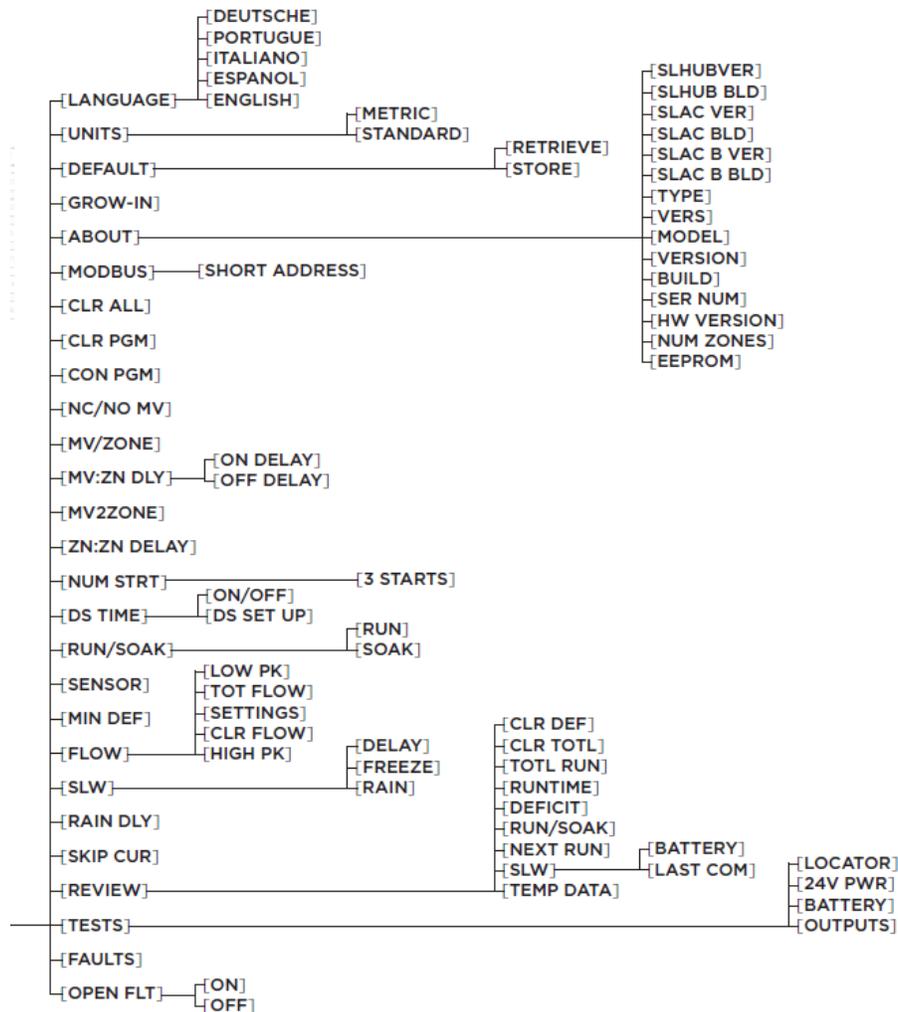




SmartLine® controller Advanced Menu

Advanced Menu provides additional information and allows more technical inputs commonly used by professional installers. Advanced Menu contains menus within menus. To advance to a sub-menu, press the NEXT button. Each press of the BACK button will return you to a higher level until the top level of the Advanced Menu dial position is reached. Refer to the chart below for the location of features within the menus.



FAULT

This feature is used to identify problems that may require attention or repair to insure proper operation of the system. Use NEXT button to view the type of fault. If more than one fault exists, you can use the UP and DOWN buttons to search for additional faults. Use NEXT button one more time and it will flash KEEP. If you want to clear the fault, use the UP and it will flash CLEAR. If you turn the dial out of the Advanced Menu positions while CLEAR is flashing, the fault icon on the display will disappear. However, if the cause of the fault is not corrected, the controller will continue to skip watering a zone with a fault and will resume the flashing FAULT icon on the display each time that zone is operated.



