Weather Stations

Rain Bird offers two Weather Station options to help meet your course's unique irrigation management needs. Both WS-PRO2 and the WS-PRO LT provide evapotranspiration (ET) management and reporting capabilities; while only the WS-PRO2 offers optional intelligent alarm and irrigation control responses through Rain Bird's powerful Smart Weather™ software.

FEATURES AND BENEFITS

Superior ET Model. Rain Bird's Central Control Systems use weather sensor input to determine ET rates based upon a field-proven proprietary equation for ET.

Automatic ET Download/Selective Usage. Automatically download weather data daily and calculate ET to determine irrigation times for the entire system or by specific areas, holes or stations.

ET Override. Allows you to easily set certain programs to ignore ET values when determining run times.

Rain Bucket. Allows rainfall from one day to be carried over to the following day(s) for more accurate ET calculations.

Multiple Station Capacity. Connect up to five (5) weather stations to one central control system for more precise ET values based upon different weather conditions and micro climates around the golf course.

Max Rainfall. User-defined maximum rainfall can be set to limit the amount of acceptable rainfall for specific soil types or other areas that are subject to high run-off.

Weather Data Reports. Generate reports to show current or past weather conditions by the hour, day, week, month or year.

● **WS-PRO LT**

Unlimited Data Storage. Store unlimited weather data at the central control.

Multiple Languages. Choose from 10 different languages (English, French, German, Italian, Japanese, Korean, Portuguese, Spanish, Swedish or Chinese).

English or Metric Measurement Units. Easily select between English or Metric units of measure.

The WS-PRO2 Weather Station along with Rain Bird's Smart Weather Software supports alarms when thresholds are exceeded in:

- Rain
- High or Low Ambient Temperatures
- High Winds
- Rainfall Intensity

When any of these alarms exceed user-defined thresholds in a programmed time period, the system will intiate an alarm condition. The alarms will automatically reset when temperature, rain or wind conditions are again within acceptable ranges for irrigation.

Automatic Shut Off/Turn On. Rain Bird Central Control Systems automatically shut OFF irrigation operation for the entire system or in specific areas of the course (tee box, fairway, green, etc.) when alarm conditions are detected at the weather station. They also automatically turn ON irrigation when weather conditions return to the acceptable range for irrigation.

Automatic Pause/Resume. Rain Bird Central Control Systems automatically suspend irrigation to the entire system or specific areas (tee box, fairway, greens, etc.) when alarm conditions are detected. They also automatically resume irrigation when weather conditions return to the acceptable range for irrigation.

Automatic Notification. The WS-PRO2 Weather Station, using Rain Bird® Messenger,™ can automatically notify you wherever you are, at the central control or via text messaging or e-mail when alarm conditions exist.

The WS-PRO2 sensor array records vital weather information and sends it to your computer.

● **WS-PRO2 Weather Station**

HOW TO SPECIFY

WS – XXXX-XX – XX – X

Connection
SH = Short Haul
PH = Phone Modem†
WL = Wireless*

Model
PRO2 = Professional Series
PRO LT = Professional Light Series

Power
Blank = User Supplied
S = Solar Powered

**Only available on WS-PRO LT*
† Only available on WS-PRO2

Weather Stations

	WS-PRO LT	WS-PRO2
SPECIFICATIONS		
Compatible Modules	• Automatic ET • Multiple Weather Station	• Automatic ET • Multiple Weather Station • Smart Weather™ Alarms • Smart Messenger Module
Communication Options	• Wireless *(900 MHz SS Radio or 2.4 GHz Radio)* • Short Haul	• Telephone • Short Haul

Transmission Range	• Wireless 900 MHz
	  • ½ mile (805 m)
	• Wireless 2.4 GHz
	  • ¼ mile (402 m)
	• Short Haul – 20,000 ft (6.096 m)
		• Telephone – no limit
		• Short Haul – 20,000 ft (6.096 m)

