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## WP1-AG



The multi-function, battery-powered WP1-AG controller is a single-station controller that operates with a 9V Alkaline battery. (Battery not included). Use Varta type 6LR61 available from Rain Bird.

It offers 2 different modes: P mode with 2 independent programs (A, B) – see P mode § 6 – and F mode with 2 independent time windows – see F mode § 7.

### P MODE

P Mode enables you to set one program (A) or two independent programs (A and B) – See § 6 for detailed programming

Each program (A and B) offers:

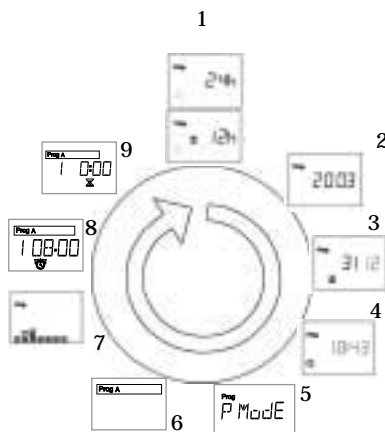
1. ***Different types of cycles § 6.2***
2. ***12 start times and 12 run times per day***
  - run time from 1 minute to 12 hours in 1-minute increments

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**Example :** you choose the A program for Monday, Wednesday and Friday with a start time at 4.00 and a run time of 1 hour. You choose the B program for Tuesday, Thursday and Sunday with a start time at 20.00 and a run time of 30 minutes. Any combination is possible (for example, you can have A and B on the same day) provided that there is no overlapping.

If A and B programs or 2 start times of the same program overlap, the second program or start time will be delayed until the first program or start time is completed

- 1/ Select time mode (AM/PM or 24H)
- 2/ Set current year
- 3/ Set current date
- 4/ Set clock
- 5/ Select P mode
- 6/ Select A or A and B
- 7/ Select watering schedule
- 8/ Set start times
- 9/ Set run time



## F MODE

F Mode enables you to open a time window (F1) or two time windows (F1 and F2).  
See § 7 for detailed programming

These are independent time windows. You can program a different run time and soak time for each window that will be continuously repeated between the window start time and stop time. For the 2 time windows (F1 and F2), select one type of cycle.

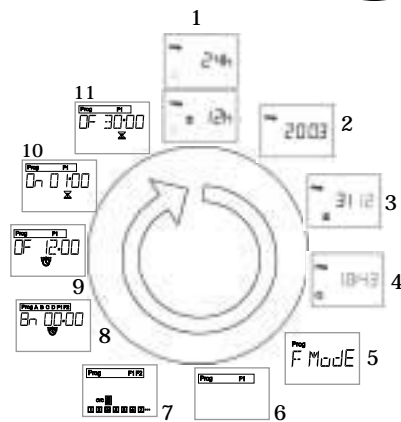
1. Select the type of cycle § 6.2
2. Select time window start time and stop time
3. Watering run time: from 3 seconds to 1 minute in 1-second increments, from 1 minute to 99 minutes in 10 second-increments.

Soak time: from 3 seconds to 1 minute in 1-second increments, from 1 minute to 99 minutes in 10 second-increments.

If F1 and F2 windows overlap, F2 window will have priority. In other words, it will stop the F1 window.

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- 1/ Select time mode (AM/PM or 24H)
- 2/ Set current year
- 3/ Set current date
- 4/ Set clock
- 5/ Select F mode
- 6/ Select F1 ou F1F2
- 7/ Select Watering schedule
- 8/ Select open time window
- 9/ Select close time window
- 10/ Select run times
- 11/ Select soak times



## INSTRUCTION MANUAL

Single-station controller operates one Burkert type 9V latching solenoid (Rain Bird JA 3000) for AG series valves or Rain Bird TBOS latching solenoid for Rain Bird series valves. Select the suitable wire size to connect valves to the controller. If your cables are installed underground, make sure you use a mechanical protection or a specific model intended for underground use. **All connections must be waterproof.** Use Rain Bird Quick Connect “King” connectors supplied with the product or Rain Bird DBY connectors.

