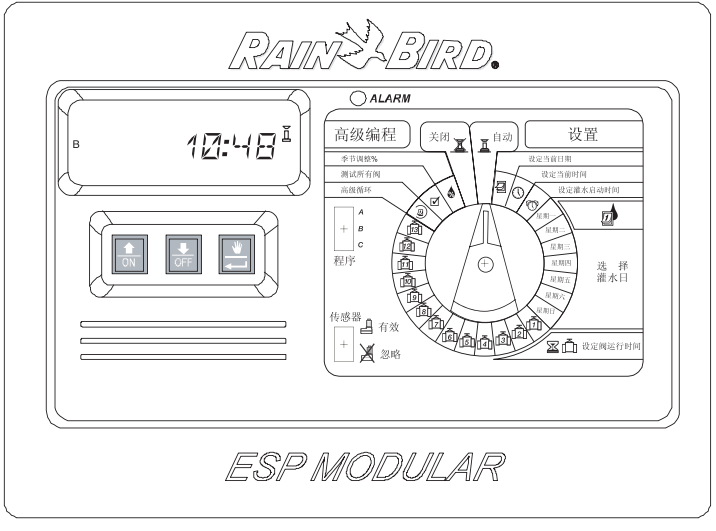
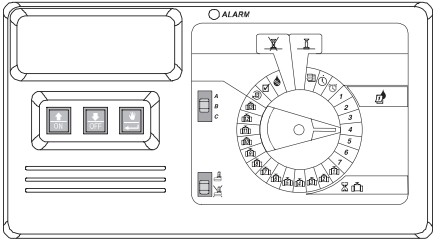
ESP Modular Controller

Installation, Programming
& Operation Guide

ESP模块控制器
安装、编程和操作指南



INSTALLATION



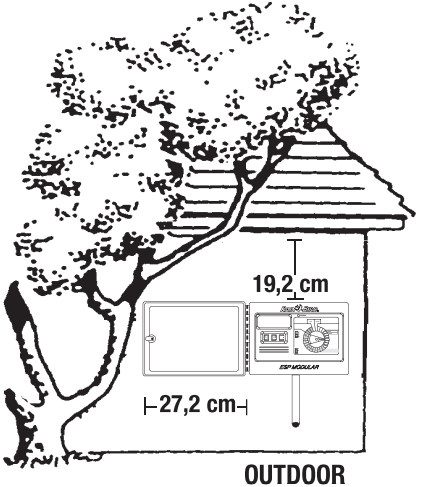
INTRODUCTION

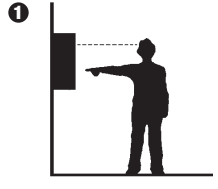
The ESP Modular controller is an irrigation timing device for residential and light commercial use.

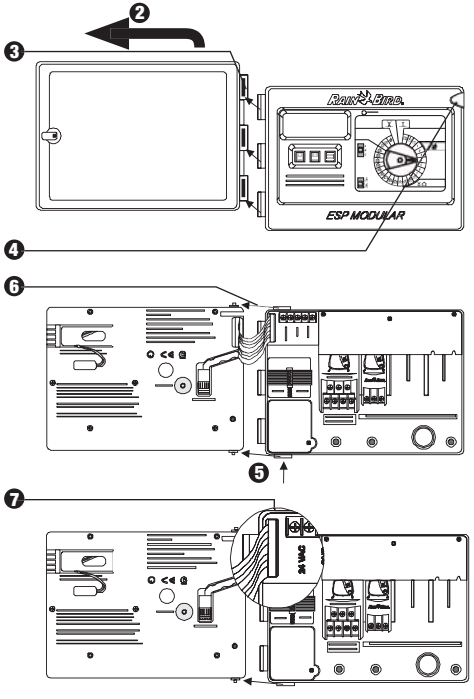
The ESP Modular controller IESP-4M is for indoor and outdoor use.

The basic unit supports four valves and a master valve/pump start relay. With the addition of optional internal modules, the ESP Modular can support up to 12 valves, an auxiliary valve, and a master valve/pump start relay.

I. CHOOSE LOCATION

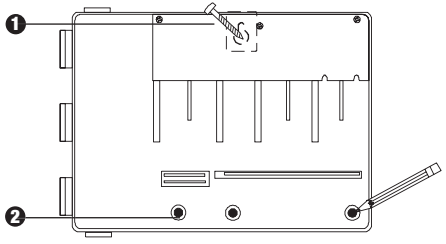




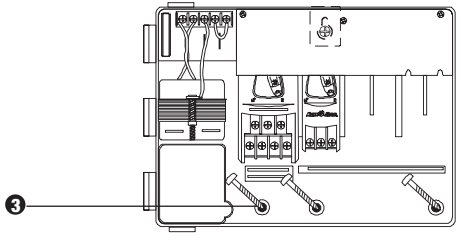


English

I. MOUNTING THE CONTROLLER

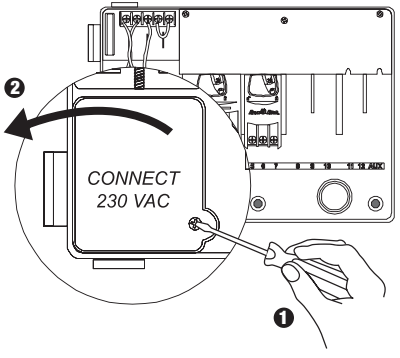


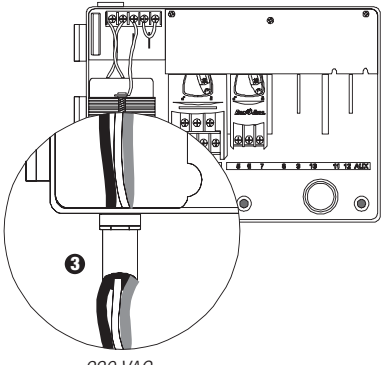
1. Install appropriate fastener for type of wall for keyhole slot. Hang the controller by the keyhole slot.
2. Level the controller & mark position(s) of one or more of the lower mounting hole(s).



