.e. the metal shaft protruding through the top of the actuator housing. In the event of a complete loss of power or a general system failure, the override can be used to manually open or close the Valve.

Flow Sensor ("Sensor")

The Flow Sensor is directly connected to the Valve assembly via one of the three electrical connectors. The Sensor is responsible for the detection of water running through the System. While the Sensor is able to detect flow as low as 1.0 ounce per minute, the software monitoring the Sensor has been adjusted to recognize 2.0 ounces of flow per minute as the point when the timer interval is initiated. Depending on the specifics of your plumbing system, you can adjust the sensitivity of the Sensor (see Programming Instructions on page 18).

The Sensor has been designed as a field-replaceable item, as the service life of this component is dependent on the water quality where the System is installed. Water hardness and debris, such as sand or silt, may shorten the expected life of the Sensor. Water treatment regimens such as filtration and softening may lengthen the life of the Sensor. A replacement Sensor can be ordered from FloLogic at www.flologic.com. In addition, FloLogic has optional extended service plans that provide for periodic replacement of this component.

SYSTEM COMPONENTS (Cont'd)

System Battery and AC Adapter ("Power Supply")

The Power Supply is comprised of a rechargeable lead-acid battery connected to an AC adapter. The adapter is connected to the Valve assembly with a 15-foot cable. Unlike the Valve, which can be installed out-of-doors, all Power Supply components must be located in a protected environment such as a crawl space or basement. The location of the Power Supply must have access to AC power. The use of extension cords to reach electrical outlets is not recommended. Longer cables are available for purchase in the event that the Power Supply needs to be located further than 15 feet from the Valve.

The battery is designed to power the System in the event of a commercial power failure. The length of time the battery will power the System is dependent on several variables, including, but not limited to, air temperature and the age of the battery. When new, the standard battery should power the System for a minimum of five days as long as the battery is located in an environment with temperatures above 40 degrees F. When power is restored, the battery will gradually recharge to its labeled value. Replacement and higher capacity batteries can be ordered from FloLogic if needed.

Keypad and Display ("Control Panel")

The Control Panel is comprised of a keypad with eight keys and a liquid crystal display (LCD). The Control Panel is the sole user interface of the FloLogic System. All status messages and programming functions are presented at the Control Panel. The Control Panel is connected to the Valve with the supplied 50-foot cable. Longer interconnect cables are available for purchase in the event that the Control Panel needs to be located further than 50 feet from the Valve.

Inserted into the top of the Control Panel is a Quick Reference card that provides information on the basic operation of the FloLogic System.



OPERATIONS AND TERMINOLOGY

HOME



Places System in Home Mode

HOME

Programming Instructions on page 18). When in any state other than Home, the Home mode may be activated by a single press of the HOME key on the keypad. When the System is in the Home mode, the LCD will read "HOME".

AWAY



Places System in Away Mode



The Away mode is typically used when the structure is unoccupied. The Away mode is preprogrammed to allow 30 seconds of uninterrupted water flow before shutting off the water and sounding an alarm. If desired, this time can be changed to a value as low as zero seconds or as high as 99 minutes (see Programming Instructions on page 18). When in any state other than Away, the Away mode may be activated by a single press of the AWAY key on the keypad. When the Away mode is activated, the Valve will complete an exercise cycle, confirming operational readiness. When the System is in the Away mode, the LCD will read "AWAY".

The Home mode is typically used when the structure is occupied. The Home mode is preprogrammed to allow 30 minutes of uninterrupted water flow before shutting off the water and sounding an alarm. If desired, this time can be changed to a value as low as 1 minute or as high as 99 minutes (see

NOTE: If the Delay Away feature has been activated, the activation of the Away timer will be delayed for the duration of the delay interval (see DELAY AWAY on the following page).

