



EVOLUTION DX2 SPECIFICATIONS

The Evolution DX2™ irrigation controller shall be manufactured by Rain Master Irrigation Systems, Inc. The controller shall have the following features and functions:

Part 1.0 - Hardware Features

- 1.1 Available in painted or stainless steel wall mount cabinet or pedestal enclosure.
- 1.2 Station configuration options 6, 12, 18, 24, 30, 36, 42 or 48 stations. Dedicated outputs for 2 normally closed master valves, 1 normally open master valve, and 1 pump.
- 1.3 Connectivity for 4 input sensing devices. Four pulse input type devices e.g. flow sensors, flow meters, ET device, rain gauge, anemometer, etc.
- 1.4 80 character LCD display with 24-key membrane keypad.
- 1.5 Built-in remote control jack. Permanent internal remote mount available.
- 1.6 Built-in transient protection.
- 1.7 Optional lightning protection available.
- 1.8 Audible tone(s) for valid or invalid operator entry.
- 1.9 Lifetime retention of the user's program and date/time, without the use of batteries.
- 1.10 All outputs are protected from field wiring short circuits.
- 1.11 Built in amperage meter to accurately measure and diagnose valve solenoid electrical problems.
- 1.12 Modular architecture. Modular output boards (6 or 12 station) facilitate maintenance and eliminates total controller down time.

2.0 - Scheduling Capabilities

- 2.1 Operation of 12 conventional programs with 8 start times, 48 ISC (individual station control) or a



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combination of each.

- 2.2 Watering based upon 14-day schedules, skip day schedules, or 31-day schedules.
- 2.3 Continuous cycling of programs based upon user established start and end times, with a programmable delay/soak time.
- 2.4 Water budget per program from 0 to 999% in 1% increments for adjustment of program run times
- 2.5 Program by time.
- 2.6 Programmable monthly water total terminates over budget irrigation.
- 2.7 Quick station programming allows groups of stations to be programmed with the same runtime.
- 2.8 Programmable water window.

3.0 Program Setup Options

- 3.1 Programs overlap protection or concurrent operation.
- 3.2 Irrigation programs, lighting programs, security, etc. (Non-irrigation programs are independent of rain shutdown mode.)
- 3.3 Inter station delay from 0 to 255 seconds.
- 3.4 Runtimes from 1 second to 24 hours programmable in hours/minutes or minutes/seconds.
- 3.5 Master valve selections: 2 Normally Closed Valves or Normally Open Valves with programmable delay from 0 to 600 seconds.

4.0 Maintenance and Alarm Diagnostic Capabilities

- 4.1 Flow monitoring. Automatic alarm processing (which provides station and/or master valve shut down and program advance as required) diagnosing and reporting station underflow and overflow, mainline breaks, and unscheduled flows. Maximum upper flow limit is 2000 GPM.
- 4.2 Electrical field wire monitoring. Automatic alarm processing (which provides station shutdown and program advance) for station over current, short circuits, broken field wiring or faulty solenoids.



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- 4.3 Power monitoring. Automatic alarm processing/reporting for power outages and power restoration. Intelligent program resumption for all outages or power glitches, no lost cycles or water window violations.
- 4.4 Communication monitoring. Automatic alarm generation/reporting for lost communications or restoration when using hard wire communications. Automatic fault isolation of communication wiring problems to wire path between controllers.
- 4.5 Diagnostic lights (LEDs) for all station outputs as well as the dedicated outputs: MV1, MV2, N.O. MV, and PUMP. Lights indicate when 24 VAC is at output terminal.
- 4.6 Built-in test (BIT) functions allow selected controller circuitry to be field-tested.
- 4.7 Manual test mode. Allows user to automatically advance from station to station using manual run time while displaying valve solenoid electrical current for each station as well as station flow in GPM.
- 4.8 Manual station and manual multi-station modes. - Turns on any station for user entered runtime and automatically selects usage of the proper master valve and/or pump for this station. Multi-station mode allows any single station or output to be turned on individually or in combination with any other station(s). Valve solenoid electrical current is displayed.
- 4.9 Manually entered program. Allows user to enter a one-time program to be run immediately or scheduled for later in the day. The manual program is independent of automatic programs and shall start only one time.
- 4.10 Manual start of automatic programs (1-12). Start any program independent of the scheduled start time and water day.

5.0 Miscellaneous Features

- 5.1 English/Spanish language selection.
- 5.2 Automatic limit setup (learn mode) for flow and current. Global percentage adjust for limit establishment.
- 5.3 Omit by date allows the user to enter up to 15 dates to exclude irrigation.
- 5.4 Operates as a standalone or central.
- 5.5 Fertilizer injector station with programmable delay from 0 to 255 seconds.



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- 5.6 Flow Max - This exclusive feature allows controllers with a single point of connection to share a pump, master valves, and flow meters without the need for peripheral wiring/relays. All flow limits are dynamically managed as stations across controllers transition off and on. Features include:
- A. Automatic protection and report for main line breaks, unscheduled flow, station high and low flow.
 - B. Read flow at any controller
 - C. Dynamic monitor shows system status at all times
 - D. Pump protection during exception conditions

6.0 Electrical Specifications

- 6.1 Input Power Required: 117 VAC +/- 15%, 60 HZ, 20 VA, plus load current.
- 6.2 Maximum load current per station or master valve output: 1 AMP
- 6.3 Maximum combined load current: 2 AMPS
- 6.4 No batteries required.