SCROLLING FAULT MESSAGE	MESSAGE FAULT DESCRIPTION
ZONE XX SHORT	OUTPUT SHORT CIRCUIT: A load placed on any output that results in a current draw exceeding the skip current setting will result in a fault after the output is turned on. The output will be skipped until the next watering program attempts to use it. If the MV/P output is shorted, all zones using it will effectively be skipped. The fault indication can be manually cleared or will be automatically cleared if the short condition goes away and the output turns on successfully.
ZONE XX OPEN	OUTPUT OPEN CIRCUIT: If a zone has a current draw less than 30 mA a zone open fault is created, but operation continues normally. The fault can be manually cleared or will automatically clear if a load exceeding 30 mA is placed on the output and the output turns on successfully.
NO RECENT CONTACT WITH WEATHER STATION	COMMUNICATIONS FAILURE: If the SmartLine® controller is in SMART mode and the daily high/low temperature has not been received by midnight, this communication fault is set. Also, if the battery in the SLW weather station is dead, the communication fault is set. If 5 days pass without communication, the controller will revert to the BASIC mode Zone Run Times. The fault indication can be manually cleared or will clear automatically once communication is received.
REMOTE BATTERY FAILURE	If the SmartLine® controller receives communication from the SLW weather station that indicates the remote battery is low, the fault is set. The fault indication can be manually cleared or will clear automatically if the SLW weather station sends another message that indicates a good battery. The fault will also clear if no communication is received for a full day (i.e. communication failure). See Section 7.3 Replacing SLW Series Weather Station Battery.
ZONE XX INSUFFICIENT WATERING OPPORTUNITY	INSUFFICIENT WATERING OPPORTUNITY: If the SmartLine® controller is in SMART mode, and a daily deficit is calculated that results in a zone watering deficit in excess of the 1.5" maximum, the deficit is capped to the maximum and the fault is set. The fault will clear automatically if the deficit drops below 1.5 or can be cleared manually.

TESTS

Your SmartLine® controller can assist you with several diagnostic functions by pressing NEXT when TESTS appears.

Outputs

Use the UP to select OUTPUTS function. Then use NEXT and BACK buttons to scroll through MV and Zone Valves to view AC Amp reading for each valve. Scroll BACK to OUTPUTS display to move to next diagnostic function. Typical range is 150 to 350 mA per valve with a valve connected. An OPEN or SHORT message indicates a problem with a zone. Note: If you have more than one valve on a zone, the SmartLine® controller will measure total current for the combined valves.



Battery

To read SmartLine battery voltage, turn the dial to Advanced Menu. Push NEXT button to access Outputs, push the UP button to access Battery and then push NEXT button to read remaining voltage in the backup battery on the SL1600 Series or SL4800 controller. (Note: SL800 controller does not use a backup battery.) All SmartLine controllers use a Real Time Clock/ Calendar instead of a backup battery to maintain correct time/ date during a power outage. SmartLine non-volatile memory also maintains programming during power outages. Battery usage is only necessary for viewing the control panel when it is "open" or removed from the housing. The battery compartment is located in the back of the control panel.

24V Pwr

This function displays output voltage at the transformer. Normal reading is 24 to 30 volts AC.

Locator

This feature will create a "chatter" for a selected valve as a convenient method of locating buried valves. Use NEXT and BACK buttons to scroll to the valve you want to "chatter."

Review

Turn dial to Advanced Menu. Push NEXT button to access review functions. Use UP/DOWN buttons to select review functions you wish to view.

Temp Data

TEMPDATA provides the daily high/low temperature readings in Fahrenheit (Celsius for 230V applications) from the SLW weather station for the past 5 days. Press NEXT to view daily high and low readings for the prior day. Continue pressing NEXT to view up to 5 days of temperature history.

SLW - LASTCOM

This feature records time elapsed since last successful communication between the weather station and control panel.

SLW - BATTERY

Check the battery status in your wireless weather station here.

