ESP Modular Installation Tips

The ESP Modular Controller is a residential or light commercial irrigation controller which can expand from four-to-13 stations where the 13th station can be used for landscape lighting, small fountain pumps or an irrigation valve for plants in covered areas. Additional modules can be added without powering down the controller. A rich selection of programming features allows you to easily customize the watering schedule based on the specific requirements of the landscape and the specific needs of the property owner.

Application

- Residential to small commercial irrigation sites using up to 13 stations.
- 3-station add on modules allow you to easily expand your system and optimize your watering requirements.

Landscape Design Considerations

- Modular installation allows expansion from four-to-13 stations while the unit is powered up. No need to shutoff power to add modules.
- The entire watering schedule can be programmed in the office by the project manager using a 9 volt battery before being installed on the jobsite by the install team. This prevents logistical mistakes by the install crews who may not understand the watering requirements of the landscape.
- Three separate programs (A, B, C) allows for more flexible irrigation programming. Utilize the slide bar to easily change programs. Each program can be used for a separate application. Example: sprays on program A, rotors on program B, and drip irrigation on program C. Use the 13th station to irrigate flower pots under awnings that are not affected by the rain or soil moisture sensors.
- Four watering start times per program allow for greater versatility in watering schedules for special needs. Allows you to program up to four separate start times per program. Newly installed sod or grass seed can be watered several times during the day to maintain moisture needed to root. You can also use the multiple start times to water pots several times a day to maintain cool, moist root zones in sun baked pots or use in areas where hard soils may create runoff, allowing the water to be applied to the area in a 'cycle/soak' method.

Tools and Complementary Product

- Philips head screwdriver
- Small flat head screwdriver
- Electric drill with wood or masonry bits
- Wire strippers
- Pencil
- Hammer
- Clear latex caulking for sealing unit
- Additional 3-station modules

Mounting template and anchors are included with the controller.

Installation
Mounting the Controller

- Select controller mounting area. Try to select an area where unit will be easily accessible and close to a power source, eliminating the need for long runs of conduit and wire if hardwiring directly to electrical panel.
- Make sure the door to the controller is easy to open all the way without any obstructions.
- Mount controller at a height suitable for ease of access post-installation.
- Mount indoor unit in dry interior area (inside garage, storage building, etc.). Keep it out of possible water exposure.
- Mark and drill holes as indicated by using the template provided.
- Level controller box and seal around box, between box and wall, with a bead of clear latex silicone. This will help prevent moisture from getting into the controller through any openings on the back of the unit and the caulking will also help adhere the controller to the wall.
- If you plan to plug into an outdoor outlet using a 'pigtail' cord, plan on getting a waterproof outlet cover to protect the outlet and the extension plug.
- If utilizing the 'pigtail' power cord, make sure the cord extends down from the controller then curves up into the outlet. This technique allows rain water to follow the cord down and then to drip off, preventing water from following the cord directly into the electrical outlet.
- Seal all holes on the back of the controller, used or not, to prevent pests from entering the controller and causing possible problems.
- The controller comes with two predrilled holes on the bottom of box to accommodate wiring. One is for 120VAC power and one is for wiring to the stations. Utilize tight fittings and seal with caulk to prevent moisture and pests from invading unit.
- Run plastic conduit from controller below grade level and run station wires through it. This prevents animals or power equipment from damaging the wire. Paint conduit to prevent sun baking of PVC pipe.
- Use multi-colored wires if possible, if not, mark wires to indicate the station numbers for easier reference later on.
- Direct wire exterior model directly to power panel (three strand 12 gauge wire) allowing for separate circuit breaker if required by local electrical code. Ground unit as instructed.
- Try not to plug into a GFI outlet. GFI's react quickly to power surges which may or may not be noticed by customers. If the GFI switches off the power to the controller, plants and landscapes will suffer (and may not survive) until the problem is located and resolved. It may also not meet local electrical codes to operate the controller. **Always know the local electrical codes as well as backflow requirements!** Codes

could vary from one job to the other depending on the address or provider.

Programming Features

- New larger programming window makes reading and programming extra simple. The end user can easily read the window screen where messages and schedule are displayed. The text is easy to see in the bright sunlight.
- **Contractor Default™** allows easy retrieval of customized default program you saved to memory. Allows you to easily retrieve original program if it has been altered by the customer. Irrigation schedule retrieval only takes a matter of seconds. You can also use Contractor Default when over seeding or for new sod installation, merely program the established lawn irrigation schedule into the controller and save it as the default. Then enter the cycle and soak program to promote root growth. Return when the seed has taken root a few days later and retrieve the established lawn program with a simple button press.
- **Three separate programs** (A, B and C) for more flexible watering programming. A slide bar is provided making it easy to see which program you are working with.
- Programs can be setup as **CUSTOM** seven day calendar, **ODD/EVEN** days, **ODD-31** or **CYCLIC1-31** day intervals.
- Cyclic allows watering from once a day to once every 31 days.
- **Four watering start times** per program allows for greater versatility in watering schedules for special needs.
- **Runtimes are from one minute-to-six hours**. Change times by simply selecting the station number, pressing the up or down arrows to select the watering length time.
- **Seasonally adjust by program or month** allowing for increases or decreases in run times during hot or cool weather. All watering times can be quickly adjusted from 0– 200% without the need to re-program each valve.
- Master valve programmable to operate by station. If using a well or a pump, each station can be programmed to activate or not to activate the pump. This allows the end user the option of using city water or well/pond water or a combination of both.
- Delays between valves are programmable in minutes or hours to allow for well recovery and/or slow closing valves. Allows you to place delay (or wait) time between valves for more efficient watering to compensate for slow closing valves, water source recovery (tanks, ponds, etc.).
- **Enhanced Diagnostic Feedback** circuit identifies and halts operation of valves with programming or wiring problems while still operating non-affected valves. Warning light illuminates on front of the unit and a message is displayed on the LCD screen to inform of possible shorted electrical, sensor activation or programming problems on a station. This allows the client to immediately identify and solve the problem or allows you to know what to look for when a repair service call is scheduled.

Servicing and Maintenance

- Regular programming adjustments due to seasonal weather changes and conditions are required. Spring, summer, fall and winter schedules are usual for many parts of the country, but at a minimum schedules should be set 3 times per year, spring, summer and fall – cool, hot and cool.
- Maintain and clean any sensors connected to units. Leaves, dirt, debris as well as bird waste can affect the proper functioning of the unit.
- If plugged into a GFI outlet, unit should be checked after any electrical surges to make sure breaker hasn't popped.
- Non-volatile memory will hold the program data in the event of a power outage. You don't have to worry about the programming being lost during the winter months or stormy season when power is disrupted. No need to revisit the jobsite due to power outage.
- 5-year lithium battery saves date and time in case of power outage. Less need to send a crew to swap-out batteries and reduces the number of batteries in landfills.

These tips were created by:

John Gary, Southwest Mirage

John holds the following certifications and degrees:

Certified Landscape Irrigation Auditor (CLIA)

Certified Golf Course Irrigation Auditor (CGIA)

Certified Irrigation Contractor (CIC)

Bachelor of Landscape Architecture (BLA)

Master of Business Administration (MBA)

Rain Bird Corporation
6991 East Southpoint Road, Tucson, AZ 85756, USA
Phone: (520) 741-6100 Fax: (520) 741-6522

www.rainbird.com

The Intelligent Use of Water™ — Visit www.rainbird.com to learn more about our efforts.