**Important :** Maximum distance between the controller and the valve using wire sized 1,5 mm<sup>2</sup>: 30 m.

## 1 WIRING TO THE SOLENOID

### 1.1. Burkert Solenoid (Rain Bird JA3000).

The yellow-green cable is not used and can be removed.

Connect the WP1-AG red wire to the solenoid blue wire and the WP1-AG black wire to the solenoid brown wire.


### 1.2. TBOS Solenoid (Rain Bird LU3100).

Connect the WP1-AG red wire to the solenoid red wire and the WP1-AG black wire to the solenoid black wire.

## 2 WIRING TO THE RSD-BEx RAIN SENSOR OR TO ANOTHER SENSOR



An active Rain Sensor can be connected to the WP1-AG, using the yellow wire.

This sensor must be the dry contact type and normally closed. When the sensor is activated, the WP1-AG immediately stops watering if it rains and the  icon will appear on the screen.

**Important :** Maximum distance between the sensor and the WP1-AG using wire sized 0,75 mm<sup>2</sup> and a battery with a 7,5V charge: 100 m.

### 3 START-UP: BATTERY INSTALLATION

Connect one top-grade 9V Alkaline battery (6AM6/6LR61), Varta type (Rain Bird reference: BAT9AL) or equivalent.

As soon as the battery is installed, this screen appears:



**Important :** this icon enables you to check the battery voltage level and tells you when you must replace the battery (see example).

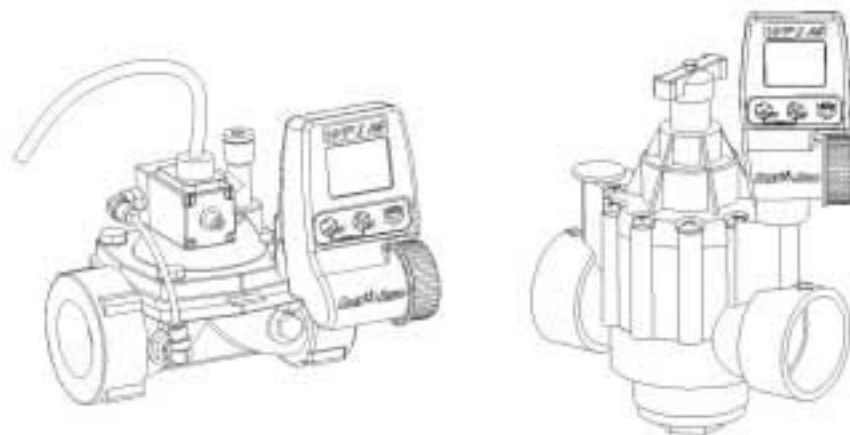
**CHANGING THE BATTERY :** the complete program will be stored in the memory when changing the battery. You will have one minute to complete battery replacement.

#### **Note: battery life**

1. To prolong battery life, the screen automatically goes blank after 1 minute if no keys are pressed.
2. Note that a top-grade 9V Alkaline battery will enable you to operate about 30 000 waterings (starts and stops).



## 4 INSTALLING THE WP1-AG

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## 5 PROGRAMMING MENU - SET OR MODIFY PROGRAMS


### 5.1. ACCESS TO THE PROGRAMMING MENU




You can access the programming menu as soon as the battery is installed or by simultaneously pressing the  and  keys with the standby screen indicating


current time and day of the week.

The display shows **PROG** at the top left-hand corner.



**The programming menu is a circular menu.** Repeatedly pressing the  key will display the various screens in the menu.

To enter data, press the  or  keys and then press the  key to validate and move to the next function.

**Note :** you can, at any time, go backward in the menu by holding down the  key for over 1 second.

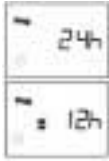
If you hold down the key, screens will move backward.



The backward movement through the menu will stop as soon as you stop holding down the key.




## 5.2. SET THE STANDBY SCREEN

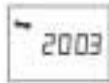
### 1/ Select time mode :




Use the  or  keys to switch from 24 hours mode to AM/PM mode and vice versa.

Press the  key to validate and move to next function.

