ESP-2WIRE Controller

User Manual



English

ESP-2WIRE Controller

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ESP-2WIRE Controller

Welcome to Rain Bird®

Thank you for choosing Rain Bird's ESP-2WIRE Controller. In this manual are step by step instructions for how to install and operate the ESP-2WIRE.



ESP-2WIRE Controller

WiFi Enabled

The ***LNK2™ WiFi Module*** allows remote connection to a Rain Bird ESP-2WIRE Controller using an Apple iOS or Android compatible smart device.



LNK2™ WiFi Module
(Sold separately)

ESP-2WIRE Controller Functions

Feature	Description
Maximum Stations	50 using 2-Wire path
Master Valve or Pump Start Relay	Supported on 2-Wire path with 2W-1 Decoders
Start Times	6
Programs	4
Program Cycles	Custom Days, Odd, Even and Cyclic
Permanent Days Off	By program
Master Valve Control	On/Off per station
Rain Delay	Supported
Rain/Freeze Sensor	Supported
Rain Sensor Control	Global or by station
Seasonal Adjust	Global or by program
Manual Watering Run	Yes
Manual Program Run	Yes
Manual Test All Stations	Yes
Short Detect	Yes
Delay Between Stations	Set by program
Accessory Port	Yes (5 pin)
Save & Restore Programming	Yes
Station Advance	Yes
LNK2™ WiFi Module	Supported
Flow Sensor	Supported
Flow Watch	Yes
Simulstations	Yes - MV or PSR + 2 Stations

The ESP-2WIRE Controller is compatible with Rain Bird 2W-1 Decoders.
(Sold separately)



Installation

Replacing an Existing Controller

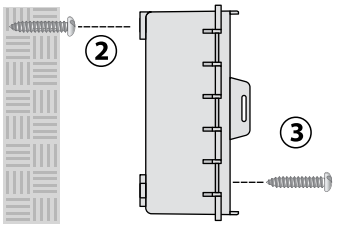
1. Take a photo of the wiring details, which will be useful to reference when installing the new controller.
2. Unplug power cord from the AC power outlet and disconnect wires from controller.

Mount Controller

% WARNING

Install the controller with the power supply cord exit side pointing downwards and through the leftmost opening at the bottom of the controller.

1. Drive a mounting screw into the wall, leaving an 1/8 inch gap between the screw head and the wall surface (use the supplied wall anchors if necessary).
2. Locate the keyhole slot on back of the controller unit and hang it securely on the mounting screw.
3. Open the front panel, and drive additional screws through the open holes inside the controller and into the wall.



Wall Mounting Method

Outdoor Installation with Direct Wiring

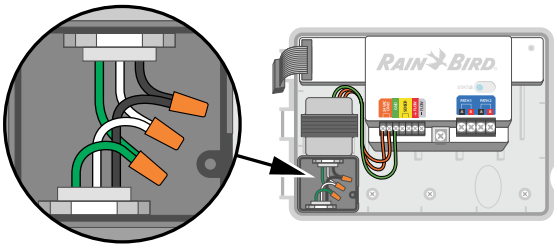
% WARNING

- Electric shock can cause severe injury or death. Make sure power supply is turned OFF before connecting power wires.
- Ground wire must be connected to provide electrical surge protection.
- Permanently mounted conduit shall be used for connecting main voltage to the controller.
- When using fixed wiring to main supply, the installation must incorporate a disconnection device.

POWER WIRING CONNECTIONS 120 V~

- Black supply wire (hot) to the black transformer wire.
- White supply wire (neutral) to the white transformer wire.
- Green supply wire (ground) to the green transformer wire.

1. Route the three external power source wires through the conduit opening at the bottom of the unit and into the wiring compartment.
2. Using the provided wire nuts, connect the external power source wires (two power and one ground) to the transformer connection wires inside the wiring compartment.

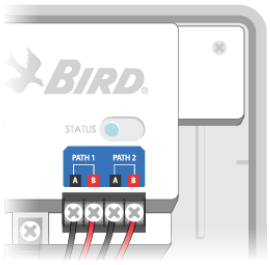


Direct Wiring Connection

2-Wire Installation

Overview

The ESP-2WIRE Controller can support up to two 2-Wire path connections. The controller manages multiple connections as a single 2-Wire path.



2-Wire Field Wiring Connections

2-Wire Decoder New Installation

Decoder Address Assignment

For easier installation, install field decoders with address numbers in numerical order, starting with the master valve first.

NOTE: Organize decoders numerically and mark each decoder box with the decoder address.



Write Station No. on the Decoder Carton

Master Valve Address

If there is no master valve then station #1 will be the lowest address in the decoder sequence.

For example:

- Table 1.1 shows a system with NO master valve. Decoder address #10001 is automatically paired to station #1.
- Table 1.2 shows a system WITH a master valve. Decoder address #10001 is automatically paired to the Master Valve. Decoder address #10002 is then automatically paired to station #1.
- See Figure 1 for example of decoder addressing with master valve.

No MV	
Station	Decoder Address
1	10001
2	10002
3	10003
4	10004
5	10005
Etc.	10006...

Table 1.1

With MV	
Station	Decoder Address
MV	10001
1	10002
2	10003
3	10004
4	10005
Etc.	10006...