Next Run

NEXT RUN is the total amount of run time SMART has calculated for each zone based on ET deficits and SMART system audit information entered on the SMART side of the dial. NEXT RUN is calculated and revised each night at midnight 365 days per year. The cumulative run time will carry forward until the next scheduled watering cycle. NEXT RUN times will return to zero after each watering cycle. To review NEXT RUN, turn the dial to Advanced Menu. Use the UP arrow button to access Review and then use the NEXT and BACK buttons to scroll through the zones.

Run/Soak Review

This feature allows the user to review expected Run/Soak schedules that will occur when the controller is in the SMART mode. Turn the dial to Advanced Menu. Use the UP button to go to REVIEW and press



the NEXT button. Use the UP button to advance to RUN/SOAK. Press the NEXT button and zone 01 will show in the display. Press NEXT again and RUN with a time will show. This is the maximum RUN time the controller can do in SMART before going to SOAK. Press NEXT again and SOAK will show in the display with a time. This is the minimum time the zone must soak before it is ready to run again. SMART Run/Soak times can be changed by adjusting the soil and slope settings at SOIL TYPE on the programming dial. The times are also affected by adjusting the SPRINKLER TYPE setting on the dial for precipitation rate.

Deficit

Deficit is the amount of water (displayed in inches) that needs to be replaced for your plant material due to water loss through evapotranspiration – evaporation from soil and transpiration from plants. Your SmartLine® controller will calculate the water deficit each day at 11:50 pm based on data communicated to it by the SLW series weather station. The water deficit will continue to accumulate until the next scheduled watering cycle and will return to a zero reading when watering is finished. The SmartLine controller uses an internationally recognized formula called the Hargreaves formula for calculating evapotranspiration. During a rain event, deficits will decrease to zero. SmartLine will not begin calculating deficits and run times again until the ACTIVE LED goes back to green after the SLW DLY.

If you wish to reduce the deficit numbers, press and hold down either the UP or DOWN button for 5 seconds. This allows you to use the DOWN button to reduce the latest deficit for the zone to as low as 0 inches. Deficit is only available for review when you are using SMART mode.

FLOW

Your controller MUST have a flow compatible accessory in order to monitor flow. This menu allows for setting up flow monitoring's pulse per gallons unit of measure. You will also access the information for high flow peak, low flow peak, total volume of flow per zone and the ability to clear the monitored values.

RUNTIME - Totl Run

TOTL RUN is the total run time for each zone since the date shown (default date in the SmartLine® controller is January 1, 2000 shown as 01/01/00). You can review TOTL RUN for either the BASIC or SMART modes. After you select TOTL RUN with the UP button, use NEXT to view the date when TOTL RUN accumulation began. Use NEXT again to view the total run times for each zone.

You can use the NEXT and BACK buttons to move through the zones. After you go through all the zone positions, use the NEXT button one more time to take you back to the TOTL RUN screen.

RUNTIME - Clr Totl

CLR TOTL is used to clear and reset the total run time for each zone shown in the TOTL RUN menu. From the CLR TOTL menu, press NEXT and the display will show KEEP. If you want to clear the TOTL RUN time and reset the accumulation date, press either the UP or DOWN button to display CLEAR. With CLEAR showing in the display, either press NEXT or BACK or turn the dial to complete the clearing and resetting. This feature will stop accumulations on a zone after 255 hours of cumulative zone run time.

RUNTIME - Clr Def



To clear deficits, press NEXT. Use UP or DOWN buttons to select KEEP or CLEAR. Press NEXT or BACK to exit CLEAR DEFICITS.

Rain Dly

The rain delay feature allows user to globally suspend watering operations for all programs for a selected number of days in either the BASIC or SMART watering modes. Use UP or DOWN buttons to select 1 to 14 days for watering suspension. The watering blackout will automatically be cleared from the SmartLine® controller after the assigned days have expired and watering will resume at the next available start time. SMART watering deficits will reset at zero and will not resume accumulation until the delay has ended.