DELAY AWAY



Places System in Away Mode

D. AWAY XX

When activated through the programming menu, this feature delays the start of the Away mode for a preset time interval. This is useful for someone who regularly wishes to be able to start a load of laundry or the dishwasher just prior to leaving. During the Delay Away interval, the System utilizes the Home timer (e.g. 30 minutes of flow). At the end of the Delay Away interval, the System will automatically place itself into the Away mode. The System is preprogrammed with a zero minute Delay Away interval (OFF). This interval can be changed to any value from OFF up to 99 minutes. Once programmed with any value above zero minutes, the Delay Away interval will be activated every time the user presses the AWAY key. To deactivate this feature, the user will need to reset the Delay Away interval to zero minutes (OFF). When the System is in the Delay Away mode, the display will read "D. AWAY XX", with XX representing the time remaining in the delay interval. To change this feature, refer to Programming Instructions on page 18.

OPERATIONS AND TERMINOLOGY (Cont'd)

BYPASS NEXT BYPASS Activates Bypass

Mode



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This function provides a convenient, single-key option to disable the System timers for a preset, limited duration of time. Factory defaulted at 120 minutes, this feature allows an extended use of water without the inconvenience of disabling the System or reprogramming the System timers. Upon completion of the Bypass interval, the System will automatically revert back to the mode it was in prior to the Bypass request (e.g. Home or Away). At any time during the Bypass interval, the user can override the Bypass function and place the System into Home or Away mode by pressing the corresponding key. The Bypass interval can be changed to a value as low as 1 minute to as high as 999 minutes. Whether the System is in Home or Away mode, this feature is activated by a single press of the NEXT / BYPASS key on the keypad. When the System is in the Bypass mode, the display will read "BYPASS". To change the default timer interval for this feature, refer to Programming Instructions on page 18.

AUTOMATIC AWAY The Automatic Away feature places the System into Away mode after no water flow has been detected for an extended period of time. This feature is included to provide fail-safe protection in the event a user forgets to place the System into the Away mode when leaving the property unoccupied. Factory defaulted at 18 hours, this feature can be set to activate the Away mode at a value from as low as 1 hour to as high as 99 hours after the System has last detected water flow. If desired, the feature may also be deactivated. This feature operates continuously in the background and thus will have no visual

indication on the display of its status except when using the programming menu.

To change the default timer interval for this feature, refer to Programming Instructions on page 18.

DRIP RATE This feature allows the user to change the flow detection baseline to accommodate known "nuisance leaks" such as leaky toilet valves and drippy faucets. The System ships from the factory with a default Drip Rate of 2.0 ounces per minute. Based on the specific characteristics of your plumbing system, the Drip Rate setting can be changed to a higher or lower threshold. In normal operation, the System does not start the Home or Away timers until the Drip Rate is exceeded. This feature operates continuously in the background and thus will have no visual indication on the display of its status except when using the programming menu. To change the default value for this feature, refer to Programming Instructions on page 18.

NOTE: Caution should be used when changing the Drip Rate baseline. Lowering the Drip Rate can result in frequent "false alarms." Raising the Drip Rate will allow elevated volumes of water to flow undetected into your home or business.

PROGRAMMING INSTRUCTIONS

The System is designed to accommodate virtually all user needs by allowing the user to change any of the default settings. The following table shows the default settings as well as valid ranges for all of the programmable system features:

PROGRAMMABLE FEATURE	DEFAULT SETTING	PROGRAMMABLE RANGE	
Drip Rate threshold	2.0 oz. per minute	0.0 to 24.0 oz. per minute	
Home interval timer	Home interval timer 30 minutes		
Away interval timer	0.5 minutes (30 seconds)	0.0 to 99 minutes	
Delay Away interval timer 0 minutes (OFF)		0 (OFF) to 99 minutes	
Bypass interval timer 120 minutes		1 to 999 minutes	
Auto Away interval timer	18 hours	1 to 99 hours, OFF	

Any changes you make in the default settings should be noted in the My Settings section of this book on page 34.