Table 1.2

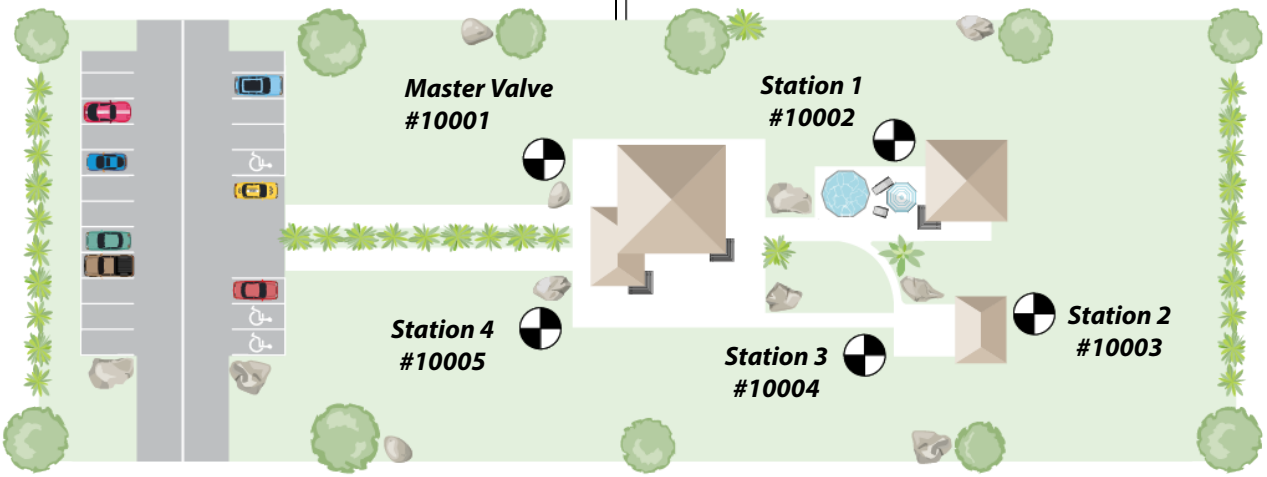


Figure 1 - Example of Site Layout with Master Valve.

Sequential and Numerical Configuration

Decoder addresses don't necessarily have to be in sequential order as long as they're in numerical order.

It's okay to skip numbers as long as lower numbers come first in the sequence.

For example:

- Table 2.1 shows decoders in both sequential and numerical order.
- Table 2.2 shows decoders out of sequence but still in numerical order.
- Table 2.3 shows decoders incorrectly out of numerical order.

✓

Sequential + Numerical	
Sta.	Decoder Address
1	10001
2	10002
3	10003
4	10004
5	10005
6	10006...

Table 2.1

✓

Numerical	
Sta.	Decoder Address
1	10001
2	10002
3	***10007***
4	***10008***
5	10014
6	10015...

Table 2.2

✗

Numbers out of order	
Sta.	Decoder Address
1	10001
2	10002
3	***10015***
4	10007
5	10008
6	10014

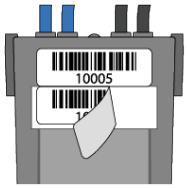
Table 2.3

NOTE: If decoders were installed out of order, see "Change a Station's Decoder Address" on page 6.

Place Decoder Address Labels

Apply the decoder barcode labels to the appropriate fields on the Programming Chart that came with your controller.

1 Carefully peel off the 2-Wire decoder barcode label.



Remove Address Labels

NOTE: Do not remove the label from the carrier still attached to the decoder.

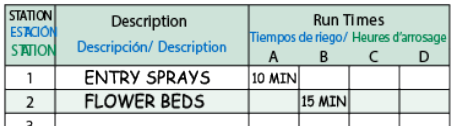
2 Apply the barcode label to an available row corresponding to a station on the programming chart.



Place Address Labels

Fill Out The Programming Chart

Enter information in the appropriate fields on the Programming Chart.



STATION ESTACIÓN STATION	Description Descripción/ Description	Run Times Tiempos de riego/ Heures d'arrosage A	B	C	D
1	ENTRY SPRAYS	10 MIN			
2	FLOWER BEDS		15 MIN		

Programming Chart Example

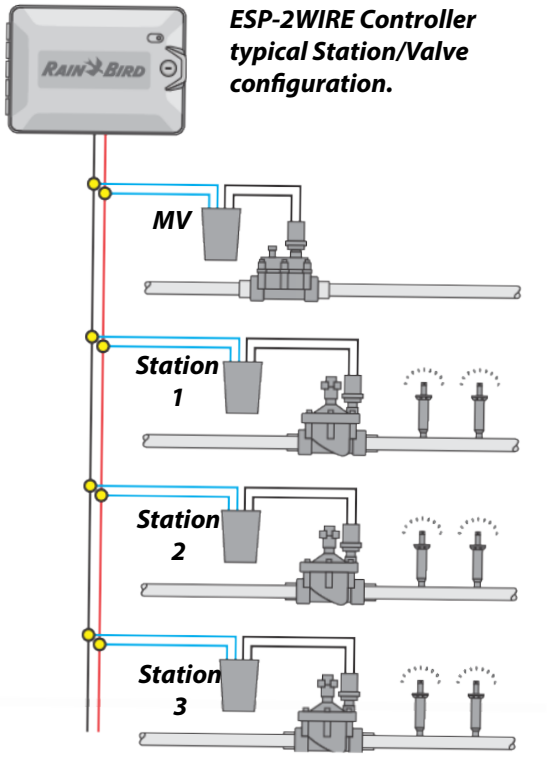
2-Wire Field Connections

Connect Decoders to 2-Wire Path

1 Run a length of irrigation wire from the 2-Wire Controller to the farthest valve location.

2 Connect the two blue wires from the 2W-1 Decoder to the two-wire path.

3 Connect the two black wires from the 2W-1 Decoder to a valve solenoid.



ESP-2WIRE Controller typical Station/Valve configuration.