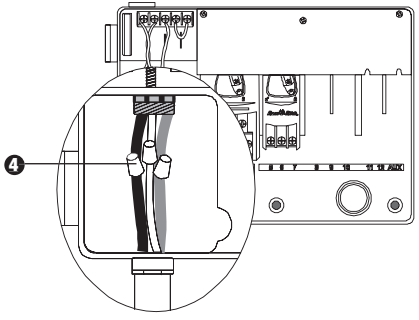
3. Drive the appropriate fastener(s) into the lower mounting hole(s). Verify that the cabinet is secure.

III. WIRING - POWER





230 VAC
Fits 1,3cm conduit fittings.

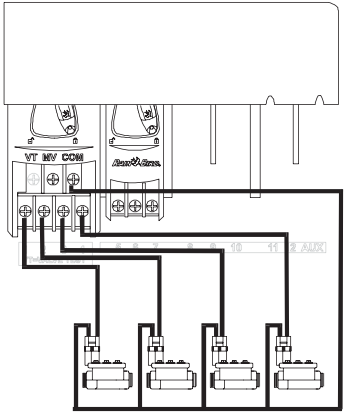


4. Using code-approved wire connector, connect the wires:
   - Brown to Brown
   - Blue to Blue
   - Green/Yellow to Green/Yellow

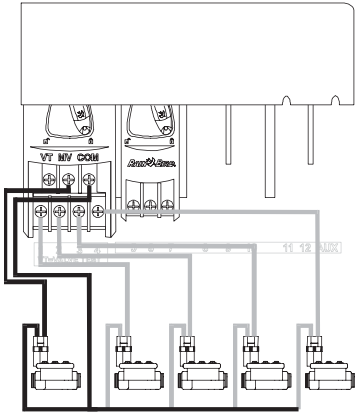
Note: *The green/yellow ground wires MUST be connected to provide additional electrical surge protection.*

IV. WIRING - ELECTRIC VALVES

The ESP modular supports station capacity of up to two 24VAC, 7VA solenoid valves per station plus a master valve or pump start relay.

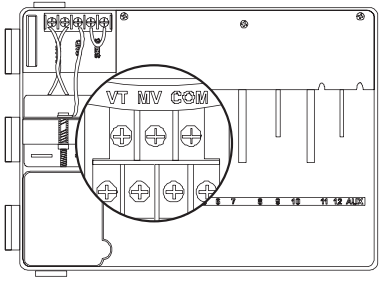


Station Valves



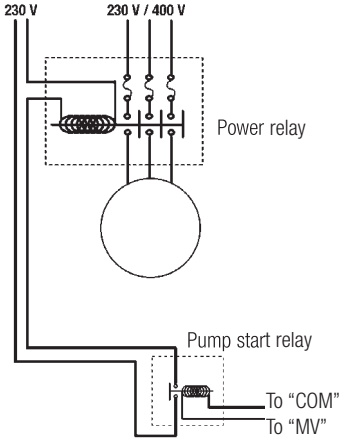
Master Valve

Note: *Complete this section only if your system requires a master valve or pump start relay. The controller does not provide main power for the pump.*



Valve Test Terminal

Valve Test Terminal (VT) provides a constant 24V output (with applied AC power) that can be used to quickly check station valve wiring.

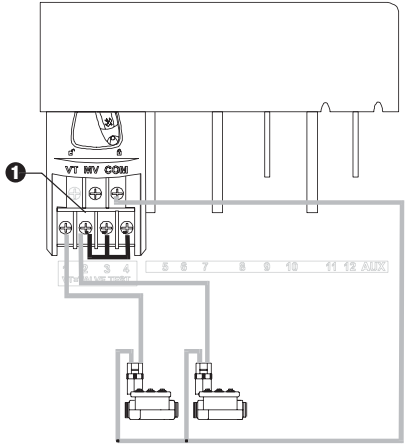


Pump Start

The terminal marked MV is used to automatically start a pump with a relay or to open a master valve. The MV terminal provides power only when one of the stations is operating.

Recommended relays :FINDER 55 32 80 24, HAGER ES-224, TELEMECANIQUE GC 1610B5 or equivalent.

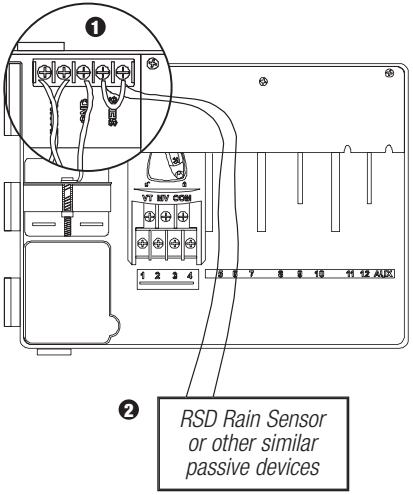
V. JUMPER SETTING FOR UNUSED STATIONS



1. **CAUTION:** To prevent pump damage when using a pump start relay, use a jumper to connect unused stations to a station that is being used.

