

ESP-LX AND -LXi PLUS SERIES CONTROLLERS

Designed for Diverse Landscapes

Designed for light commercial and residential use, these controllers offer an extensive array of advanced and easy-to-use features for professional irrigation control. The controllers' four independent programs with four independent day cycle modes will accommodate a myriad of diverse irrigation requirements, including low volume drip applications. A key-lock door and a durable cabinet make the ESP-LX Plus controllers easy to install, operate, and service even in the most challenging environments.

Features

- ESP: Extra-Simple Programming with self-prompting large alphanumeric LCD display makes this controller easy to program, read and understand.
- Four independent programs (A-, B-, C-, and D-drip), with six start times each, allow mixed irrigation applications in a single controller.
- 365-day calendar with leap year intelligence for one-time date and time setting.
- Non-volatile program memory maintains user's program during a power outage independent of the battery backup.
- Removable, battery-programmable panel for the convenience of both programming instruction and programming prior to installation.
- Four cycle modes (CUSTOM, CYCLICAL, ODD, or EVEN) selectable for each program for maximum flexibility.
- Event-Day-Off option to set any day of the month as a non-watering day for all programs accommodates special occasions and special watering ordinances.
- Programmable Delay-Between-Stations provides time for water well recovery or time for slow-closing valves to turn off completely.
- Start time stacking prevents hydraulic overload.
- Variable test program for system operational testing.
- Water budgeting by program from 0 to 300% in 1% increments makes seasonal adjustments quick and easy.

- Programmable rain delay enables system to stay off for specified period with an auto-restart.
- Sensor inputs and override switch with LED indicate when irrigation is suspended.
- Master valve/pump start circuit, programmable by station, for optimal irrigation control.
- D-drip program can run simultaneously with program A, B or C to maximize hydraulic capacity and minimize watering time.
- Diagnostic circuit breaker and LED fault indicator identify electrical shorts, skip shorted stations, and continue irrigation cycle.
- Battery recharging circuit maintains fully charged NI-MH backup battery (included) to keep current time and date during a power outage.
- Enhanced Surge Protection makes the controller reliable and robust under extreme field conditions.
- Heavy-duty 1.25A external, plug-in style transformer on the ESP-LXi Plus indoor version provides convenient installation.
- Includes easy-to-mount, heavy-duty plastic cabinet with key-lockable door and swing-out, quick release face panel, as well as all internal wiring (no junction box needed), for clean-looking, professional installation.
- UL Listed; CSA, CE, CUL, C-TIK approved
- Remote Ready connector compatible with Rain Bird's remote receiver.
- Rapid Station Test Routine (RASTER) enables the controller to diagnose and troubleshoot field wiring, solenoid, and controller problems quickly and easily.
- Special Fuse Circuitry detects and displays when a fuse has blown.



Operating Specifications

- Station timing: 0 to 12 hours for all stations (0 to 20 hours with water budgeting); 0 to 120 minutes selectable in 1-minute increments; above 120 minutes selectable in 10-minute increments.
- Automatic starts: 6 starts per day for each program, available on the quarter hour (total of 24 start times).
- Independent programming schedule options:
 1. ODD day watering (per program)
 2. EVEN day watering (per program)
 3. CYCLICAL (1 to 31 days, variable per program)
 4. CUSTOM (weekly schedule variable per program)

How to Specify/Order:

<u>Model</u>	<u>Number of Stations</u>
ESP-LX Plus: Outdoor	6: 6 Stations
ESP-LXi Plus: Indoor	8: 8 Stations
	12: 12 Stations
	16: 16 Stations
	20: 20 Stations
	24: 24 Stations



Electrical Specifications

- Input required: 117 VAC \pm 10%, 60 Hz (International models 230 VAC \pm 10%, 50/60 Hz).
- Output: 26.5 VAC, 1.5A.
- Diagnostic circuit breaker skips and indicates stations with overloaded circuits and continues to run operable stations.
- Overload, backup fuse: 1.5A SLO-BLO.
- Battery backup: 9V NI-MH rechargeable battery (included) for programming under battery power and maintaining program current time and date during power outages.
- Station Capacity: Up to two 24 VAC, 7VA solenoid valves per station plus a master valve or pump start relay.
- Terminal strips for up to #12UF wire.
- Electrical surge protection: Primary input side has built-in MOV (metal oxide varistor) to protect microcircuitry; output side has two built-in MOVs for each valve station.

