

Rain Bird® Decoders

Simple, Reliable Buried 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% less wire than conventional satellite systems
- Electronic components are completely encapsulated to protect against the elements
- Underground "switch boxes" reduce the chance of damage from animals or vandals
- With the addition of Rain Bird's Decoder Programming Unit (DPU), decoder addresses can be reassigned if necessary

A technology long-since proven on golf courses throughout Europe is quickly gaining popularity in the U.S. Rain Bird Decoders have replaced satellites on centrally controlled irrigation systems for many years. Decoders act as switching stations for digitized commands to sprinkler heads. Underground installation and simple, low-cost wiring make decoders an aesthetically pleasing and economical option for reliable in-field control.

Simple, Reliable Control

If you're looking for an alternative to traditional in-field satellite control, Rain Bird Decoders may be the right solution for you. These self-contained switching stations for your central control system are simple, yet very reliable. They work with your Central Control System just like conventional satellites 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. A conventional, 18-hole satellite-based system requires more than 250,000 feet of 24-volt wire. Decoders utilize a two-way path of 14-gauge wire connecting the Central Control System, Decoders and Valves or valve-in-head sprinklers. A typical setup rarely uses more than 25,000 feet of wire and 250 to 300 decoders.

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 and in other areas where the risk of satellite damage is high.

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 satellite 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. With Rain Bird's Cirrus™, Nimbus™ II and Stratus™ II Central Control Systems, it is now possible to use Rain Bird's hybrid control feature to operate satellites and decoders concurrently. 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 a plug-in Rain Bird Field Transmitter or The FREEDOM™ System. The Rain Bird Field Transmitter is a portable key pad that can be plugged into the system at certain points on the course to provide on-the-spot control. Another alternative is The FREEDOM System. This hand-held radio remote allows you to signal changes to the central control system from anywhere on the course. Rain Bird's new FREEDOM-PAD™ II unit can be used in conjunction with the FREEDOM radio to bring system adjustment and control to the palm of your hand.

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/Order:

FD-XXX

Model

FD-101
FD-102
FD-202
FD-401
FD-601

Decoder Type

Single Address (1 solenoid)
Single Address (up to 2 solenoids)
Dual Address (up to 4 solenoids)
Four Addresses (up to 4 solenoids)
Six Addresses (up to 6 solenoids)



Specifications

Model:

- FD-101 single field decoder (1 address and 1 solenoid)
- FD-102 single field decoder (1 address and up to 2 solenoids)
- FD-202 dual field decoder (2 addresses and up to 2 solenoids per address)
- FD-401 four-in-one field decoder (4 addresses and 1 solenoid per address)
- FD-601 six-in-one field decoder (6 addresses and 1 solenoid per address)

Mounting: In valve box or direct burial

Power Draw:

- FD-101: 0.5 mA (idle) 18 mA (per active solenoid)
- FD-102: 0.5 mA (idle) 18 mA (per active solenoid)
- FD-202: 1 mA (idle) 18 mA (per active solenoid)
- FD-401: 1 mA (idle) 18 mA (per active solenoid)
- FD-601: 1 mA (idle) 18 mA (per active solenoid)

Dimensions:

- FD-101: Length: 2.24 in. (57 mm)
Diameter: 1.57 in. (40 mm)
- FD-102: Length: 3.35 in. (85 mm)
Diameter: 1.77 in. (45 mm)
- FD-202: Length: 3.35 in. (85 mm)
Diameter: 1.77 in. (45 mm)
- FD-401: Length: 3.94 in. (100 mm)
Diameter: 2.56 in. (65 mm)
- FD-601: Length: 3.94 in. (100 mm)
Diameter: 2.56 in. (65 mm)

Solenoid Control:

- FD-101: 1 solenoid
- FD-102: 1 or 2 simultaneously
- FD-202: 1 or 2 individually controlled single solenoids or solenoid pairs
- FD-401: 1 to 4 with individual control
- FD-601: 1 to 6 with individual control; max. of 4 simultaneously

Number of Simultaneously Active Outputs (FD-401 & FD-601 only):

- Cable length from MDI 12-gauge (2.5 mm²)
- No. active:
Up to 5,905 feet (1.8 km): 6
Over 5,905 feet (1.8 km): 4

Wires:

- FD-101: Blue to cable, white to solenoid
- FD-102: Blue to cable, white to solenoid
- FD-202: Blue to cable, white and brown to solenoids
- FD-401: Blue to cable, color-coded to solenoids
- FD-601: Blue to cable, color-coded to solenoids

Surge Protection: Built-in (FD-401 and FD-601 only)

Output Power: Adjustable from central controller

Encapsulation: Fully waterproof

Address: Pre-coded from factory (i.e., no switches); may be reprogrammed using a Rain Bird Decoder Programming Unit (DPU)

Electrical Input: Nominal voltage: 33 VAC from line

Minimum voltage: 21 VAC

Standby Current: FD-101: 0.5 mA;
FD-102: 0.5 mA; FD-202,
FD-401 & FD-601: 1 mA

Input Fuse (FD-401 & FD-601 only);
300-500 mA, thermal

Electrical Output:

Max. voltage: 33 VAC

Max. load:

- FD-101: 1 Rain Bird solenoid
- FD-102: 2 Rain Bird solenoids
- FD-202: 4 Rain Bird solenoids (two per address)
- FD-401: 4 Rain Bird solenoids (1 per address)
- FD-601: 6 Rain Bird solenoids (1 per address)

Decoder Solenoid Distance (FD-101, FD-102 and FD-202)

Max. resistance: 3 ohms

Max. Distance Decoder/Solenoids:

Cable Length:
328 feet: 100 m
196 feet: 60 m

Wiring: 2 x 14-gauge (1.5 mm²) solid copper, PVC insulated

Environment:

Working range: 32° to 122° F
(0° to 50° C)
Storage range: -4° to 158° F
(-20 to 70° C)
Humidity: 100%

Surge Protection: 40 V, 1.5 kW transil

Note: Rain Bird® recommends using 3M DBY electrical connectors for all connections.

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