The programming menu can only be accessed when the display reads "HOME". To enter the Program mode, **simultaneously** press the ACCEPT / EXIT key and the PROG key on the Control Panel. The display will read "PROGRAM". Pressing the NEXT / BYPASS key will scroll through the programming menu as follows:

DRIP.RATE alternates with X.X OZ/MIN HOME XX – with XX representing minutes AWAY XX – with XX representing minutes D.AWAY XX – with XX representing minutes BYPASXXX – with XXX representing minutes A.AWAY XX – with XX representing hours

When in the Program mode for any of the above features, remember that the NEXT / BYPASS key will take you to the next programmable feature without changing the value for the current feature. To implement any program changes, you must press the ACCEPT / EXIT key prior to moving to the next programmable item. Pressing the ACCEPT / EXIT key will update the program with the new value and then exit to the Home mode. If you wish to change more than one item, you will need to re-enter the programming menu as noted above. The following pages explain the steps required to change the various program settings.

PROGRAMMING INSTRUCTIONS (Cont'd)

Drip Rate Programming

DRIP.RATE

2.0 OZ/M

If you have a nuisance leak in one of your plumbing appliances such as a dripping faucet or defective toilet fill valve and the System is regularly turning off the water to your home or business, it may be necessary for you to raise the detectable flow baseline of the System. Any setting above 0.0 ounces per minute (0.0 OZ/M) is referred to as your Drip Rate. The System is programmed with a default Drip Rate setting of 2.0 ounces per minute. Resetting this Drip Rate to a lower number can result in a higher incidence of false alarms. Raising this to a higher number can result in prolonged, chronic water use that is either running down the sewer or is leaking somewhere out of sight in your home or business.

Before attempting to reset the Drip Rate, please be certain that all faucets are tightly closed and no toilets are running. Follow the steps outlined on page 19 to get into the Program mode and scroll to the Drip Rate screen using the NEXT / BYPASS key. When the display reads "DRIP.RATE" and alternates with "X.X OZ/M", you can ask the System to sample the level of water flowing through the inlet pipe or adjust the Drip Rate value manually. The display will read "2.0 OZ/M" the first time you access this menu item.

The table found on the inside back cover gives you a perspective of how much each Drip Rate value equates to in water usage over time.

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Automatic



Samples Drip Rate



To sample the Drip Rate currently detected in the building, press the PROG key. The display will now indicate the current amount of water flowing into your home or business. If the detected flow exceeds 24.0 ounces per minute, the display will read "INVALID". If you wish to change the Drip Rate to accommodate the measured value, press the ACCEPT / EXIT key. To exit the Drip Rate programming menu without making changes, press the NEXT / BYPASS key.

Manual



As a second option, you can manually raise or lower the Drip Rate threshold by pressing the UP or DN keys on the keypad. To accept this change, press the ACCEPT / EXIT key. This will store the new Drip Rate value in the program, exit you from the programming menu and return the System to Home mode.

Again, to exit the Drip Rate programming menu without making changes and move to the next programmable feature (Home timer), press the NEXT / BYPASS key.

Accept Changes

X.X OZ/M



PROGRAMMING INSTRUCTIONS (Cont'd)

Home Timer Programming





After you have entered the Program menu, press the NEXT / BYPASS key to scroll to the "HOME XX" screen. The XX will be a number between 1 and 99 with the default setting at 30, representing 30 minutes of allowable flow in the Home mode. If you wish to raise or lower this value, press the UP or DN key to scroll to the desired number of minutes. To accept this change, press the ACCEPT / EXIT key. This will store the new Home timer value in the program, exit you from the programming menu and return the System to Home mode. To exit the Home timer programming menu without making changes and move to the next programmable feature (Away timer), press the NEXT / BYPASS key.

Away Timer Programming





After you have entered the Program menu, press the NEXT / BYPASS key to scroll to the "AWAY XX" screen. The XX will be a number between 0.0 and 99 with the default setting at 0.5, representing 30 seconds of allowable flow in the Away mode. If you wish to raise or lower this value, press the UP or DN key to scroll to the desired number of minutes. To accept this change, press the ACCEPT / EXIT key. This will store the new Away timer value in the program, exit you from the programming menu and return the System to Home mode. To exit the Away timer menu without making changes and move to the next programmable feature (Delay Away timer), press the NEXT / BYPASS key.