NOTICE

- Always place 2-Wire decoders and connections inside a valve box.
- Assure that wires are not exposed after installation.

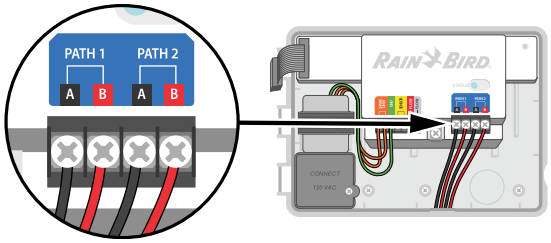
Connect Field Wiring to Controller

1 Route all field wires through the opening at the bottom or back of the unit.

% WARNING

Do not route valve wires through the same opening as power wires.

2 Using a screwdriver, connect the two wire ends of the field wiring to a set of terminals on the ESP-2WIRE Controller.



Connect Field Wiring

NOTE: The controller includes a grounding lug for system grounding at the controller.

Station/Decoder Auto Address Function

Use the Auto Address feature to search for decoders on your system and assign them to station numbers automatically.

Turn the dial to: ***2-Wire Settings***

1 The display message will scroll:

PRESS + TO PGM FIELD DEVICES TO ZONE



- Press + to continue.

2 The display message will scroll:

FIND FIELD DEVICES_PRESS + IF MV USED_ PRESS - IF MV NOT USED



- Press + if your system has a master valve. The lowest decoder address will be assigned to the master valve.
- Press − if your system does not have a master valve and the lowest decoder address will be assigned to station #1.

3 The display message will scroll:

FINDING FIELD DEVICES



During this sequence, the LED on the back plane of the controller and all decoders connected to the 2-wire path will blink blue.

4 When the search is completed, the display message will scroll:

XX FOUND PRESS NEXT

Where "XX" is the number of field decoders found connected to the 2-Wire path.

NOTE: If your controller did not find the proper number of decoders, press ▶ to proceed and see a list of station and decoder address assignments.



- Press ▶ to continue.
- Press ▶ to scroll through station numbers to review the assigned addresses for each station.

NOTE: If the decoders were installed in sequential order, the Decoder Auto-Address feature will add them to the lowest station number without a previously assigned decoder address.

Clear or Change a Station's Decoder Address

Follow these steps to clear or change station/decoder address assignments.

Turn the dial to: ***2-Wire Settings***

1 The display message will scroll:

PRESS + TO PGM FIELD DEVICES TO ZONE



2 Press and HOLD ▶ to bypass the FIND process and show the list of currently programmed decoder addresses.

Clear a Station Decoder Address

1 With the station number flashing, press ◀ or ▶ to select the station/address that you want to clear.



2 Press and hold ▬ and ✚ simultaneously to erase the station's address from the configuration.

- Repeat for all stations as desired.

Gaps in Station Numbering

Clearing a station's address creates a gap in the station numbering.

For example:

Table 3.1 shows that:

- Station 3 has been cleared, creating a gap in the numbering.

Before Change	
Station	**Decoder Address**
1	20145
2	20146
3	
4	20148
5	20149
6	20150

Table 3.1

If new decoders are added to the system later on, then running Auto Address again will cause station 3 to populate first, then stations 7, 8 and so on.

Change a Station's Decoder Address

1 With the station number flashing, press ◀ or ▶ to select the station/address that you want to change.

2 Press ▬ or ✚ to change the station number for the selected address.



Swapping Decoder Addresses In The Existing 2-Wire Configuration

If an existing address was already paired to another station number, then the two stations will "swap" addresses.

For example:

Table 4.1 shows that:

- Station 9 has address 20258.
- Station 12 has address 20834.

Moving address 20834 to station number 9 will also cause address 20258 to move to station 12.

- Station 9 will then have address 20834 as shown in Table 4.2.
- Station 12 will then have address 20258.
- No other stations decoder addresses have moved as a result of this "swap".

Before Changing Decoder Address	
Station	**Decoder Address**
7	20256
8	20257
9	***20258***
10	20832
11	20833
12	***20834***

Table 4.1

After Changing Decoder Address	
Station	**Decoder Address**
7	20256
8	20257
9	***20834***
10	20832
11	20833
12	***20258***

Table 4.2

Replacing Existing Decoders

Replacing Decoders Within The Existing 2-Wire Configuration

Repeat Station/Decoder Auto Address Function as shown on page 5.

For the station you would like to replace, first Clear a Station Decoder Address as shown on page 6. This will not move any other addresses in the sequence. Instead, it creates an empty slot for a new decoder to populate.

- Running the Auto Address function again will cause the lowest new decoder address to populate first to the lowest station number that does not currently have an address assigned.
- Existing station addresses remain unchanged.

For example:

Table 5.1 shows that:

- Station 16 and 19 are empty.

After running Auto Address again:

- The first new decoder, with an address of 10134 will populate station 16, as shown in Table 5.2
- The second new decoder, with an address of 21347 will populate station 19.