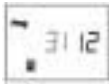
### 2/ Set current year (example : 2003)




Use  or 

Press the  key to validate and move to next function

### 3/ Set current month (example : 1= January, 12= December)



Use  or 

Press the  key to validate and move to next function

**4/ Set current date (example : 31 December)**

Use



or



Press the



key to validate and move to next function

**GB****5/ Set clock: current time****a/ Set current time in hours**

Use



or



Press the



key to validate and move to next function

**b/ Set current time in minutes**

Use



or



Press the



key to validate and move to next function

### 5.3. SELECT PROGRAMMING MODE : P OR F

Select the programming mode once the clock is set.

The WP1-AG is a multi-function and easy-to-use controller.

You have the choice between 2 programming modes, P or F mode.

**Important:**

1. One mode only, either P or F, will be active. You can not program these 2 modes to operate at the same time.
2. The program running under F mode will be stored if it is switched to P mode and vice versa.

Select your programming mode: P or F

Use



or



Press the



key to validate and move to next function




**Tip :** *if you have a seeding to water, start to irrigate little but frequently.*



*In this case, use the F mode. After a few days, switch to P mode.*

*For turf seeding, you can use the F mode to protect against ants !*

## 6 P PROGRAMMING MODE

### 6.1. SELECT PROGRAM A OR A AND B PROGRAMS

Once P mode is validated , you decide if you will use only the A program , or 2 independent programs (A and B) .

Use the  or  keys.

Press the  key to validate and move to next function.



### 6.2. SELECT WATERING CYCLE - PROGRAM A

CAREFULLY READ ALL OF THE FOLLOWING SECTION BEFORE YOU CONTINUE TO PROGRAM.  
YOU HAVE THE CHOICE OF THE FOLLOWING CYCLES.





Once A is validated, the display shows “CYC” with Prog. A

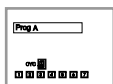


Use the  or  keys to display the various watering cycles.

- 7-day weekly cycle
- EVEN day/date watering
- ODD day/date watering
- ODD day/date watering with 31st day of the month
- 1-day cycle during a period of from 1 to 31 days



Use the  key to validate your selection.


**Reminder:** once you have validated one type of cycle, you can go back by holding down the  key for more than 1 second, if you change your mind.




### 7-day weekly cycle

Numbers from 1 to 7 (1= Monday, 7 = Sunday) symbolize the 7 days of the week.

The number “1” is blinking and can be modified by using the  or  keys.

The  key cancels water days and the square disappears.

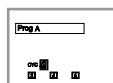
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To set a water day, place the cursor on the corresponding day number and press .

Use the  key to validate your selection and move to next blinking day.


**Note :** you must set the 7 days of the week (ON or OFF)

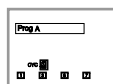
Once the 7 days are validated, you move to the screen with the alarm clock icon to set start times and run times. (§6.3)



### Even day/date watering


Even days/dates are represented by numbers 2, 4, 6  
There is no possible modification.

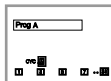
Use the  key to validate your selection and you will automatically move to the screen with the alarm clock icon to set start times.



### Odd day/date watering (except the 31st)


Odd days are represented by the figures 1, 3, 5, 7.  
There is no possible modification.

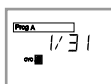
Use the  key to validate your selection and you will automatically move to the screen with the alarm clock icon to set start times.



### Odd day/date watering (including the 31st)

Odd days/dates are represented by the numbers 1, 3, 5, 7.  
There is no possible modification.

Use the  key to validate your selection and you will automatically move to the screen with the alarm clock icon to set start times.




### 1-day cycle during a period of from 1 to 31 days



You have to decide which day to water (only one day) during the cycle.


#### a) Length of the cycle

Example: you want to water every 5 days.

The cycle is symbolized by 1/05 = 1 watering every 5 days.

Use the  key to validate your selection. The second number blinks.

Use the  or  keys to set the length of your cycle.

Use the  key to validate your selection and move to next function (\$6.3)

**GB****b) Current day**

You have to decide what is the current day (today) given that day 1 of the cycle is the watering day and that irrigation will start after the last day of the cycle.

**Example :** 4 1/05, we are the 4<sup>th</sup> day of a 5-day cycle. Watering will start in 2 days, after the 5<sup>th</sup> day (day 1 of the cycle).

Use the  or  keys to set the current day.

Use the  key to validate your selection and move to next function (§6.3).