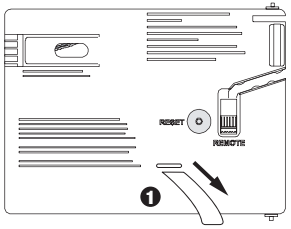
   If unused stations are not jumpered and they are accidentally turned on, the pump may operate with no flow (dead-head). Dead-heading could cause the pump to overheat or burn out.

VI. SENSOR OPTION



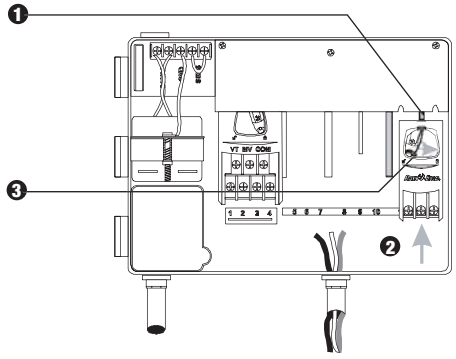
1. If you are not connecting a sensor to the controller, make sure the supplied jumper is installed on the SENS terminals.
2. Rain check or Moisture Sensors should NOT be connected between these terminals, but should only be connected in series with the COM terminal.

VII. BATTERY BACKUP



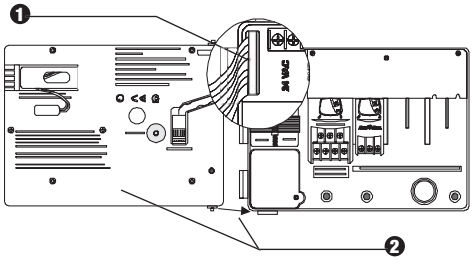
1. Pull to remove.

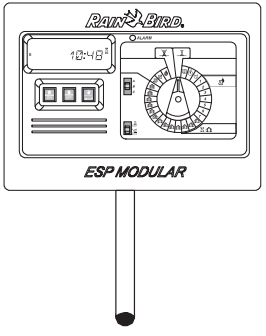
VII. INSTALLING MODULES (for additional valves)



1. You can install optional modules in any position and while the controller is operational.
2. Insert module in any open slot, making sure lever is in the unlocked position.
3. Lock module in place by sliding lever to the right.

IX. FINISHING INSTALLATION

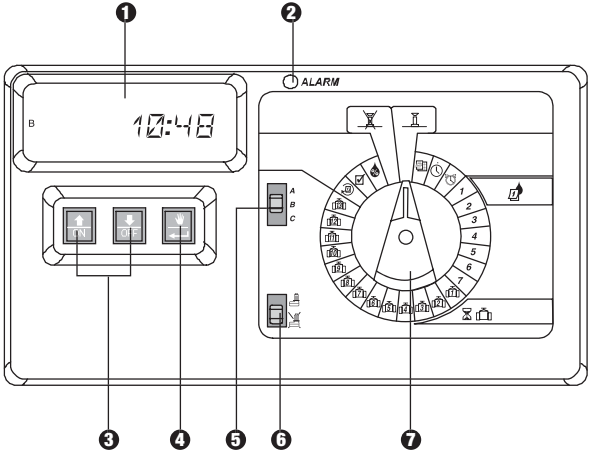




English

CONTROLS AND SWITCHES

The illustration to the right shows the controls, switches, and indicators on the ESP Modular controller, including:



❶ **LCD** – during normal operation, displays the time of day; during programming, shows the results of your commands; during watering, shows the valve that is watering and the minutes remaining in its run time.

❷ **Alarm LED** – turns on when one of the following conditions occurs:

- Watering is suspended by a sensor
- The controller senses a valve short circuit
- A programming error has been made

❸ **Up-Down, ON-OFF Buttons** — used to adjust program settings up or down, or turn watering days ON or OFF.

❹ **Manual Start / Advance Button** — (Manual Start) is used to start an irrigation program or station valve(s) manually. (Advance) is used to sequence through programming steps or set values.

❺ **Program Slide Switch** — used to select watering program A, B, or C.

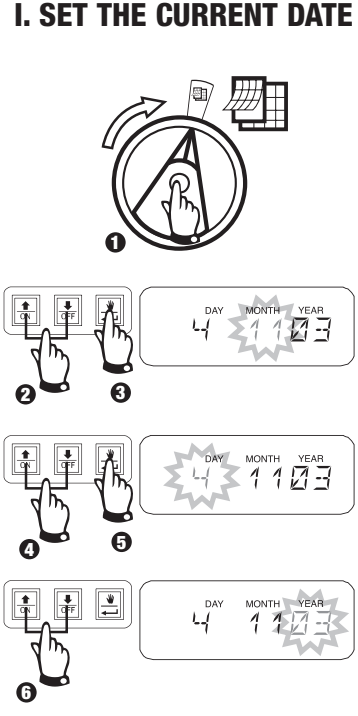
❻ **Sensor Bypass Switch** —used to tell the controller to obey ( ) or ignore ( ) input from an optional sensor.

