

A technology long-since proven on golf courses around the world, Rain Bird decoders provide best-in-class field control on centrally controlled irrigation systems. Installed underground and featuring simple, low-cost wiring, decoders are an aesthetically pleasing, full-featured, economical option for reliable in-field control.

FEATURES AND BENEFITS

- Improve aesthetics and reduce costs with buried in-field controls.
- Easy system expansion — simply splice into the communication line and add additional decoders.
- Installation requires up to 80 percent less wire than conventional controller systems.
- Electronic components are completely encapsulated to protect against the elements.
- Simple, two-wire system can be spliced and stored during installation.
- Underground decoders reduce the chance of damage from animals or vandals.
- Pre-coded addressing eliminates confusion associated with switch-based addressing.
- With the addition of Rain Bird's Decoder Programming Unit (DPU), decoder addresses can be reassigned if necessary.

Simple, Reliable Control

If you're looking for an alternative to a traditional in-field controller, Rain Bird decoders may be the right solution for you. These self-contained switching stations for your central control system are simple, robust and reliable. They work with your central control system just like conventional controllers but are buried underground away from the elements.

A Cost-Effective Alternative

A simple wiring configuration and absence of protective enclosures keeps installation and maintenance costs low. Rain Bird decoders are a "true lower than 30 Volt" system that utilize a two-wire path of 14-gauge wire connecting the central control system, decoders and valves or valve-in-head sprinklers.

Sensor Capability

If you need information from analog, pulse or switch sensors to manage your irrigation, connect the sensor to the SD-210 sensor decoder and view the data at the central. Using Smart Sensor™, sensor data can even be used to control the irrigation.

Protect Against the Elements

With all electronic components fully sealed within a water-tight enclosure and buried underground, damage from floods, frost, rodents or vandals is virtually eliminated. Rain Bird decoders are an especially good choice for flood plains.

* Additional software required

An Out-of-Sight Solution

Buried decoder systems leave nothing exposed to the elements. With no evidence of in-field control, this aesthetically pleasing alternative works perfectly in situations where controller enclosures are unwanted or impractical.

Excellent for Renovations

Thanks to advanced central control technology and simple wiring requirements, decoders are a smart choice for many golf course renovations. Using Cirrus™, Nimbus™ II, and Stratus™ II Central Control systems with Rain Bird's hybrid feature capabilities, Field Control systems and IC can be mixed and matched on one computer. This makes it easy to expand irrigation coverage using a minimal amount of wire and decoders.

In-Field Control Options

The addition of decoders doesn't mean the elimination of in-field control. Decoders can be turned on and off in the field with The FREEDOM™ System or MI Series™ mobile controllers*. The MI Series mobile controller allows precise control of the decoder system anywhere Internet access is available. Another alternative is The FREEDOM System. This handheld radio remote allows you to signal changes to the central control system from anywhere on the course.

The Right Amount of Control

Select different decoders to operate one, two, four or six solenoids. Five different decoders let you choose the amount of control you need.



HOW TO SPECIFY

FD - XXX

MODEL	DECODER TYPE
101	Single Address (1 solenoid)
102	Single Address (up to 2 solenoids)
202	Dual Address (up to 4 solenoids)
401	Four Addresses (up to 4 solenoids)
601	Six addresses (up to 6 solenoids)

Maximum Critical Path Lengths for Two-Wire Paths

Nominal Wire Size	ohms/1000' ohms/Km	Loop (Nominal Wire Size)		Star	
		Km	Miles	Km	Miles
2.5 mm**	15.00 ohms/Km	12.0	7.5	3.0	1.8
14 AWG	2.58 ohms/1000*	15.2	9.6	3.8	2.4
12 AWG	1.62 ohms/1000*	24.4	15.2	6.1	3.8
10 AWG	1.02 ohms/1000*	39.2	24.4	9.8	6.1

Characteristic Table for Various Decoder Models

Decoder Model	Number of Address per Decoder	Maximum Number of Solenoids per Address	Maximum Addresses Operating at Once	Current Draw (mA at Rest per Decoder)
FD-101	1	1	1	0.5 mA
FD-102	1	2	1	0.5 mA
FD-202	2	2	2	1.0 mA
FD-401 *	4	1	4	1.0 mA
FD-601 *	6	1	4	1.0 mA

Design Criteria

Condition	Cirrus™	Nimbus™ II	Stratus™ II	StratusLT™
Maximum resistance in critical path	33 ohms	33 ohms	33 ohms	33 ohms
Maximum number of addresses per wire path **	250	250	250	200
Maximum number of addresses per LDI	500	500	500	300
Maximum number of addresses per SDI	200	200	200	200
Maximum number of active solenoids per wire path	20	20	20	15
Recommended interface unit	LDI	LDI	LDI	SDI
Maximum number of active solenoids per recommended interface ^Δ	40	40	40	15
Active solenoid current draw (mA)				
Golf Black Solenoid	20 mA	20 mA	20 mA	20 mA
Golf Green Coil	20 mA	20 mA	20 mA	20 mA
"B" (white wires)	25 mA	25 mA	25 mA	25 mA
"DV" (black wires)	15 mA	15 mA	15 mA	15 mA
Hybrid system max number of interfaces per system (LDI, SDI)	12	8	2	1

Maximum Wire Lengths for Secondary Path Wire Runs

Wire Size	1.5 mm**	2.0 mm**	2.5 mm**	16.0 AWG	14.0 AWG	12.0 AWG
Meters	100	133	166	88	139	220
Feet	328	436	545	289	456	720

*Has LSP-1 surge protection built-in. **A wire path is the leg coming off the LDI, SDI or LTB. ΔThe number of decoders on a large system with long wire runs may reduce the number of active decoders that you will be able to operate at one time before the interface maximum current draw is exceeded and the interface shuts down (disconnects from the field wiring).