**6.3. SET START TIMES AND THE LENGTH OF WATERING TIME - A PROGRAM**

You can, if necessary, program a different length of watering time for each start time (from 1 minute to 12 hours in 1-minute increments).

You can program up to 12 start times and then up to 12 run times.



Once you have validated your type of cycle, the alarm clock icon will appear together with the number 1. 1 = 1<sup>st</sup> start time.


You have to set the **time of day for the first start time.**







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Use the  or  keys to set the first start time.

Use the  key to validate your selection.

Then an hourglass icon appears. Number 1 remains in the display



Use the  or  keys to set the length of watering time corresponding to the first start time.

Use the  key to validate your selection.

The alarm clock icon reappears together with the number 2.



You can set a second start time and a second run time (hourglass) – repeat the same procedure as for start time 1.

Repeat the above procedure to set additional start times (up to 12) and run times.

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**B Program**

If you have chosen the A and B double program, the controller will request you to program B cycle as soon as the A cycle is validated.



Repeat the same procedure as for A program. (§ 6.2 - § 6.3)


**Note** : when you set run time in the P mode, there are two dots between the hours and the minutes.


***The programming of P mode is completed.***

***You automatically return to the standby status screen with current time and day of the week.***

**7 F PROGRAMMING MODE**

Once F mode is validated, you have to choose whether you want to use only one time window (F1)  or two independent time windows (F1 and F2). 

Use the  or  keys.

Use the  key to validate your selection.

**GB****7.1. SELECT WATERING CYCLE - F1 WINDOW OR F1 AND F2 WINDOWS**



Once you have validated F1 or F1 and F2, “CYC” appears on the screen together with F1.



Use the  or  keys to display the various watering cycle available.

F1 watering cycle is identical to P mode – see § 6.2 Select watering Cycle, A Program.

**7.2. SET START TIMES AND STOP TIME FOR THE TIME WINDOW, RUN TIME AND SOAK TIME - F1WINDOW**


You will open a start time (ON) time window  and stop time (OFF) 

**F1 Time Window**

Once your watering cycle is validated, the display shows **F1 and ON together with the alarm clock**



Use the  or  keys to set F1 start time.


Use the  key to validate your selection.

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The display will then show **F1 and OF together with the alarm clock.**






Use the  or  keys to set F1 closing time.

Use the  key to validate your selection.

The display will then show **F1 and ON together with the hourglass.**




Use the  or  keys to set watering run time.

Use the  key to validate your selection.

The next display shows **F1 and OF together with the hourglass .**



Use the  or  keys to set soak time.

Use the  key to validate your selection.

**GB****Watering run time and soak time.**

**N.B:** run time can be minimum 3 seconds, maximum 99 minutes.

From 3 seconds to 1 minute, it is in 1-second increments. Over 1 minute, it is in 10-second increments.

**F2 Time Window**

If you have chosen the F1 and F2 double time windows, the controller will request you to program the F2 time window as soon as the F1 time window is validated.

Repeat the same procedure as for F1.

**Note :** when you set run time and soak time in the F mode, there is only one dot between the hours and the minutes.

***The programming of the F mode is now complete.***

***You automatically return to the standby status screen with current time and day of the week.***


**8 BASIC MENU****8.1. CONTROLLER STANDBY STATUS SCREEN**

You have now completed all programming for automatic irrigation.

In the future, this screen will appear the first time you press any key when the screen is blank.

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The status screen shows the current time and the current day of the week, the ON/OFF position, the battery life status, the mode type by displaying A or AB (P mode) or F1 or F1F2 (F mode), the % (Water Budget), a cloud alone (sensor), a cloud and a sun (Rain Delay). The status screen also shows if a manual start is in progress (a blinking hand appears or a blinking square if it is a delayed start time and manual watering has not yet started ).

By repeatedly pressing the  key, you access additional functions:

## 8.2. OPTIONAL FUCTIONS


### 8.2.1. Set Rain Delay



This function enables the system to stay off in rainy conditions (15 days maximum) with auto-restart.

Use the  key to access this function (after the status screen).

The display shows “rd” and the number 0 together with cloud and sun icons. You can delay watering from 1 to 15 days during rainy weather.




Press  or  to make the setting and use the  key to validate your selection.




