

IRRIGATION

PART 1 - PRODUCTS

1.1 CONTROLLERS

- A. Provide Smartline Controller(s), models SL1600, SL1620 or SL4800 as indicated on the Drawings, manufactured by Weathermatic Sprinkler Division of Telsco Industries. Controller(s) shall be a four (4) program controller(s) with capability of 4 - 48 zones. The SL1600 will be 4 zones expandable by the addition of 4 zone modules or 12 zone modules to 24 zones. The SL1620 will have 20 zones permanently mounted. The SL4800 will have a base zone count of 12 zones expandable through the addition of 12 zone modules to 48 zones.
1. Controller shall be capable of standard timed watering or auto adjust watering times when equipped with an optional SLW weather monitor manufactured by Weathermatic. Auto Adjust watering shall be based on real time, on-site weather data and system audit data entered by the user. Auto adjust timing shall be based on the Hargreaves ET calculation formula. Controller shall provide reviewable watering deficits, scheduled run times by zone and a total run time recap for each zone which is resettable by the user. A "more or less" function shall be provided to allow run time adjustment by zone for shade/sunlight, system efficiency and other local factors. Auto adjust mode shall also include automatic calculation of run/soak times based on both soil type and zone elevation.
 2. Each program shall have eight independent start times, calendar schedules, watering budgets by month and a soak/cycle for varying soil percolation rates.
 3. Controller shall have two (second user assignable) pump start/master valve position, which shall be programmable to operate on demand from any selected zone. A programmable safety delay shall be included for zone to zone delay and master valve to zone delay for opening and closure.
 4. Controller shall have input for rain and freeze sensor devices selectable by zone. SLW weather monitor shall incorporate the rain and freeze shutdown functions and shall incorporate a 48-hour delay (adjustable 0 – 99 hours) after closure of the rain sense switch.
 5. Controller shall have self-diagnostic capabilities to detect "short" or "open" zones and the ability to display lists of faults on an LCD display for the user. Diagnostics shall also include LCD display of volt/amp readings by zone and for transformer output as well as backup battery reading. A chatter function shall also be provided to assist in locating buried valves. The controller shall automatically prevent master valve opening or pump start when the valve locator diagnostic is used.
 6. Controller display shall be backlit for clear viewing in all lighting conditions. Zone timing shall be settable from 1 minute to 9 hours and 55 minutes.
 7. All programs shall operate concurrently or in a stack sequence of start time operation.
 8. Program schedules shall include options for days of the week, odd date, even date or an interval of 1 to 30 days. A 'no water' window shall be available to inhibit daily operations of a program between two selected times on a given day; omission of up to 15 specified calendar dates or specific days of the week. Adjustments for leap year shall be automatic.
 9. Manual operation shall be provided by program, by station, or on a programmable test program with durations from ten (10) seconds to ten (10) minutes. The programmable test program shall also check for short and open conditions on each zone each time it is run.
 10. A "non-volatile" memory shall retain all programming and real-time clock shall be provided to maintain date and time.
 11. Controller shall be capable of incorporating Weathermatic's SmartLink AirCard allowing for web-based interface into controller to allow communications between SmartLink web site and controller.
- B. Controller shall be enclosed in a U.L., CE and C-Mark Listed rainproof plastic enclosure with optional key lock. Enclosure shall be a wall mount (pedestal mount) model with removable knockouts on the lower side and back of the housing for choice of wiring location. The operating panel shall be a totally enclosed module that is removable from the housing for programming at



a separate location. A test post for 24V a.c. operation shall be accessible with or without the operating panel.

1. Controller shall be completely electric in operation. Controller shall be installed and wired in accordance with manufacturer's published instructions. Controller shall be capable of operating from an independent power supply. Primary shall be 115V a.c. 60hz or 230V, 50hz.
- C. Controller shall have a manufacturer's warranty of three (2) years.