SKIP CUR

You can increase the skip circuit threshold here. Some accessory, like pump start relays, In rush currents exceed the factory setting of 1.0 Amp.

SLW

SLW incorporates 3 three features:

DELAY: This feature allows the user to adjust the factory set 48 hour watering delay that will occur after a rain event shutdown if you are using an SLW Weather Station for SMART Watering. To eliminate the delay or to reduce or increase the factory default hours, turn the dial to Advanced Menu and use an arrow button to select SLW DLY. Press the NEXT button and 48 hours will show in the display. Use the UP and DOWN buttons to eliminate the delay or to select a different number of hours (0–99 hours).
Note: The SLW DLY begins after the SLW rain sensor has reset following a rain event. Accumulation of new water deficits will not begin until after the SLW DLY has cleared.

RAIN: The rain selection is on/off toggle to override the SLW sensor feature for selected zones. Factory default is ON for all zones.

FREEZE: The freeze selection is on/off toggle to override the SLW freeze sensor feature for selected zones. Factory default is ON for all zones.

Min Def

This feature allows a Minimum Deficit to be set. The feature requires that a zone deficit be greater than the MIN DEF setting in order to run during a scheduled program. The setting is global for all zones in SMART. The range for the global setting is 0.00 to 0.50 inches. The factory default is 0.15 inches.

Sensor

Sensor is an ON/OFF toggle to override the SEN terminals rain/freeze functions on selected zones. Factory default is ON.

Set Manual Run/Soak

The purpose of Run/Soak is to break up long run times that often cause wasteful runoff. The Run/Soak is programmable for each program if you are using the BASIC watering mode. Note: If you are using SMART, these inputs are not used since the Run/Soak period is automatically calculated. Use NEXT



button to access RUN time allowed before the zone watering pauses for the specified soak time. Use PGM button to select program. Use UP and DOWN buttons to set RUN time from OFF to 30 minutes (SmartLine™ controller default is OFF). Use NEXT button to access soak time required for water to infiltrate into soil before zone watering is continued. Use the UP and DOWN buttons to set soak time from 1 minute to 2 hours in one-minute increments.

Ds Time

Your SmartLine® controller can automatically adjust the time for daylight saving time (DST). The factory default setting is OFF and has been preset for the current USA schedule. To turn DST adjust ON, press the next button at DS TIME, the NEXT button at ON/OFF then select ON. The DS Time feature can be customized to match any international DST schedule. Press the NEXT button at DS TIME in advanced functions. Select DS SETUP and press the NEXT button again. You will be prompted to enter the START schedule (time of day is moved ahead 1 hour per START schedule), and the STOP schedule (time of day is moved back 1 hour per STOP schedule). DST start and stop are formatted with the Week (first, second, third, last), the Day (Sun-Sat) and the Month (Jan-Dec). All DS Time adjustments are made at 2 am. To return the DS Time schedule back to the USA factory default, use the US DEFLT option.

Num Start

This SmartLine® feature allows you to select the number of Watering Program Start Times that you want to appear at

Program Start Times on the dial. The default number of start times shown is 3. To select 4 to 8 start times, go to Advanced

Functions, NUM STRT. Press Next to view the default of 3 start times. Scroll the UP/DOWN buttons to select 4 to 8 start times to be visible on the dial. Return the dial to Run.

MV2 ZONE

A second master valve circuit can be enabled in this menu by designating a zone valve to be MV2

Zn:Zn Dly

This function allows user to set delay times between zone starts for use in systems with slow closing valves or pump systems that are operating near maximum flow or have slow well recovery. Use UP and DOWN buttons to change value. Adjustable in one minute increments from 0 (the SmartLine® controller default setting) to 30 minutes; adjustable in 10 minute increments from 30 minutes to 3 hours.