The  icon and  appear in the status screen as well as the cross on the sprinkler if you have set the Rain Delay. Each day the controller counts down the number of days remaining before automatic irrigation programs will resume normal watering schedules. Restart is automatic and the cross, the cloud and the sun disappear from the standby status screen.

**Note:** to cancel a Rain Delay, access the screen and reset the number of days to 0. Remember that it is impossible to manually start irrigation during a Rain Delay.

### 8.2.2. Water Budget

The controller has a Water Budget function used to adjust watering time in 10% (+/-) increments.

Press the  key twice after the status screen. The display shows “%”.

Use the  or  keys to increase or decrease the watering time in 10% increments and use the  key to validate your selection.

The Water Budget function is used to adjust watering time from 0 to 200% without re-setting run times. A setting of 100% means that watering will occur according to programmed run times.



The Water Budget has no action on the manual start.

### 8.2.3. Manual Start




Manual start with the possibility to delay start time.

Note that automatic watering run time is maintained even if the manual run time is different.

The WP1-AG automatically offers a manual start time by default. It corresponds to the automatic watering run time of the A program's first start time (P mode) and to automatic watering time of the F1 window (F mode).


Press the  key 3 times after the standby status screen. The display shows a hand with a hourglass icon. 

#### a. Set manual watering run time

You can modify the default watering run time by using  or . Use the  key to validate your selection.

**N.B:** *In the P mode, the watering run time can be from 1 minute to 12 hours.  
In the F mode, the watering time can be from 3 seconds to 99 minutes.*

#### b. Immediate or Delayed Start Time

Once you have validated the manual watering run time, the display shows "dl 00 :00 " 






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You can delay a manual start from 1 minute to 96 hours (4 days) in 1-minute increments up to 12 hours delay and in 15-minute increments over 12 hours.

If you want an immediate start time, set " dl 00 :00 "



Use the  or  keys to program your delayed start time.

Use the  key to validate your selection. The display shows



Press the  key to start.

2 cases :

1/ If there is no delayed start time, the sprinkler stream will blink:



2/ If you have programed a delayed start time, the following display appears





N.B: if you set a delayed manual start and you are in the standby status screen, the screen displays the current mode with a blinking square





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*c. Stop current manual watering*

At any time, you can stop manual watering or the delayed start time.

Return to the screen with the hand icon  or the screenn 

Press the  key. Manual watering will stop 


**8.2.4. System On/Shutdown**

ON/OFF = watering is in progress or shutdown.

The default mode is ON which allows programmed watering time to take place. You can prevent watering (rainy weather shutdown) without changing the scheduled watering programs.

Access **the display with the blinking cross on the sprinkler.**




To prevent watering, press the  key. The cross stops blinking. Watering stays off.



This function will stop any watering in process.

No watering will take place.

To return to the watering mode, press the  key. The cross disappears. Watering will automatically restart according to programmed setting.

## 9. DISPLAY PROGRAMMING

After the ON/OFF screen (sprinkler icon with or without the cross), repeatedly press the  key to display all the screens of your irrigation programs.

When using the  or  keys, it is impossible to modify your programming.

Note that you can only modify your setting by returning to the standby status screen and by simultaneously pressing the  and  keys.

## 10. RESET (ERASE ALL PROGRAMS)

If you want to reset all programs, take out the battery and place a metallic object on the 2 contacts of the WP1-AG battery connectors to generate a short circuit. Reconnect the battery.

**IMPORTANT :** for a prolonged watering shutdown, do not take out the battery but set the program on OFF (§ 8.2.4).

During winter (no water in the system), we recommend that you set your controller ON with active watering. The operation of the solenoid with no water will automatically clean the solenoid plunger during a prolonged shutdown.

When you restart your system, install a new battery and reprogram if necessary.

**GB****DECLARATION OF CONFORMITY TO EUROPEAN DIRECTIVES**

I declare that the WP 1- AG type device, an irrigation controller, conforms to the European Directives 89/336/CEE and 93/31/CEE concerning electromagnetic compatibility. The WP 1- AG type device is battery powered. General information about your WP 1- AG controller is located on the back of the terminal strip.

Aix en Provence, 01/09/03

General Manager

RAIN BIRD EUROPE

Signature