❼ **Programming Dial** — used to turn the controller off and on, and for programming.

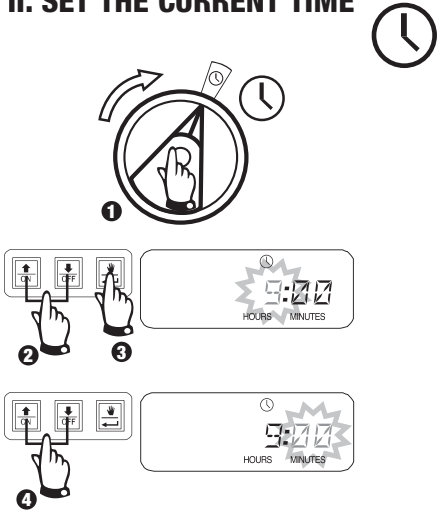
PROGRAMMING

English

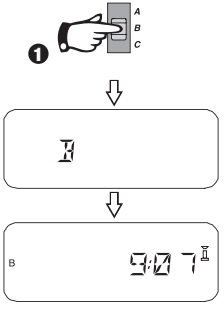
I. SET THE CURRENT DATE



II. SET THE CURRENT TIME



III. SELECT PROGRAM

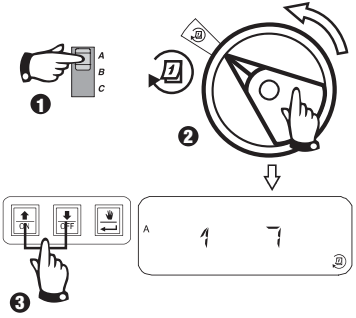


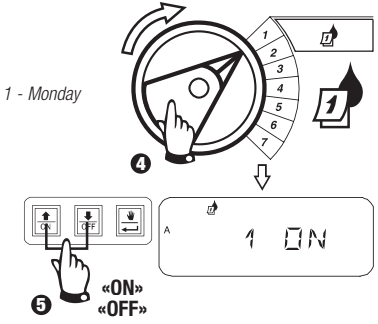
IV. SELECT WATERING CYCLE

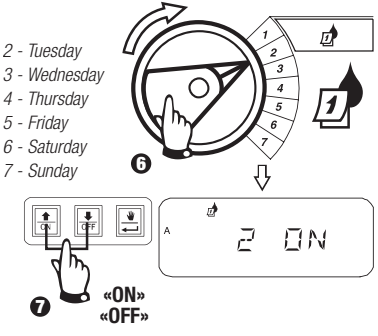
Each program can operate in one of four watering cycles. Select the cycle you need and follow corresponding instructions.

- **1 7:** Waters on the days of the week you select.
- **2 4 6:** Waters on even calendar days.
- **1 3 5:** Waters on odd calendar days.
- **1 31:** Waters on a selected ___ day interval (i.e. every other day or every third day, etc.)

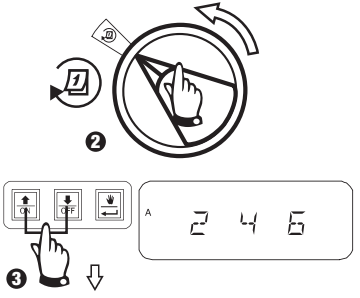
A. 1 7 (Custom / Day of Week)

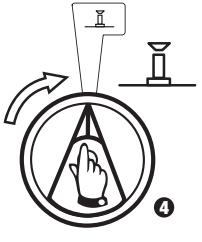






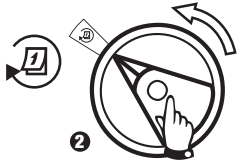
B. 2 4 6 / 1 3 5 (Even/Odd Calendar Days)

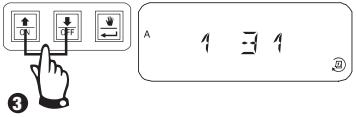


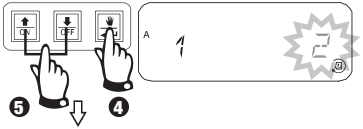


IV. SELECT WATERING CYCLE (continued)

C. 1 31 (Cyclic)







2 = 1 2 3 = 1 2 3

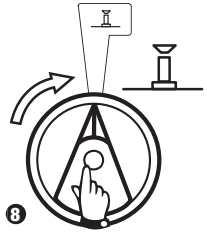
4 = 1 2 3 4 5 = ...

2 = water cycle starts today

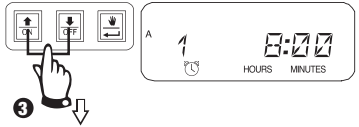
1 = water cycle starts tomorrow

2 = water cycle starts 2 days from today

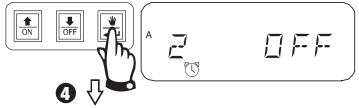
3, 4 ... = water cycle starts __ days from today



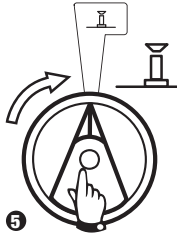
V. SET PROGRAM WATERING START TIMES



To eliminate a watering start time, press ⇧ or ⇩ until "OFF" setting between 23:45 and 0:00H appears.