Power Supply Required	• 16 to 22 VDC	• 9.5 to 16 VDC
Optional Power Supplies	• Solar Panel	• Solar Panel
Temperature Range	• -40° to 122° F (-40° to 50° C)	• -13° to 122° F (-25° to 50° C)
Air Temperature Sensor		
Operating Range	• -40° to 122° F (-40° to 50° C)	• -13° to 122° F (-25° to 50° C)
Accuracy	• ±0.9° F (±0.5° C)	• ±2.7° F (±1.5° C)
Relative Humidity Sensor		
Operating Range	• 0 – 100%	• 0 – 100%
Accuracy	• ±5% – 90% to 100% RH • ±3% – 10% to 95% RH	• ±6% – 90% to 100% RH • ±3% – 0% to 90% RH
Rain Gauge Sensor		
Resolution	• 0.04" (1 mm)	• 0.01" (0.25 mm)
Solar Radiation Sensor		
Accuracy	• ±2.5%	• ±3%
Wind Direction Sensor		
Range	• 360° mechanical, 352° electrical	• 360° mechanical, 356° electrical
Accuracy	–	• ±4°
Wind Speed Sensor		
Starting Threshold	• 0.78 ms^{-1} (1.75 mph)	• 0.4 ms^{-1} (0.9 mph)

	AUTOMATIC ET MODULE	ALARMS MODULE
SMART WEATHER FEATURES		
Compatible Weather Stations	WS-PRO LT, WS-PRO2	WS-PRO2
Generate Alarms *(rain, ambient temperature, wind, rain intensity and soil temperature)*	–	X
Reset Alarms	–	X
Automatic Shut Off/Turn On	–	X
Automatic Pause/Resume	–	X
Automatic Notification*	–	X
Superior ET Model	X	X
Automatic ET Download	X	X
ET Override	X	X
Cost Savings	X	X
Rain Bucket	X	X
Multiple Station Capacity**	X	X
Max Rain Fall	X	X
Reliable Sensor Input	X	X
Weather Data Reports	X	X
Unlimited Data Storage	X	X
Multiple Languages	X	X
English or Metric Units of Measure	X	X
Cirrus™ Central Control	X	X
Nimbus™ II Central Control	Optional	Optional
Stratus™ II Central Control	Optional	Optional
Stratus LT™	Optional	

** Requires Smart Messenger Module.*
*** Requires Multiple Weather Station Module.*

Rain Watch™

Patented Rain Bird® Rain Watch™ technology maximizes water efficiency, while minimizing system wear and tear, through intelligent, real-time decision-making based accurate rainfall measurement.

FEATURES AND BENEFITS

- The industry's first active rainfall monitoring and response system.
- The only system designed to automatically react to rainfall and adjust sprinkler application rates to take full advantage of natural rain, thereby eliminating over-watering.
- Saves water and electricity, while keeping the course drier and more playable, by pausing, adjusting or canceling irrigation in the event of rainfall.
- Results in reduced wear and tear on irrigation system components.
- An integral part of Rain Bird® Central Control Software versions 4.0 and higher.

HOW RAIN WATCH MANAGES RAINFALL

- Stationed throughout the course, up to four (4) high-resolution Rain Watch rain cans collect environmental data.
- A rotor can be set to react to any of the rain cans.
- The central control system continuously polls each rain can.

Rainfall data received by the system is used to make intelligent decisions based on user-defined responses:

System Response: For course-wide reactions

Program Response: For program-specific responses

No-Action Response: For monitoring only

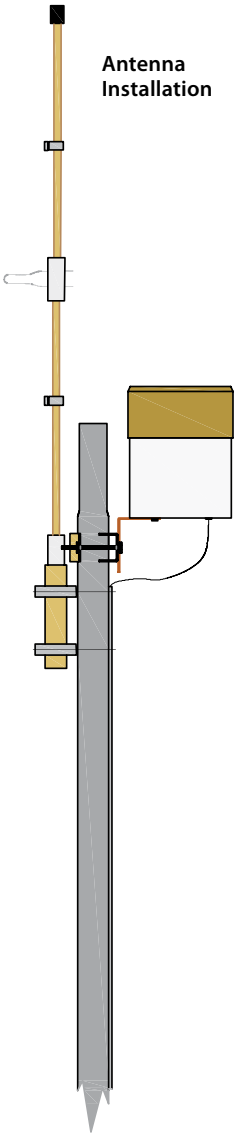
Intelligent responses include:

- Pause
- Resume
- Adjust runtimes and resume
- Cancel

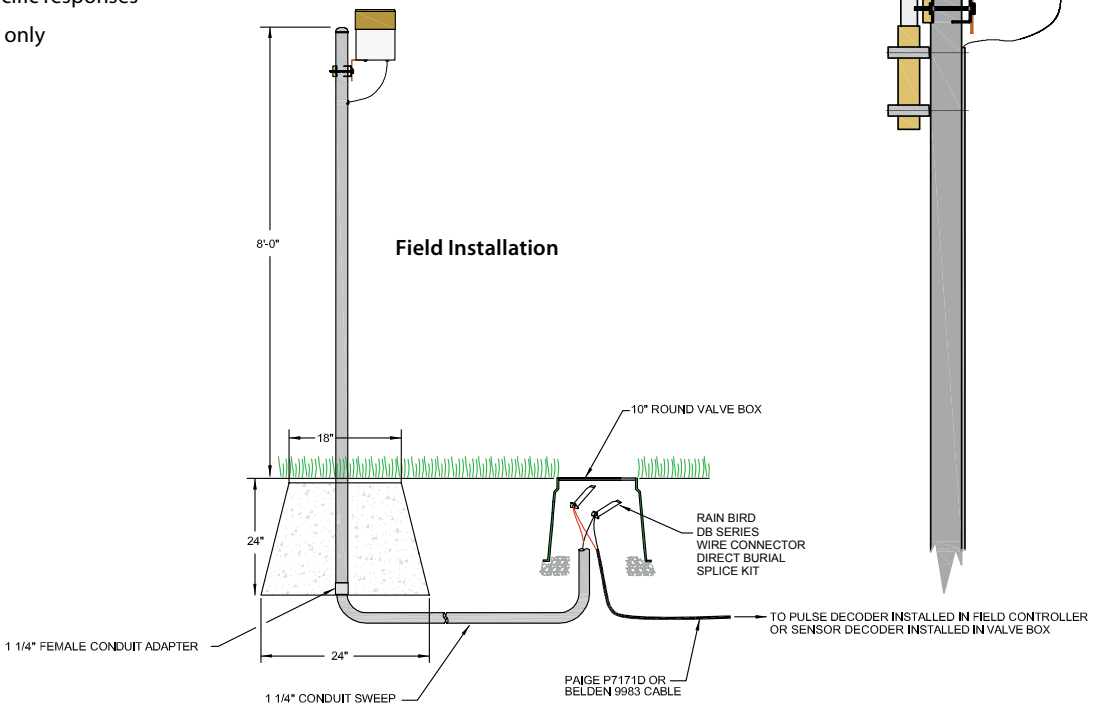
Rain Can

AN EXAMPLE OF RAIN WATCH IN ACTION

- Your daily irrigation schedule calls for 0.20 inches (0.51 cm) of precipitation.
- A storm begins and once accumulated rainfall reaches your desired 0.04-inch (0.10 cm) threshold, Rain Watch suspends irrigation.
- The storm passes after putting down 0.11 inches (0.28 cm) of rain.
- Rain Bird software automatically adjusts remaining runtimes for active stations, as well as those stations yet to run.
- Natural precipitation is seamlessly integrated into scheduled irrigation, resulting in a water savings of 0.11 inches (0.28 cm).



Antenna Installation



Field Installation