Superior surge and contamination protection assures unrivaled performance and safeguards your investment.

Trust that when you install Rain Bird® ESP-MC controllers, you can confidently expect that these products will be more durable than the competition, will be far more reliable, and will deliver superior performance year after year. Advanced surge and contamination protection technology safeguards each unit, providing many times more protection against lightning strikes and environmental contamination than the competitor products.

### Advanced Surge Protection

- **Gas Tube**—absorbs extreme surges
- **Inductor**—ruggedly constructed to significantly slow down additional surges
- **MOV**—provides the final level of protection against surges

### Contamination Resistant Design

- **Contamination Resistant Front Panel**—offers superior protection against the direct impact of water or other contaminants when the cabinet door is left open
- **Internal Cabinet Frame with Gasket**—helps prevent water or other contaminants from entering the cabinet and corrupting the output board circuitry
- **Coating of the Output Board Circuitry**—provides powerful protection against humidity and other environmental contaminants
Install the proven performance of Rain Bird® ESP-MC Controllers.

Competitive Advantages of Advanced Surge Protection.

Lightning strikes are one of the biggest enemies of controller products. They generate powerful surges that damage electronic circuitry inside. Lightning strikes are not only very powerful but often occur multiple times in rapid succession. Each surge further weakens circuitry. As the following charts indicate, the Rain Bird® ESP-MC controller provides many times the protection against powerful single and multiple surges created by lightning when compared to the competition.

Going Head-to-Head with the Competition.

To measure the effectiveness of Rain Bird’s Advanced Surge Protection, side-by-side comparisons with the competition were conducted. The surges generated during the test are similar to surges affecting controller products during nearby lightning strikes. The clear advantage of Advanced Surge Protection can be seen in the following charts. The Rain Bird ESP-MC controller sustained no damage after single and multiple surges of up to 20,000 Volts were applied, unlike the two competitor controller products that were permanently damaged after surges of less than 2,500 Volts were applied.

- **Station-to-Valve Common: Single Surge**
  - Note: Single surge applied between a station output terminal and the valve common terminal. This is the most common source of controller failures during lightning strikes.

- **Station-to-Station: Single Surge**
  - Note: Single surge applied between two station output terminals.

- **Station-to-Valve Common: Multiple Surges**
  - Note: Test units exposed to 20 surges of a given voltage between a station output terminal and the valve common terminal.

**Comparison of Rain Bird ESP-MC and Irritrol MC Plus circuitry after the water infiltration test:**

To measure the effectiveness of Rain Bird’s ESP-MC Contamination Resistant Design, side-by-side water infiltration tests were conducted. The doors were removed from two competitor controller products and the Rain Bird ESP-MC controller. The controllers were then subjected to a high-pressure water stream inside a closed environment. A spray head—operating at 60 psi—was used as the water source.

The following chart reflects the results of the water infiltration test. The Rain Bird ESP-MC with its Contamination Resistant Design dramatically outperformed the competition. The Rain Bird ESP-MC sustained no permanent damage during the four-hour water infiltration test, unlike the two competitor controller products that were permanently damaged after just a couple of minutes.

**Competitive Advantages of Contamination Resistant Design.**

The Rain Bird ESP-MC controller features superior components to increase protection against environmental contamination when the cabinet door is left open. Just a few of these components include:

- Overlay with membrane switches
- Rubber boot on the sensor switch
- Battery compartment with door
- Strategically positioned gaskets

**Going Head-to-Head with the Competition.**

- **Water Infiltration with Cabinet Door Open**
  - Functional Failure: Serious malfunction occurred, such as LCD display blank, station outputs non-functional
  - Display Intermittent: LCD display/indicators not-stable, but controller still fully functional
  - Fully Functional: No problems encountered

* Results show the highest voltage level without any adverse effect on controller operation. Voltages shown are the voltages generated by the testing equipment. No external grounding was used during the test.

1 The maximum generated voltage was 20,000V due to the testing equipment operational limits. The ESP-MC is built to withstand higher voltage levels than 20,000V. It is not built to withstand a direct lightning strike.

All tests conducted at Rain Bird’s Controls Manufacturing Division in San Diego, CA. Test results reflect a comparison of Rain Bird products with those of its principal competitors manufactured in the second quarter of 2003.

Call 1-800-Rain Bird (U.S. and Canada only) or visit www.rainbird.com for the name of your authorized Rain Bird distributor.