Before Replacing Decoders	
Station	**Decoder Address**
14	20367
15	20368
16	
17	20370
18	20371
19	

Table 5.1

After Replacing Decoders	
Station	**Decoder Address**
14	20367
15	20368
16	***10134***
17	20370
18	20371
19	***21347***

Table 5.2

NOTE: Even though address 10134 is the lowest in the new sequence, the controller assigned it to the lowest available station number, in this case station 16. All addresses that were previously programmed prior to finding new decoder addresses will remain unchanged.

Adding New Station Decoders

Add New Decoders To The Existing 2-Wire Configuration

Repeat Station/Decoder Auto Address Function as shown on page 5.

- The controller will populate the lowest new address it finds to the lowest available station number.
- Existing station addresses remain unchanged.

For example:

Table 6.1 shows that:

- There are 23 stations in the current configuration.

After running Auto Address again:

- The first new decoder, having an address of 11324 will populate station 24, as shown in Table 6.2.
- The second new decoder, having an address of 22532 will populate station 25.

Existing 2-Wire Configuration	
Station	**Decoder Address**
20	21478
21	21479
22	21480
23	21481

Table 6.1

After Adding New Decoders	
Station	**Decoder Address**
20	21478
21	21479
22	21480
23	21481
24	***11324***
25	***22532***

Table 6.2

NOTE: Even though address 11324 is the lowest in the new sequence, the controller assigned it to the lowest available station number, in this case station 24. All addresses that were previously programmed prior to finding new decoder addresses will remain unchanged.

Clear All Decoder Addresses and Repeat Auto Address

Turn the dial to: ***2-Wire Settings***

1. Press and hold **−** and **+** simultaneously.
2. The display message will scroll:
   HOLD + TO CLEAR ALL ADDRESSES



3. Press and hold **+** to clear all addresses.
4. The display message will say "DONE" to show the operation has succeeded.



5. The display message will again scroll:
   PRESS + TO PGM FIELD DEVICES TO ZONE



- Press **+** to continue and repeat the Auto Address process.

ESP-2WIRE Controller Features

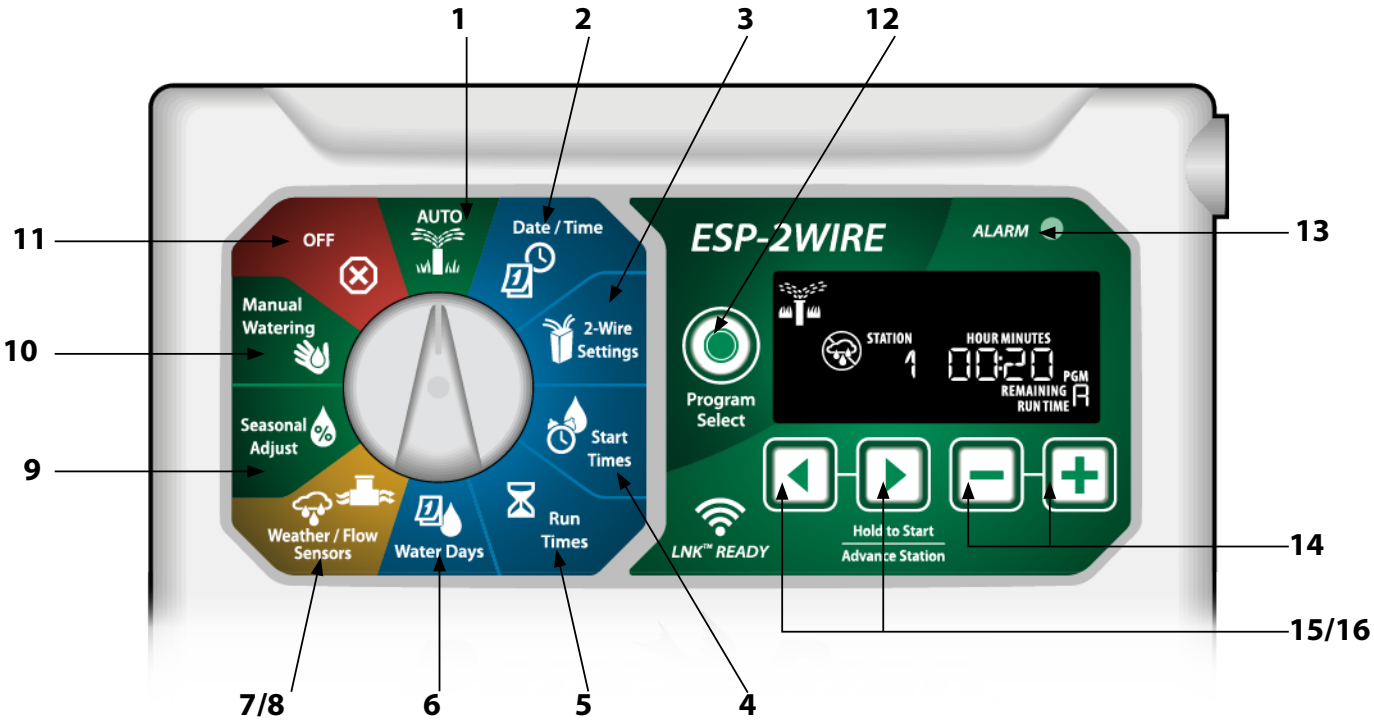


Figure 2 - ESP-2WIRE Controller - Dial Configuration and Button Controls.