Dimensions:

- Width: 9 $\frac{1}{2}$ " (24,1 cm)
- Height: 10 $\frac{1}{4}$ " (26 cm)
- Depth: 4 $\frac{3}{8}$ " (11,1 cm)

Models

- ESP-6LX Plus: 6 stations,* indoor/outdoor
- ESP-8LX Plus: 8 stations,* indoor/outdoor
- ESP-12LX Plus: 12 stations,* indoor/outdoor
- ESP-16LX Plus: 16 stations,* indoor/outdoor
- ESP-20LX Plus: 20 stations,* indoor/outdoor
- ESP-24LX Plus: 24 stations,* indoor/outdoor

- ESP-8LXi Plus: 8 stations, indoor
 - ESP-12LXi Plus: 12 stations, indoor
 - ESP-16LXi Plus: 16 stations, indoor
- * Available in 230 VAC models.

Specifications

The controller shall be a hybrid type, that combines electromechanical and microprocessor based circuitry capable of fully automatic, semi-automatic, and manual control of irrigation systems. The controller shall be housed in a wall-mountable, heavy-duty, plastic, (weather-resistant in ESP-LX Plus) cabinet with a key-lock door and shall be suitable for indoor or outdoor applications.

The controller shall operate on 117 VAC \pm 10% at 60Hz (230 VAC \pm 10% 50/60Hz for International Models) and shall be capable of operating up to two 5.5 VA 24 VAC electric remote control valves per station plus a master valve or a pump start relay. The controller shall have an electronic, diagnostic circuit breaker that shall sense a station with an electrical overload or short circuit and shall bypass the station and shall continue to operate all other stations in the program in sequence.

The controller shall have four separate irrigation programs (A, B, C, & D-drip) which may be programmed for different start times, station assignments, station watering time lengths and any of four independent cycle modes CUSTOM, CYCLICAL, ODD, or EVEN. Each program shall be capable of up to 6 start times per day. The controller shall have _____ stations, each capable of an operating range of from 0 to 12 hours, with 0 to 120 minutes selectable in 1 minute increments and above 120 minutes selectable in 10-minute increments. The controllers shall have a separate water budget feature for each of the A, B, C, or D-drip programs. Water budget shall allow simultaneous adjustment for all stations on a program from zero % of set running time to 300% of set running time. Adjustments shall be in 1% increments. The controller shall be capable of "stacking" A, B, and C programs and operating

them sequentially to prevent overlapping irrigation cycles. Only the D-drip program shall be allowed to start at any time regardless of another program in operation. When the D-drip program is in operation along with an A, B, or C program, the controller shall be capable of displaying both stations that are in operation and their program assignments. The controller shall have a 365-day calendar with a day-of-the-month OFF feature allowing the operator to set specific dates to be off up to 30 days in advance. A date set to OFF shall override the normal, repeating day schedule and shall remain off on that date, and shall display to the operator that the current day is a non-water day. All OFF days shall revert to ON once the day passes, with the exception of the 31st which must be manually reset to ON.

Each of the four programs shall have the ability to be set with a time delay between operation of stations. This delay shall occur at the end of each station's watering and before proceeding to the next assigned watering station. The delay shall be adjustable from 0 seconds to 9 hours.

The controller shall have a master valve/ pump start circuit that shall provide 24-volt A. C. power for either a master valve or pump start relay when any of the controller's stations are in operation. The controller shall provide the operator the capability to disable concurrent operation of the master valve/pump start circuit from any station desired.

The controller shall have a sensor circuit for connection to a rain sensor or to an underground moisture sensor system. When the sensor reaches its "wet" setting and is either interrupting or restricting voltage, the same restriction shall be made to the valve common terminal to prevent or interrupt irrigation. The controller shall have an indicator light that shall be on whenever the sensor switch is set to "ACTIVE". The controller shall have a front-face-panel-mounted sensor bypass switch that shall allow the operator to override the sensor if desired.

The controller shall have a battery recharging circuit and a factory-supplied 9-volt rechargeable battery. A fully charged battery shall maintain clock time and program memory up to one week during a power outage. The controller shall have a non-volatile memory to maintain the program during power outage in the absence of battery backup. The front panel shall be removable and programmable under battery power.

The controller shall have a connector to mate to the remote control receiver. The operator shall be able to remotely initialize and advance a manual test program that sequentially runs all stations that have time scheduled in any program for the default run time, start and stop any station without sequencing, start and stop any program and program the run time on any station in the program. The remote operation shall override the controller's rain sensor and off modes.

The controller shall be as manufactured for Rain Bird Corporation, Glendora, California.

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