



Somerset Hills Country Club

## IC System™

### ***A Revolutionary, Yet Simple Approach to Field Control.***

Achieving optimal playing conditions isn't so much an issue of working harder, it's working smarter. Add the Rain Bird intelligent and intuitive IC System with IC CONNECT™ and you're on your way. Communicate directly with every rotor on your course, and gain one-of-a-kind property management with IC CONNECT. With an intuitive interface operated from a computer, tablet or mobile device, the IC System puts control in your hands, anywhere.



### Streamlined Installation and Expansion

- Cut installation cost and time by eliminating unneeded wire, trenching and splices.
- Minimize labor costs during expansion by simply connecting new IC Rotors to any existing MAXI™ Cable.

### Pinpoint Diagnostics and Control

- 45 seconds for 1000+ stations.
- Narrow in on potential problems and resolve issues quickly to prevent turf damage and unnecessary labor costs.
- Bring greater precision and water savings to areas requiring supplemental watering (hot spots, greens, grow-ins).

## IC Rotors and Valves

### SPECIFICATIONS

**System Capacity\*:** 750 ICMs per Output Wire Path, 1,500 ICMs per Output Driver Board, 3,000 ICMs per IC Interface (ICI), up to 36,000 ICMs with Cirrus™

**ICI Electrical Specifications:**

- 115 VAC:** Nominal 98-132 VAC
- 220-240 VAC:** Nominal 208-255 VAC
- 100 VAC:** Nominal 91-110 VAC

**Electrical Output:** 28.5 VAC, 1.25 AMP Per Wire Path

**Active Stations:** No electrical limit — only limited by hydraulics of pipe network and size of pump station

**ICM Current Requirements:** Varies based on wire path length — Nominal Current Draw is 0.33 mA on 5,000 feet (1,500 meters) of wire

**Grounding Requirements:** Integrated Control Surge Device (ICSD) to be grounded to 50 ohms or less every 500 feet (150 meters) or 15 ICMs, whichever is less. The central control to be grounded to 10 ohms or less of resistance

**Compliance:** CE, FCC, UL

**Environment:**

- Working Range:** 32° F to 122° F (0° C to 50° C)
- Storage Temperature:** -40° F to 150° F (-40° C to 65° C)
- Operating and Storage Humidity:** 100%

**Dimensions:**

- ICM:** 2.23" x 1.70" (57 mm x 43 mm)
- ICSD:** 2.00" x 1.41" (51 mm x 43 mm)

**Compatibility:** Rain Bird® 500/550 Series Rotors, Rain Bird® 551 Series Rotors, Rain Bird® Valve-in-Head Rotors, Rain Bird® 700/751 Series Rotors, Rain Bird® 702/752 Series Rotors, EAGLE™ 700 and 900 Series Rotors\*\*, Rain Bird® 900 Series Rotors, Rain Bird® 952 Series Rotors and Rain Bird® PEB, PESB, PESB-R, PGA, EFB, BPE and BPES electric valves

**Maximum Wire Paths:**

- Cirrus:** 12 interfaces, 48 wire paths
- Nimbus™:** 8 interfaces, 32 wire paths
- Stratus™ II:** 2 interfaces, 8 wire paths
- StratusLT™:** 1 interface, 1 wire path

\* Specific System Capacity is dependent on the central control system

\*\* NOTE: EAGLE™ Rotors sold before 6/2009 will have a random orientation of the ICM relative to the Selector Housing

### HOW TO SPECIFY — ROTORS

A	XXX	IC	XX	XX
THREAD TYPE	MODEL	BODY	PRESSURE REGULATOR	NOZZLE
ACME	552 702 752 952	IC	70 (4.8) 80 (5.5)	See nozzle charts for each rotor model.

For exact combinations of rotors (nozzles and pressure regulator), see pages 10–23 for correct model.

### HOW TO SPECIFY — VALVES

GSVIC	XXX
MODEL	SIZE
GSVIC	100 = 1" NPT      200 = 2" NPT 101 = 1" BSP      201 = 2" BSP 150 = 1½" NPT    211 = 2" BSP (brass) 151 = 1½" BSP

NOTE: IC Valve Kit must be ordered separately. See page 27 or visit [rainbird.com/ICRotors](http://rainbird.com/ICRotors).