1 ***AUTO***
Watering occurs automatically

2 ***Date/Time***
Set the current Date and Time

3 ***2-Wire Settings***
Set 2-Wire settings

4 ***Start Times***
Up to 6 Start Times per program

5 ***Run Times***
Set station Run Times

6 ***Water Days***
Select days to allow watering

7 ***Weather Sensor***
Set controller to obey or ignore a weather sensor

8 ***Flow Sensor***
Set controller to obey or ignore a flow sensor

9 ***Seasonal Adjust***
Adjust Run Times from 5% up to 200%

10 ***Manual Watering***
Start watering for one or all stations

11 ***OFF***
Disables automatic irrigation

12 ***Program Selection Button***
Select Program A, B, C or D

13 ***ALARM***
Indicator

14 ***– / + Buttons***
Adjust feature settings

15 ***Back/Next Buttons***
Select programming options

16 ***Hold to Start***
Manual irrigation

Display Indicators

Display	Function	Description
ALL	ALL	All stations
CLEARED	CLEARED	Programming was cleared
CYCLIC	CYCLIC	Watering occurs at specific intervals, such as every 2 days
DELAY	DELAY	Delay Watering Active
EVEN	EVEN	Even days watering
FLOW	FLOW	Flow Sensor
MV ON	MV ON	Master or Pump-start relay is active
ODD	ODD	Odd days watering
OFF	OFF	Controller will not water
PERMOFF	PERMOFF	Permanent days off for Odd, Even, Cyclic watering
RAIN	RAIN	Rain Sensor
RESTORD	RESTORD	Programming restored
SAVED	SAVED	Save programming
SENS ON	SENS ON	Sensor will function if wired
SEN OFF	SEN OFF	Sensor is ignored even if wired
SKIP	SKIP	Station not used due to station address configuration
SOAK	SOAK	Soak time between watering times - supported through the Rain Bird app.

Basic Programming

Auto Mode

AUTO

AUTO is the normal operating mode. Return the dial to AUTO when programming is complete.

During Watering:

The display shows a blinking sprinkler symbol, the active station number or program, and the remaining run time.



Off

OFF

Turn the dial to ***OFF*** to stop automatic irrigation or to cancel all active watering immediately.



NOTICE

Watering will NOT occur if the controller remains in the OFF position.

1. Set Date and Time

Turn the dial to: ***Date / Time***

1. Press ◀ or ▶ to select the setting to change.
2. Press ▬ or ✚ to change the setting value.

To change the time format (12 hour or 24 hour):

1. With ***Day of Month*** blinking, press ◀.
2. Press ▬ or ✚ to select the desired time format, then press ◀ to return to the time setting.

2. Set Watering Start Times

Up to six Start Times are available for each program.

Turn the dial to: ***Start Times***

1. Press ◀ or ▶ to select an available ***Start Time***.
2. Press ▬ or ✚ to set the selected ***Start Time*** (ensure the AM/PM setting is correct).
3. To turn off a start time press ▬ until 12:00 AM (00:00 in 24 HR), then press ▬ one more time for ***OFF***.

3. Set Station Run Times

Run Times can be set from one minute up to six hours.

Turn the dial to: ***Run Times***

1. Press ◀ or ▶ to select a ***Station***.
2. Press ▬ or ✚ to set the ***Run Time*** for the selected station.

4. Set Water Days

Custom Days of the Week

Set watering to occur on specific days of the week.

Turn the dial to: ***Water Days***

1. Press ▬ or ✚ to set the selected (blinking) day as either ***ON or OFF***, and to automatically move to the next day.
2. Press ◀ or ▶ at any time to move the cursor to the previous or next day.

Manual Watering Options

Test All Stations

Start watering immediately for all programmed stations.

Turn the dial to: ***Manual Watering***

1. Press ▬ or ✚ to set a ***Run Time***.
2. Press the ***Hold to Start*** ▶ button.
3. Turn the dial to ***AUTO*** after display shows ***STARTED***.



Run a Single Station

Start watering a single station, or set multiple stations to water in order.

Turn the dial to: ***Manual Watering***

1. Press ◀ or ▶ to select the desired station.
2. Press ▬ or ✚ to set a ***Run Time***.
3. Press the ***Hold to Start*** ▶ button.
4. Turn the dial back to ***AUTO***

Run a Single Program

Start watering immediately for one program.

Turn the dial to: ***AUTO***

1. Press the ***Hold to Start*** ▶ button to begin watering the selected Program.
2. Press the ***Advance Station*** ▶ button to advance to the next station if desired.



To add additional programs to the manual watering queue:

Turn the dial to: ***Manual Watering***

1. Press ***Program Select*** to choose the desired program (if necessary).
2. Press the ***Hold to Start*** button to begin watering the selected program.
3. Turn the dial to ***AUTO***

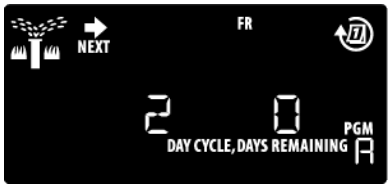
Advanced Programming

Cyclic Days

Set watering to occur at specific intervals, such as every 2 days, or every 3 days, etc.

Turn the dial to: ***Water Days***

1. On the ***Custom Days of the Week*** screen, press ▶ until the ***Cyclic*** screen is displayed (after SUN).
2. Press − or + to set the desired ***DAY CYCLE***, then press ▶.
3. Press − or + to set the ***DAYS REMAINING*** before the cycle begins.