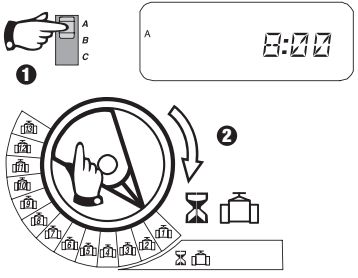


To set additional start times for this program, press ↵ to display next start time. Repeat as needed.

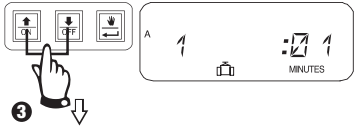


VI. SET VALVE WATERING RUN TIME

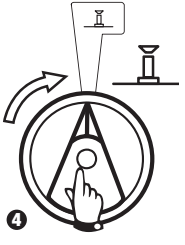
You can set any valve to run from 0 to 6 hours (1-minute increments for first 1 hour, 10-minute increments for the remaining.)



Note: *If you turn dial to a valve number with no installed module, the message "NO 5 - 8", "NO 9 - 10", "NO 11 - 13" appears on the display.*



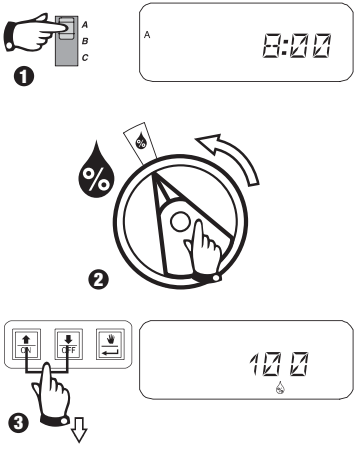
Use to adjust run time up or down. If you do not want the valve to water for the selected program, set run time to 0. Repeat 2-3 for the selected program. Repeat 1-3 as needed for programs B or C.



Caution: *If all valve run times are set to 0, the alarm LED will turn on.*

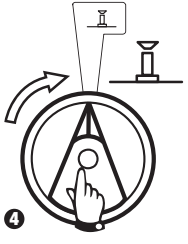
VII. SET SEASONAL ADJUST % (Water Budget)

This function lets you increase or decrease the run times of all valves globally by a selected percentage. You can set the % from 0-200%. This setting will affect ALL programs globally.



Use to adjust time up or down. Default is 100%.

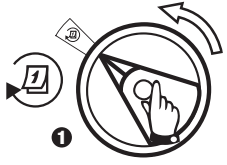
Seasonal adjust % is calculated on the normal programmed run times for each valve. For example, if valve 1 is set to run for 10 minutes, and you set it to 120%, valve 1 will run for 12 minutes.

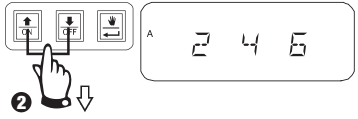


Caution: *If a value other than the default 100% is entered, the will be displayed in AUTO mode to indicate run time values are adjusted.*

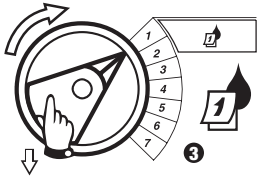
VIII. SET PERMANENT DAY OFF

For 2 4 6 (Even) / 1 3 5 (Odd) / 1 31 (Cyclic) watering cycles, you can set any day of the week as a non-watering day to accommodate restrictions or other requirements.

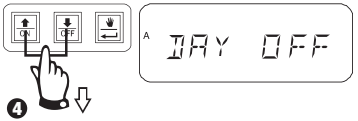




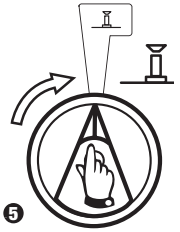
This feature applies to 2 4 6 (Even) / 1 3 5 (Odd) / 1 31 (Cyclic) watering cycles.



Select day of week

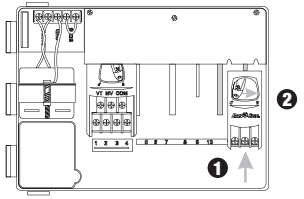


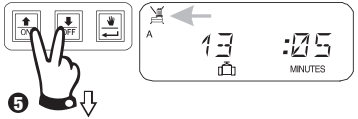
Press OFF to set as non-watering day. Press ON to restore watering.



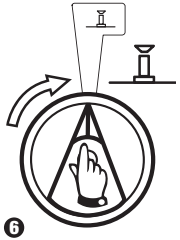
IX. AUXILIARY VALVE OPERATION

The Auxiliary valve terminal (valve 13) can operate as a normal station or can be programmed so that it is not affected by an activated sensor. When programmed this way, the auxiliary terminal can be used to connect non-irrigation equipment such as patio fountains or landscape lighting.



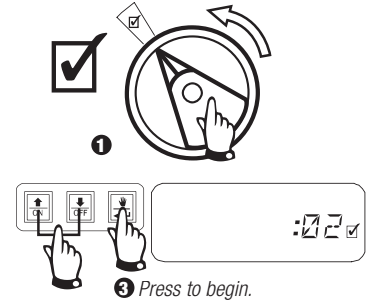


Press ⇧ and ⇩ at the same time until the is displayed indicating that this valve is not affected by the sensor. To restore, press both buttons again until disappears.



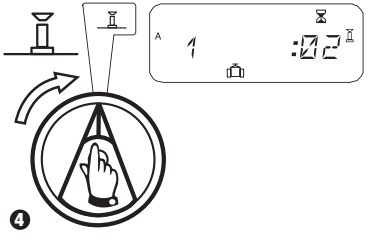
X. TEST ALL VALVES ☑

This function will run all equipped valves in sequence for the amount of time set. Default is 2 minutes.