For exact combinations of valves (size), see pages 52–59 for correct model.



## IC Module

### FEATURES AND BENEFITS

**Timeless Compatibility™.** The Integrated Control Module (ICM) is compatible with all Rain Bird golf rotors, making hardware and software updates simple and easy.

**Simple to Install.** Requires up to 90% less wire than traditional satellite control systems and 50% fewer splices than a traditional decoder system.

**Cost Savings.** Fewer splices and less wire require less time and effort to install the system.

**System Database Management.** The ICM offers a tear-off bar code for easy scanning into the central control system database. As soon as the ICM is connected to a live wire path with address entered, the station is operational.

**Reliable Control.** The IC System is a simple yet sophisticated controller. Built using Rain Bird's proven solenoid technology with on board computer redundancy.

**Easier to Design.** The IC System is easier to design – only simple calculations are required. It eliminates an array of troublesome considerations – there are no controllers to design around or conceal and no looped wires.

**Easier Maintenance.** The IC System is capable of intelligent, two-way communication with each and every ICM and IC CONNECT on the golf course.

**Dependable.** The IC System is designed to always turn off if problems occur. When the wire path is damaged or cut, or if central control communication is lost, the ICM is designed to turn off automatically with built-in redundancy.

**True "Below 30-Volt Control System".** As the IC System wire path output is 28.5 Volt, the IC System is a "true less than 30-Volt" control system. A lower than 30-Volt system is considered a low-voltage system and is typically not subjected to code requirements regarding deep burial of the wire path.

**Below Ground Control.** Since the ICM is built right into the rotor or valve, the entire control system is below ground. Unlike field controller systems, the below-ground system offers protection against damage from vandalism, flooding and wildlife.

**Golf Course Aesthetics.** Since the IC System control is designed to be entirely below ground, the golf course vistas are clear of irrigation components as envisioned by the golf course designer.

**Central Control "Smart Features".** With the IC System, you have the ability to utilize all of Rain Bird® Central Control "Smart Features" including: Minimum ET,™ Smart Weather,™ Smart Pump™ mapping with custom graphics, and superior monitoring of system operation.

**Surge Resistance.** Each ICM has 20kV of onboard surge resistance standard.

**IC Valve Kit** For your existing solenoid valves, you can get the Integrated Control Module and valve adapter preassembled and ready for installation with the IC Valve Kit.



For full IC Module specification details, visit [rainbird.com/ICRotors](http://rainbird.com/ICRotors).

For information regarding the IC System Wire Path Design, see the table in the Appendix, page 102.

## IC CONNECT™

IC CONNECT allows you to feed more data into your system with IC-IN and remotely control field equipment using IC-OUT.

### FEATURES AND BENEFITS

**Simple and Elegant Design.** IC-IN can be connected to any IC System MAXI™ Cable path (wire path can be shared with multiple ICM, IC-OUT or IC-IN devices).

- Each IC-IN is equivalent to 15 ICMs and each IC-OUT is equivalent to 1 ICM towards the maximum 750 ICMs per MAXI wire path
- Each IC-IN and IC-OUT is equivalent to 1 ICM for determining placement of ICSD surge protection devices
- Built-in 20kV surge protection

**Hybrid Capabilities.** When connected to an ICI+ interface, IC-IN and IC-OUT can be used in a hybrid design configuration with Satellite field controllers and/or decoders.

### SPECIFICATIONS

**Environment:**

**Operating Temperature:** 14° F to 125° F (-10° C to 51° C)

**Storage Temperature:** -40° F to 150° F (-40° C to 65° C)

**Operating and Humidity:** 75% max at 40° F to 180° F (4° C to 42° C)

**IC System™ Field Wiring Voltage:** 26-28.5 VAC (max)

**Dimensions:**

**Excluding Wires:** 3.71" x 2.70" x 1.66" (94 mm x 69 mm x 42 mm)

**Wire Length:** 24" (61 cm)

**Sensor Types Supported:**

**Voltage:** 0-10VDC

**Current:** 4-20mA DC

**IC-IN Contact Closure:**

**Pulse Counting:** 50% duty cycle 1kHz (max)

**Pulses in 10 Seconds:** 50% duty cycle 1kHz (max)

**Pulses per Second:** 50% duty cycle 1kHz (max)

**Wiring Connections:**

**Red:** MAXI Cable Red

**Black:** MAXI Cable Black

**Red/White:**

**IC-IN:** Sensor (+)

**IC-OUT:** Output (+)

**Black/White:**

**IC-IN:** Sensor (-)

**IC-OUT:** Output (-)

### IC-IN

Collect information from multiple field sensors:

- Rain cans
- Flow sensors
- Lake level sensors

#### HOW TO SPECIFY

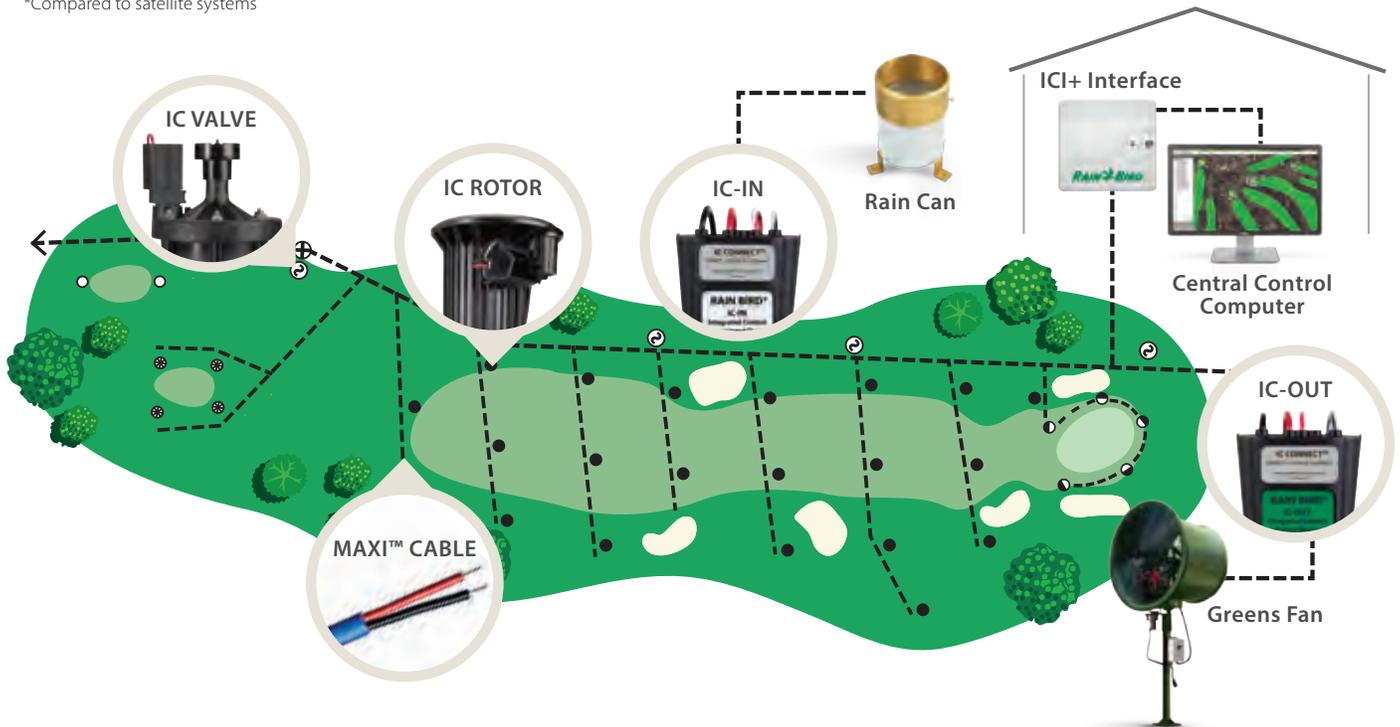
IC	-	IN
MODEL		INPUT/OUTPUT
IC		IN



## Simplified Design

By eliminating up to 90% of the wire\* and all decoders and satellites, IC System protects the aesthetics of your course while streamlining installation, maintenance and expansion.

\*Compared to satellite systems



### IC-OUT

Centralize ON and OFF control of non-irrigation products around the facility:

- Transfer pumps
- Greens fans
- Fountains and water features
- Lighting

### HOW TO SPECIFY

IC	—	OUT
MODEL		INPUT / OUTPUT
IC		OUT