Odd or Even Calendar Days

Set watering to occur on all ODD or EVEN calendar days.

Turn the dial to: ***Water Days***

1. Press and hold ◀ and ▶ until ***ODD*** or ***EVEN*** is displayed.



Seasonal Adjust

Increase or decrease program run times by a selected percentage (5% to 200%).

Turn the dial to: ***Seasonal Adjust***

1. Press − or + to increase or decrease ***Seasonal Adjust*** for all Programs.
2. To adjust an individual Program, press ***Program Select*** to choose the desired Program (if necessary). Press − or + to increase or decrease ***Seasonal Adjust*** for one Program.

Delay Watering

Suspend watering for up to 14 days.

Turn the dial to: ***AUTO***

1. Press and Hold the + button to enter the ***Rain Delay*** screen.
2. Press − or + to set the ***DAYS REMAINING***. The ***NEXT*** watering day will update on the display to indicate when watering will resume.



3. To cancel a Rain Delay, set the ***DAYS REMAINING*** back to 0.

Permanent Days Off

Prevent watering on selected days of the week (for Odd, Even or Cyclic programming only).

Turn the dial to: ***Water Days***

1. Press and hold ***Program Select***, then press − to set the selected (blinking) day as a ***Permanent Day Off*** or press + to leave the day ***ON***.



SimulStations

The ESP-2WIRE controller will support up to 2 station valves operating simultaneously with or without a Master Valve / Pump Start Relay.

SimulStations are configurable through the Rain Bird 2.0 Mobile App or IQ4 interface.

With WiFi: Install a LNK2, connect to the local WiFi network and configure these settings through the Rain Bird 2.0 App or IQ4.

Without WiFi: Install a LNK2, connect directly to the LNK2 without WiFi and configure these settings through the Rain Bird 2.0 app.

Important:

- Please ensure that the system has the proper hydraulic capacity to support this feature before activating Global or Program level SimulStations.
- For systems with a pump start relay, we recommend using the Rain Bird Universal Pump Start Relay or equivalent for its low power consumption and guaranteed operation.

Global SimulStations:

This is a controller level setting that configures the controller to allow up to 2 station valves to operate at the same time. With Global SimulStations set to 2 the controller will allow programs with overlapping run times to activate up to 2 stations simultaneously.

Program SimulStations:

This is a program level setting and allows an individual program to run 2 stations simultaneously any time this program is active. To change program level SimulStations to 2 you must first change the controller level Global SimulStations to 2.

Maximum Wire Lengths

The tables below show the maximum wire lengths supported for SimulStations, by wire gauge.

One Device (Single Station, No MV/PSR)

WIRE GAUGE	Max wire length from controller for single device operation (ft)
18 AWG	1000
16 AWG	1600
14 AWG	2600
12 AWG	4200

Two Devices

(MV/PSR* + 1 Station or 2 Stations with No MV/PSR)

WIRE GAUGE	Dist of first device from controller (ft)	Max wire length from controller for second device (ft)
18 AWG	50	880
	100	840
	200	760
	350	650
	500	530
16 AWG	50	1420
	100	1380
	200	1310
	350	1190
	500	1070
14 AWG	50	2280
	100	2250
	200	2170
	350	2050
	500	1940
12 AWG	50	3660
	100	3620
	200	3540
	350	3420
	500	3310

Three Devices

(MV/PSR* + 2 Stations Simultaneously)

WIRE GAUGE	Dist of MV/PSR from controller (ft)	Max total wire length from controller to the two stations running simultaneously (ft)**
18 AWG	50	510
	100	510
	200	500
	350	480
	500	0
16 AWG	50	820
	100	810
	200	800
	350	790
	500	770
14 AWG	50	1310
	100	1300
	200	1290
	350	1270
	500	1260
12 AWG	50	2080
	100	2080
	200	2070
	350	2050
	500	2030

**PSR must be Rain Bird Universal Pump Start Relay PSR110IC, PSR220IC, or equivalent for guaranteed operation*

***Total combined wiring distance from the controller to station valves that will be operated simultaneously*

One Device (Single Station, No MV/PSR)

WIRE GAUGE	Max wire length from controller for single device operation (m)
0,75 mm²	305
1,5 mm²	488
2,5 mm²	792
4,0 mm²	1280

Two Devices

(MV/PSR* + 1 Station or 2 Stations with No MV/PSR)

WIRE GAUGE	Dist of first device from controller (m)	Max wire length from controller for second device (m)
0,75 mm²	15	232
	30	219
	61	195
	107	162
1,5 mm²	15	472
	30	460
	61	439
	107	402
	152	366
2,5 mm²	15	780
	30	768
	61	744
	107	710
	152	674
4,0 mm²	15	1256
	30	1244
	61	1222
	107	1186
	152	1149

Three Devices

(MV/PSR* + 2 Stations Simultaneously)

WIRE GAUGE	Dist of MV/PSR from controller (m)	Max total wire length from controller to the two stations running simultaneously (m)**
0,75 mm²	15	137
	30	134
	61	131
	107	125
1,5 mm²	15	271
	30	271
	61	268
	107	262
	152	256
2,5 mm²	15	445
	30	445
	61	442
	107	436
	152	430
4,0 mm²	15	716
	30	713
	61	710
	107	704
	152	701