PROGRAMMING INSTRUCTIONS (Cont'd)

Delay Away Timer After you have entered the Program menu, press the NEXT / BYPASS key to scroll to the **Programming** "D.AWAY XX" screen. The XX will be a value between OFF and 99 (minutes) with the





default setting at OFF. Setting a value between 1 and 99 minutes will cause the Away mode to be delayed each time Away is selected. If you wish to raise or lower this value, press the UP or DN key to scroll to the desired number of minutes. To accept this change, press the ACCEPT / EXIT key. This will store the new Delay Away timer value in the program, exit you from the programming menu and return the System to Home mode.

NOTE: During the Delay Away interval, the Home timer limit will be in effect. After the Delay Away interval has been completed, the System will use the Away timer limit. Once programmed, the Delay Away interval will be used every time the System is placed into Away mode.

To exit the Delay Away timer menu without making changes and move to the next programmable feature (Bypass timer), press the NEXT / BYPASS key.

Bypass Timer Programming



UP

After you have entered the Program menu, press the NEXT / BYPASS key to scroll to the "BYPASXXX" screen. The XXX will be a number between 1 and 999 (minutes) with the default setting at 120. If you wish to raise or lower this value, press the UP or DN key to scroll to the desired number of minutes. To accept this change, press the ACCEPT / EXIT key. This will store the new Bypass timer value in the program, exit you from the programming menu and return the System to Home mode.

To exit the Bypass timer menu without making changes and move to the next programmable feature (Auto Away timer), press the NEXT / BYPASS key.

ACCEPTED

PROGRAMMING INSTRUCTIONS (Cont'd)

Programming



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Auto Away Timer After you have entered the Program menu, press the NEXT / BYPASS key to scroll to the "A.AWAY XX" screen. The XX will be a value between 1 and 99 (hours) or OFF with the default setting at 18. If you wish to raise or lower this value, press the UP or DN key to scroll to the desired number of hours. To accept this change, press the ACCEPT / EXIT key. This will store the new Auto Away timer value in the program, exit you from the programming menu and return the System to Home mode.



ACCEPTED

NOTE: When the Auto Away timer is set to OFF, the System will never automatically place itself into the Away mode.

To exit the Auto Away menu without making changes and move to the next screen (Exit), press the NEXT / BYPASS key.

Exiting Programming

To exit the programming mode when the LCD indicates "EXIT?", press the ACCEPT / EXIT key. This will exit you from programming without making any changes and return the System to Home mode.



EXIT?

HOME

To scroll back to the top of the programming menu, press the NEXT / BYPASS key.

27.

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ADDENDUM

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OPERATIONAL MODE MESSAGES – DISPLAYED DURING NORMAL OPERATION

HOME	Home timer setting in effect	Press AWAY to activate Away mode	
AWAY	Away timer setting in effect	Press HOME to exit Away mode	
D.AWAY XX	Home timer in effect; System will automatically switch to Away timer after XX minutes	Press HOME to exit from Delay Away	
BYPASS	Home and Away timers temporarily disabled System automatically reverts to mode after Bypass interval ex HOME or AWAY to manually ex mode		
WATER.OFF	Valve has been closed at Control Panel; water is off	Press HOME to restore water	
DISABLE?	System confirming user disable	Press ACCEPT to disable System	
DISABLED	System is disabled	Press PROG+DISABLE then ACCEPT to reactivate System	
ENABLE?	System confirming user reactivation	Press ACCEPT to reactivate System	

ATTENTION REQUIRED - EVENT NOTIFICATION MESSAGES

LEAK	HOME or AWAY timer limit exceeded; water turned off	Press DISABLE to silence alarm, then press HOME to restore water service	
AC LOST	AC power supply interrupted and System is operating on battery	Check circuit breaker to outlet and make sure power supply is plugged in; alarm clears when AC restored	
SYS.DOWN	Valve inoperable due to missing or discon- nected battery	Check / reconnect battery, then press DN key for 10 seconds	
VAL.FAIL	Valve unable to detect open vs. closed position	Unplug power supply and disconnect battery, then reconnect battery and plug- in power supply	
COMM ERR	Communication between valve and keypad inoperative	Check cable connections; message will clear automatically	
СНК ВАТТ	Battery not detected	Reconnect battery; if message stays, press DN key for 10 seconds	
CHG BATT	Battery needs replacement	Connect new battery; if message stays, press DN key for 10 seconds	
CHK PS	Battery recovering from discharge	Wait 4 hours for battery to charge; if message stays, replace battery	