❸ *Press to begin.*

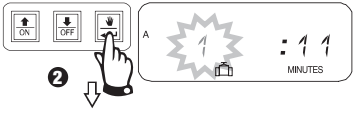
❷ *Default is 2 minutes.*



❹

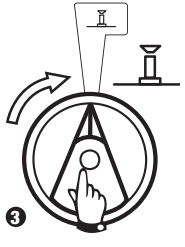
XI. RUN VALVE(S) MANUALLY

❶

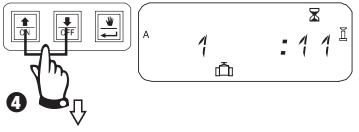


❷

Repeat steps 1 - 2 to manually start additional valves.



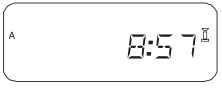
❸



❹

You can adjust manual run time up or down.

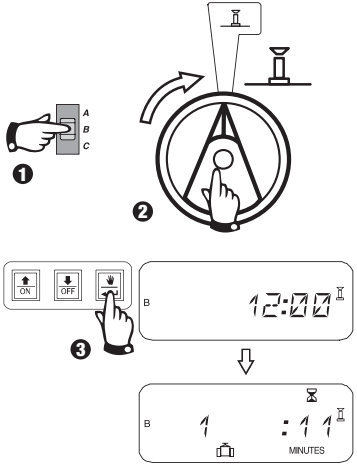
To cancel, turn dial to ⧖ for 3 seconds.
Return dial to 𓊽.



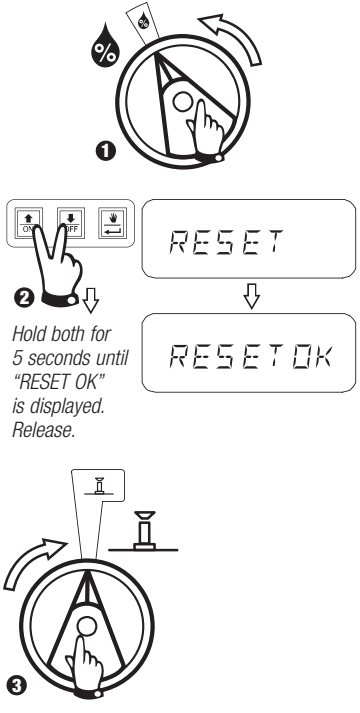
❺

System will display current time after manual watering completes.

XII. RUN PROGRAM MANUALLY



XIII. CLEAR ALL PROGRAM INFORMATION



Hold both for 5 seconds until "RESET OK" is displayed. Release.

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Program does not come on automatically.	1. Dial is set to OFF position.	Set the dial to AUTO.
	2. Start time has not been entered for the program.	Turn the dial to SET WATERING START TIMES and check the start times entered for the program. If the start time is missing, enter it as described on page 11.
	3. Today may not be a watering day for the program.	Select the program, and turn the dial to ADVANCED CYCLES. Check the watering days for the program.
	4. Permanent Day(s) Off feature is preventing watering.	If the Permanent Day(s) Off feature has been set properly, no correction is needed. To change the Permanent Day(s) feature, see page 13.
	5. Program's Seasonal Adjust percent is set to 0%.	Set the Seasonal Adjust percent above 0%. See the instructions on page 12.
Display shows a valve operating, but no watering	6. Sensor system is preventing irrigation.	Turn the sensor switch to BYPASSED. If watering resumes, the sensor is operating properly, and no correction is necessary.
	7. No sensor or jumper is connected to the controller's SENS terminals, and the sensor switch has been set to ACTIVE.	Turn the sensor switch to BYPASSED. To prevent future occurrences, install the supplied jumper on the controller's SENS terminals.
Valve does not come on.	8. No run time has been set for the valve.	Turn the dial to the valve number, and set the program switch to check the run time for the valve in each program.
	9. A short circuit in the solenoid or valve wiring has disabled the station. (ALARM LED on the faceplate is lit.)	The display will show "# Err," where # is the valve number at fault. Identify and repair the fault in the circuit. If "MV Err" occurs, repair the fault. With the dial in AUTO, press the ↵ ADVANCE button to clear the Alarm LED.

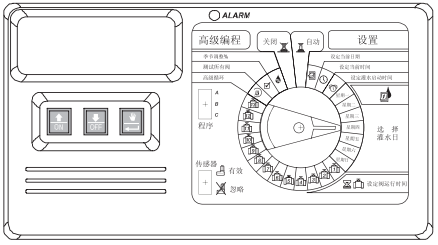
TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTION
	10. The sensor system is preventing irrigation.	See correction for Cause #6.
	11. Start time has not been entered for the program to which the valve is assigned.	See correction for Cause #2.
	12. Seasonal Adjust for the valve's program is set to 0%.	See correction for Cause #5.
Display is partially or completely blank.	13. An electrical surge or lightning strike has damaged the controller's electronics.	Push the RESET BUTTON. If the electrical surge did no permanent damage, the controller will accept programming commands and function normally.
Watering starts when it should not.	14. MANUAL START / ADVANCE key has been pressed.	To cancel a program that has been manually started, set the dial to OFF for three seconds. Then set the dial back to AUTO.
	15. An unwanted start time may have been entered.	Turn the dial to SET WATERING START TIMES and check to see if any programs have an unwanted start time. See page 11 for instructions on setting and eliminating start times.
	16. The programs may be stacked.	Programs will stack behind each other if they are scheduled to start while another program is running. Make sure Programs A, B, and C are not scheduled to start when any other program is scheduled.