**PSR must be Rain Bird Universal Pump Start Relay PSR110IC, PSR220IC, or equivalent for guaranteed operation*

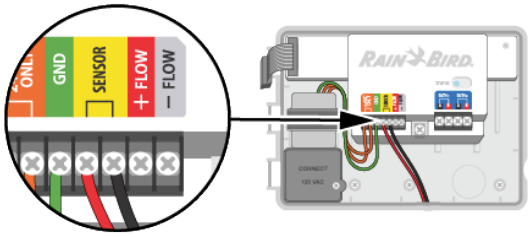
***Total combined wiring distance from the controller to station valves that will be operated simultaneously*

Optional Features

Connect Weather Sensor

1 Connect both rain sensor wires to the ***SENSOR*** terminals as shown.

NOTE: Remove the yellow jumper wire before connecting sensor wires.



Weather Sensor Connection.

Weather Sensor Settings

Set the controller to obey or ignore a weather sensor.

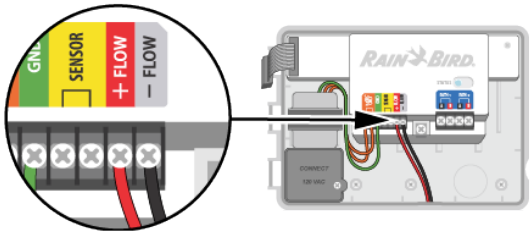
Turn the dial to:
Weather / Flow Sensors

1 Press – or + to select ***SENS ON*** (sensor on) or ***SENS OFF*** (sensor off).

Sensor ON **Sensor OFF** **Rain detected (flashing)**

Connect Flow Sensor

1 Connect both flow sensor wires to the ***FLOW*** terminals, as shown. Be sure to connect the positive (sometimes red) sensor wire to the red (+) terminal and the negative (sometimes black) sensor wire to the gray (-) terminal.



Flow Sensor Connection.

If using the LNK2™ WiFi Module and the Rain Bird app, turn on Flow Sensor and learn flow in the controller settings.

Without Rain Bird app:

Turn the dial to:
Weather / Flow Sensors

1 Press ◀ or ▶ to select ***FLOW*** sensors.

2 Press – or + to select ***SENS ON*** (sensor on) or ***SENS OFF*** (sensor off).

Sensor ON **Sensor OFF** **Flow detected (flashing)**

ESP-2WIRE Controller Special Features

- Turn the dial to the desired position indicated to access each ***Special Feature***.
- After turning the dial to the desired position, press and hold ◀ and ▶ at the same time.

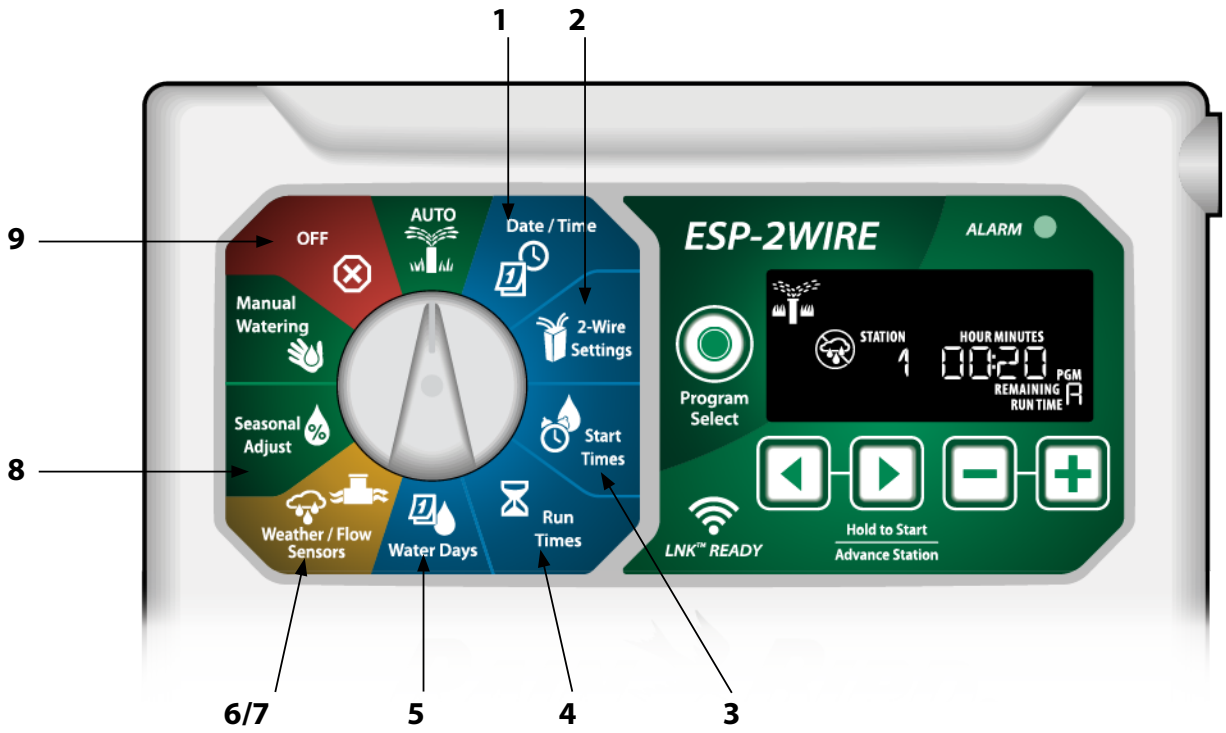


Figure 3 - ESP-2WIRE Controller - Dial Configuration and Special Features.