PROGRAMMING MESSAGES – DISPLAYED ONLY WHEN IN PROGRAM MODE

PROGRAM	Intro to Program mode	Press NEXT to scroll down to Drip Rate or EXIT to exit Program mode	
DRIP.RATE alternates with XX OZ/MN	XX is current Drip Rate setting in ounces per minute	Press PROG to sample current rate or UP / DN keys to raise or lower setting, then press ACCEPT to change or NEXT to scroll to Home setting	
HOME XX	XX is current Home mode timer setting (minutes)	Press UP / DN, then press ACCEPT to change or NEXT to scroll to Away	
AWAY XX	X.X is current Away mode timer setting (minutes)	Press UP / DN, then press ACCEPT to change or NEXT to scroll to Delay Away	
D.AWAY XX or D.AWAY.OFF	XX or OFF is current Delay Away timer setting (minutes)	Press UP / DN, then press ACCEPT to change or NEXT to scroll to Bypass	
BYPASXXX	XXX is current Bypass timer setting (minutes)	Press UP / DN, then press ACCEPT to change or NEXT to scroll to Auto Away	
A.AWAY XX	XX is current Auto Away timer setting (hours)	Press UP / DN, then press ACCEPT to change or NEXT to scroll to Program exit	
EXIT?	End of Program menu	Press ACCEPT to exit programming or NEXT to return to top of Program menu	

EXTERNAL CONTACT CLOSURE MESSAGES

(from external dry contact devices connected to the FloLogic System)

EXT AWAY	Away timer activated by external device such as a home security system	Deactivate external device to return to Home mode	
EXT LEAK	External device requested emergency water shutoff; water is turned off	After clearing external alarm condition, press DISABLE to silence alarm, then press HOME to restore water service	
EX.BYPASS	External device such as an irrigation system or water softener has initiated Bypass mode; Home and Away timers are temporarily disabled	System automatically reverts to Home or Away mode after Bypass interval expires; press HOME or AWAY to exit Bypass	
OVERRIDE	External device such as an irrigation system or water softener has disabled the Home and Away timers	System automatically reverts to Home or Away mode when external device opens contacts	

MY SETTINGS

PROGRAMMABLE FEATURE DEFAULT SETTING		ENTER YOUR SETTINGS HERE
Drip Rate threshold	2.0 oz. per minute	
Home interval timer	30 minutes	
Away interval timer	0.5 minutes (30 seconds)	
Delay Away interval timer	0 minutes (OFF)	
Bypass interval timer	120 minutes	
Auto Away interval timer	18 hours	

OZ / MINUTE	GAL / DAY	GAL / MONTH	GAL / YEAR
1.0	11.25	337	4,106
2.0	22.5	675	8,212
4.0	45	1,350	16,425
6.0	67.5	2,025	24,637
8.0	90	2,700	32,850
12.0	135	4,050	49,274
16.0	180	5,400	65,700
20.0	225	6,750	82,120
24.0	270	8,100	98,548

The table below gives you a perspective of how much each Drip Rate value equates to in water usage over time.

QUICK REFERENCE

Press HOME key - places System in Home mode

Press AWAY key - places System in Away mode

Press BYPASS key - temporarily disables Home and Away timers

Press both BYPASS+DISABLE keys - turns the water off

Restore Water Service

Display reads "LEAK": press DISABLE to silence alarm then HOME to turn on water

Display reads "WATER.OFF": press HOME to turn on water

Disable System

Press both PROG+DISABLE then ACCEPT to disable FloLogic System

Reactivate System

When disabled, press both PROG+DISABLE then ACCEPT to reactivate FloLogic System

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1PRT005.01