Mv:Zn Dly

(Master Valve Advance Open and Delayed Close): This function allows the user to set a delay time between the opening of the master valve and the opening of the first zone valve as well as a delay between the closing of the last zone valve and the closing of the master valve. Use the NEXT button to enter menu. Select setting for the ON Delay or OFF Delay by pressing NEXT. Use UP and DOWN buttons to select delay time. Use arrow buttons to set ON Delay time from 0 seconds to 1 minute in 1 second increments. OFF Delay can be set from 0 seconds to 3 minutes in 1 second increments.

Mv/Zone

This feature is used to indicate which zones will use the master valve/pump start output. Use NEXT button to set each zone ON or SYSTEM OFF (SmartLine® controller default is master valve ON for all zones). Use UP and DOWN buttons to select ON or OFF. Use NEXT button to select zone. Caution: If an



unused zone is turned on and activates a pump start relay, the pump may overheat or cause a pipe to burst. To prevent operating a pump with no flow (dead heading), make sure all unused zones are set to OFF.

NC/NO MV

Enter this menu to select between normally open or normally closed master valves for master valve 1 and master valve 2.

CON PGM

Select the ability to run 1, 2,3, or all 4 programs simultaneously. Default is two simultaneous programs. Program D will run with high priority.

Clr Pgm

This feature allows the user to clear all programmed values specific to a selected program. All zone run times and daily start times will be set to OFF; watering days will default to Days of the Week (all on); Season % will equal 100% for all months and Run/ Soak will be OFF. Omit times/days are not reset when clearing a program.

From the CLR PGM menu, press NEXT and the display will show KEEP. Use PGM button to select program to be cleared. Then, press either the UP or DOWN button to display CLEAR. With CLEAR showing in the display, either press NEXT or BACK or turn the dial to complete the clearing of the selected program. Likewise, with KEEP showing in the display, either press NEXT or BACK or turn the dial to keep the selected program.

Clr All

This feature is similar to CLR PGM except that it clears all user programmed data for all four programs and returns most

Advanced Menu changes to factory defaults. Turn the dial to Advanced Menu and use an arrow button to select CLR ALL.

Press the NEXT button and KEEP will show in the display. Press the UP and DOWN button to select CLEAR. Press NEXT to clear all programs. The display will show CLEARING to confirm that all programs have been cleared. Note: This function is not the same as the Total Master Reset as described under 7.1 in your Owner's Manual.

MODBUS

This displays a static address along with a user programmable address to integrate with third party software

SHORTADD

ABOUT

Provides information on software version in the SmartLine® controller.

MODEL

VERSION – Version number

BUILD - Build version



Grow In

Grow In allows you to set up a new landscape grow-in watering program that will automatically expire after a set number of days that you select. At the end of your selected grow-in period, the controller will automatically retrieve your long-term watering program to avoid the necessity of having to return to the controller.

Step 1: Set up your long-term SMART or BASIC watering program.

Step 2: Go to Advanced Menu and select DEFAULT. Press NEXT and STORE will appear on the display. Press NEXT again and wait several seconds. The display will show COMPLETE to confirm that you have successfully stored your program.

Step 3: Set up your temporary Grow-In program.

Step 4: Go to Advanced Menu and select GROW IN. Press NEXT once to view default days for grow in. Use Adjust Value buttons to select 1 to 99 days for the grow in period. At the end of your grow in, the controller will automatically retrieve the long-term program stored in Step 2. Return dial to Run.

Default

This is an optional function that allows the user to store a program that can be retrieved later if it is inadvertently deleted or changed. Once the controller has been programmed, go to Advanced Menu and select DEFAULT. Press NEXT and STORE will appear on the display. Press NEXT one more time and wait several seconds. The display will show COMPLETE to confirm that you have successfully stored your program. If the controller has had the operating program changed and you want to return to the stored program, go to DEFAULT, press NEXT and one of the arrow buttons. The display will show RETRIEVE. Press NEXT and the display will show COMPLETE to confirm that the DEFAULT program has been restored as the operating program. To clear a stored DEFAULT program you must use the Total Reset procedure, Section 7.1.

UNITS

Select either Metric or standard units of measure

LANGUAGE

English, Espanol, Italiano, Portuguese, or Francais may be selected