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Alarm LED is lit	17. No start time.	All start times have been removed. Enter at least one start time and set the dial back to AUTO. The LED will turn off.
	18. No run times.	The default 10-minute run time for all active valves has been removed. Enter a run time for at least one active valve and set the dial back to AUTO. The LED will turn off.
	19. Seasonal adjust is at 0%.	The seasonal adjust % value has been set to zero. Enter a seasonal adjust value and set the dial back to AUTO. The LED will turn off.
	20. Shorted station.	A short circuit in the solenoid or valve wiring has disabled the station. See correction for Cause #9.

安装

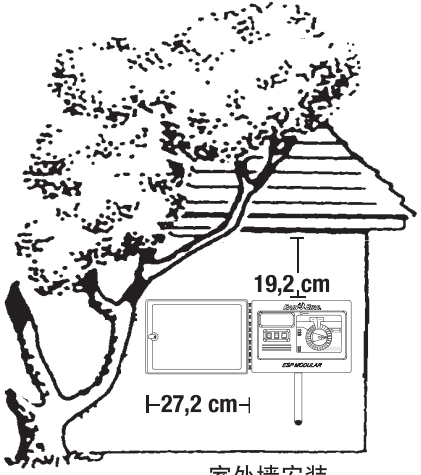


介绍

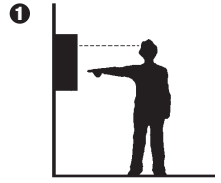
ESP 模块控制器是一种用于住宅和照明等商业用途的灌溉定时装置。ESP 模块控制器可用于室内和室外。

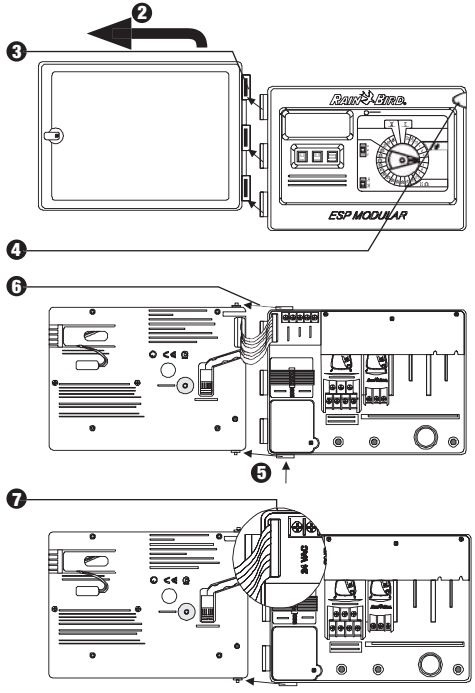
基本配置支持4个阀门和一个主控制阀/泵的启动继电器。由于可选择添加内部模块，ESP模块最多可支持12个阀门，一个辅助阀门和一个主阀/泵启动继电器。

