Comparison Sheet

Rain Bird IC™ System Comparison with a Rain Bird Satellite-Based Control System

About the IC System

The Rain Bird IC System is a revolutionary control platform that directly links your rotors or valves and central control. The IC System shares many of the best-in-class features of Rain Bird satellite systems but also offers a number of significant advantages. Read on to see for yourself how the IC System compares.

IC System Advantages over Satellite System

Advantage:	Explanation:
Easier and Faster Installation	An IC System has no satellites or concrete pads and much less wire to install. This makes installation faster and simpler compared to installing a satellite system.
Reduced Environmental Impact: Less Wire in Ground	An IC System uses up to 90% less wire than a satellite system, resulting in environmental savings of approximately 22,000 lbs (10,000 kg) of copper and 6,600 lbs (3,000 kg) of pvc jacket per 975,000 feet (300,000 meters) of wire.
Better Aesthetics	Unlike the highly visible pedestals in a satellite system, with the IC System there are no above-ground components.
True Low Voltage Control System	The IC System operates at less than 30 volts. This makes it a true "low voltage" system based on National Electric Code. Satellite systems have a 110v or 220v power supply, which is considered a high voltage system. High voltage systems (above 30 volts) require special installation requirements to meet code.

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IC System Advantages over Satellite System *continued*

Advantage:	Explanation:
Less Maintenance	All IC System components in the field are sealed. Satellite systems require regular maintenance because pedestals are above ground and exposed to the atmosphere. High humidity areas and/or areas with high salinity in the air often cause satellites to require additional maintenance.
More Vandal Resistant	All IC System components are below ground and out of harm's way. Satellite pedestals can be easy targets in high-vandalism areas.
Longer Warranty	The IC System field components enjoy a five year warranty when sprinklers are installed with Rain Bird swing joints. Satellite system field components have a one year warranty.
Ideal For Flood-Prone Areas	IC System components are waterproof. Satellite system components are not waterproof and may require repair or replacement if the golf course is flooded and satellites are submerged.
Unlimited Capacity For Multi-Station Sprinkler Operation	A user can activate as many sprinklers as the hydraulic network can safely operate. This includes activation by program, multi-manual at the central, handheld radio, or web based access. All other irrigation control systems on the market have electrical limitations that reduce flexibility.
Easy Expansion in Future	The IC System has a capacity of 750 sprinklers or valves per wire path. Future expansion is as easy as connecting additional IC Modules at any point on the wire path. Expanding a satellite system requires extra stations to be available at the satellite and extra wire has to be available or will need to be installed from the satellite to the new sprinkler location.
Easier to Achieve Grounding Requirements in Field	The IC System has grounding requirements of only 45 ohms resistance since each ICM has three stages of surge protection. A satellite system requires 10 ohms resistance, which is harder to achieve than 45 ohms. When properly installed, the IC System typically will have more ground locations. This creates a course-wide distributed grounding network with more points where a surge can be dissipated to ground.
Full Diagnostics	The IC System has comprehensive diagnostic abilities available at the central control. Each module has on-board intelligence which can measure the voltage at each sprinkler or valve.
Lower Overall System Cost	When all of the materials typically used in an irrigation system are considered, by reducing wire and labor costs, the IC System can save a staggering $100,000 USD compared with a full-size, 18 hole satellite irrigation system. The actual savings will depend upon the number of sprinklers on the golf course and design of the wire path. Generally speaking, the larger the irrigation system, the greater the savings.

Satellite System Advantages over IC System

Advantage:	Explanation:
Satellite Back-up in Field	A satellite system has field satellites which allow the user to have a back-up on the course if communication is lost with the central control computer. The availability of field satellites is also useful during new construction grow-in if no computer is set up.
Fewer Locations in Field to Install Grounding	A satellite system requires grounding to be installed at each satellite cluster. An IC System typically has more grounding locations across the course to achieve a distributed grounding network. *Fortunately Rain Bird has developed solutions to address both of these areas with the IC System. For details, talk to your local Rain Bird representative.*

Shared Benefits of IC System and Satellite System

Shared Benefits:	Explanation:
Fully Functional with Rain Bird Central Control Systems	Rain Bird's central control software (Stratus LT, Stratus II, Nimbus II and Cirrus) work with satellite systems and/or IC Systems. The user is not limited by the choice of hardware or software. After the system is initially installed, the user would see virtually no difference in the software during daily operation, regardless of field hardware installed on the course. With exclusive "Hybrid" capability of the Rain Bird software, both satellites and IC Systems can be operated with the same central control software using separate wire paths.
Real-Time Two-Way Communication Between Central and Field Components	Both satellite and IC Systems enjoy Rain Bird's two-way communication between the central control software and the field components. Proven control system communication ensures trouble-free operation.
Forward Compatibility	Both Rain Bird satellite and IC Systems are designed to work with past and future hardware. This enables the user to easily add new hardware in the future.
RainWatch™	RainWatch™ is a patented and exclusive Rain Bird feature. Using rain gauges, rainfall levels can be monitored and, if desired, programs and station run times can be automatically adjusted or shut off.
SmartPump™	SmartPump™ is an exclusive Rain Bird feature that enables real-time communication between your central control and pump station. SmartPump™ automatically adjusts sprinkler operation based on actual pump station flow. It can automatically detect and minimize potential disasters such as a pipe break by responding automatically to stop irrigation.

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Shared Benefits of IC System and Satellite System *continued*

Shared Benefits:	Explanation:
Dynamic FloManager™	Dynamic FloManager™ is an exclusive Rain Bird feature that centrally manages your central control in real-time. It instantly reacts to field inputs such as sensors, weather stations, pump stations and rain cans, without time-consuming downloads of information to satellite controllers. Dynamic FloManager™ constantly adjusts and optimizes irrigation to achieve a high Water Window Efficiency. This improves the playability of your course and, because your pump station is used less, extends the life of your pump station while reducing energy costs.
FREEDOM™ Handheld Radio	Handheld radio control is available for both satellite systems and the IC System. All handheld activity is flow managed and recorded at the central control.
MI Series Mobile Control™	Handheld control of central control by phone is available for both the IC System and satellite systems. Types of phones include web-enabled phones or smart phones like the iPhone™ or Blackberry®.

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