1 ***Save Programming***
Saves current programming for restore later.

2 ***Troubleshooting***
Find and correct faults or solve problems. See ESP-2WIRE Troubleshooting Guide for more information.

3 ***Restore Programming***
Restores the previously saved programming.

4 ***Set Master Valve By Station***
Allows a station to be controlled by a master valve or pump start relay.

5 ***Set To Odd Or Even Day Watering***
Set watering to occur on all ODD or EVEN calendar days.

6 ***Set Rain Sensor Bypass By Station***
Tells a station to obey or ignore a rain sensor.

7 ***Set Flow Sensor Bypass By Station***
Turns a flow sensor on or off by station.

8 ***Reset To Factory Defaults***
All programmed schedules will be erased.

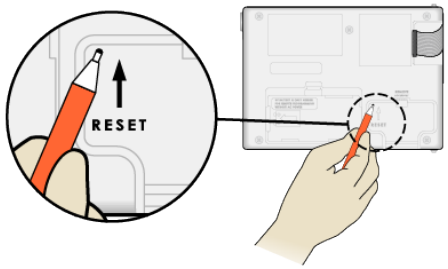
9 ***Set Interstation Delay***
A station delay (from 1 second to 9 hours) ensures that a valve has completely closed before the next one opens. Press Program Select to set delay for different programs.

Options

Reset Button

If the controller is not working properly, you can try pressing RESET.

Insert a small tool such as a paper clip, into the access hole and press until the controller is reset. All previously programmed watering schedules will remain stored in memory.



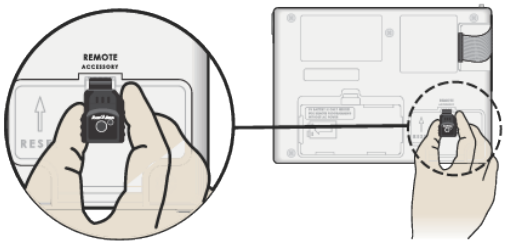
Reset Button Location.

Remote Accessories

LNK2™ WiFi Module Installation

A 5 pin accessory port is available for Rain Bird approved external devices, including the LNK2™ WiFi Module.

1 Insert LNK2 WiFi Module in the Remote Accessory port, located on back of the controller interface panel.



Accessory Port Location.

Detached Programming

Program the front panel remotely on battery power.

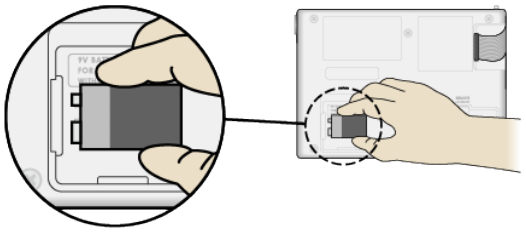
The front panel can be removed from the controller and programmed remotely using a 9 volt battery for power.

NOTE: Decoder addresses cannot be learned when the front panel is removed.

1 Remove the front panel.

2 Install a 9V battery in the battery compartment.

3 Program the controller.



Battery Compartment Location.

NOTE: Program information is stored in non-volatile memory so it is never lost if the front panel loses power.

4 Replace the front panel (refer to ***Complete Installation*** in the Installation section).

Battery Life

If the display repeatedly shows "-- -- -- -- --", or there is no display when using a 9V battery for remote programming, replace the battery.

Safety Instructions

SUPPLIER'S DECLARATION OF CONFORMITY

47 CFR § 2.1077 Compliance Information

Unique identifier: ESP-2WIRE

Responsible Party - Rain Bird Corporation, 9491 Ridgehaven Court, Suite C, San Diego, CA 92123, USA, www.rainbird.com

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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NOTICE

- Changes or modifications not expressly approved by Rain Bird could void the user's authority to operate the equipment.
- Use only Rain Bird approved accessory devices. Unapproved devices may damage the controller and void warranty.
- Date and time are retained by a lithium battery which must be disposed of in accordance with local regulations.

⚠ WARNING

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capacity, or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.
- If the power supply unit is damaged, it must be replaced by the power supply unit available from the manufacturer or its service agent.
- Special precautions must be taken when valve wires are located adjacent to, or share a conduit with other wires, such as those used for landscape lighting or other electrical systems.
- Separate and insulate all conductors carefully, taking care not to damage wire insulation during installation. An electrical "short" (contact) between the valve wires and another power source can damage the controller and create a fire hazard.



This controller uses a non-replaceable lithium battery. Lithium batteries are hazardous and can cause severe or fatal injuries in 2 hours or less if it is swallowed or placed inside any part of the body. Medical attention should be sought immediately if this is suspected. Keep batteries away from children.

- DO NOT apply power until you have completed and checked all wiring connections.
- DO NOT attempt to link two or more controllers together using a single transformer.

⚠ CAUTION

- Only use the provided power supply unit. It provides the voltage required by the controller.
- All electrical connections and wiring runs must comply with local building codes. Some local codes require that only a licensed or certified electrician can install power. Only professional personnel should install the controller. Check your local building codes for guidance.

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Scan the QR code to go online and visit www.rainbird.com for more information about the ESP-2WIRE and other Rain Bird products.

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