选择位置



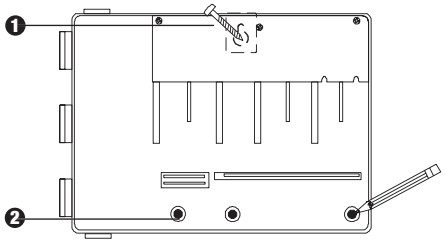
室外墙安装





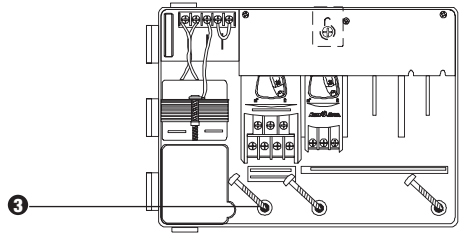
中文

I. 安装控制器



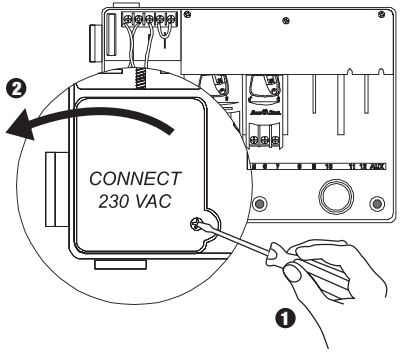
❶ 根据墙体类型和螺栓孔正确安装紧固螺钉。用螺钉悬挂控制器。

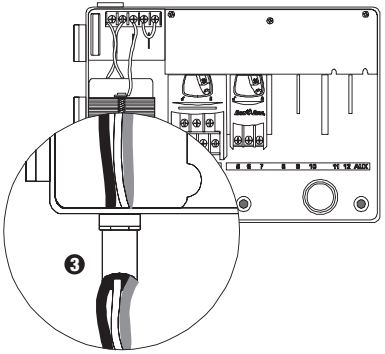
❷ 将控制器调整水平并标记出下面的一个或多个安装孔。



❸ 将合适的螺钉拧入下面的安装孔，检查控制箱的安全性。

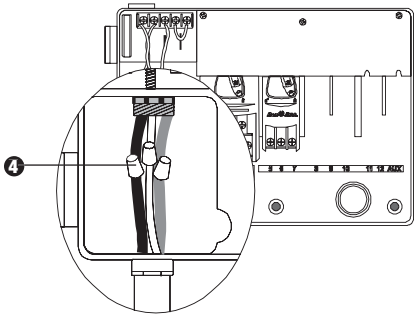
III. 电源线连接





230 VAC

配装1,3 cm管

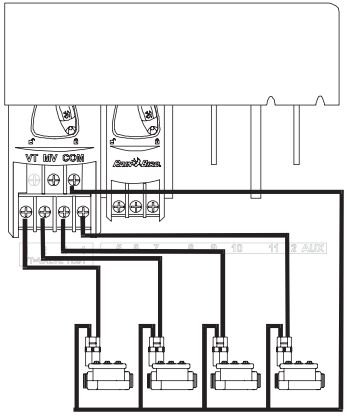


❹ 用核准编号的电缆接头
连接电线:
- 棕色对棕色
- 蓝色对蓝色
- 绿/黄色对绿/黄色

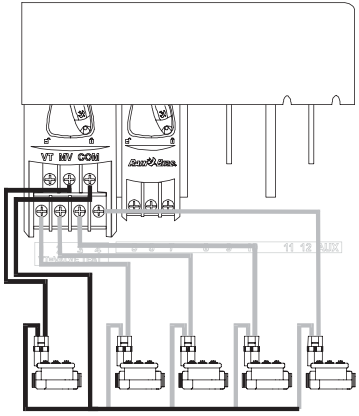
注意:
绿/黄色地线必须连接到所提供的附加电涌保护装置上。

IV. 电磁阀电线连接

ESP模块的站点承载能力为2个24VAC， 7VA 电磁阀加一个主阀门或泵启动继电器。

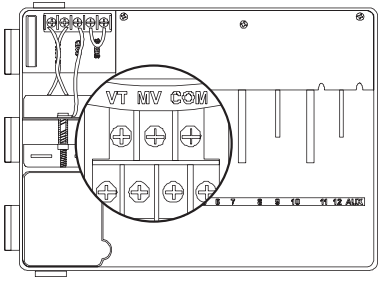


站点阀门



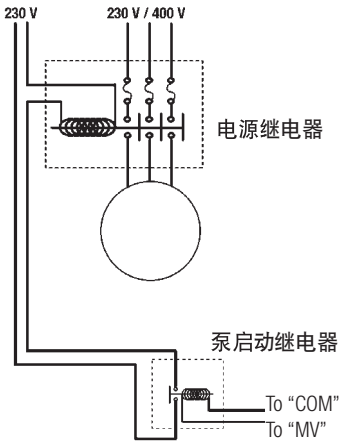
主阀

注意:
只有在系统需要主阀或泵启动继电器时，完成此部分连接。控制器不为泵提供主动力。



阀门检测终端

阀门检测终端（VT）提供持续的24V输出电源（带有外加交流电源），能够快速检测站点阀门连线。



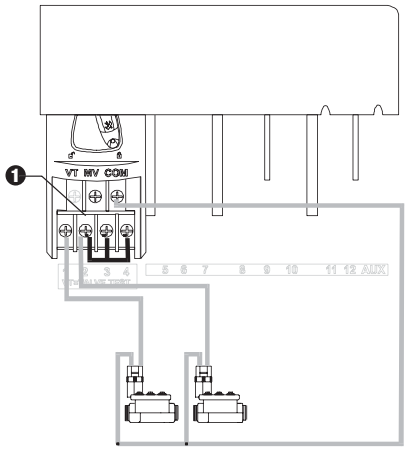
泵启动:

标记为MV的端子通过继电器自动启动泵或打开主阀门， MV端子只在其中一个站点工作时才供电。

推荐继电器FINDER 55 32 80 24, HAGER ES-224, TELEMECANIQUE GC 1610B5 或与之相当的继电器。

中文

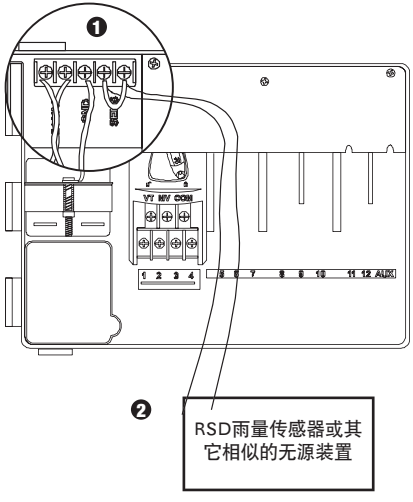
V. 未使用站点的跳线设置



❶ 警告: 为避免泵在使用泵启动继电器时受到损坏，用跳线将未使用的站点和一个正在使用的站点连接起来。

如果未使用的站点没有被设置跳线并且被意外打开了， 泵会在没有水流的情况下运行（空载运行），空载运行会引起泵过热或烧毁。

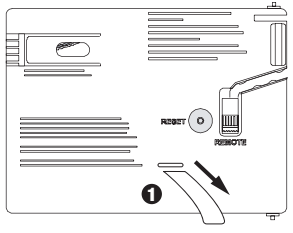
VI. 传感器选项



❶ 如果控制器没有连接传感器，要确保所提供的跳线被安装在传感器端子上。

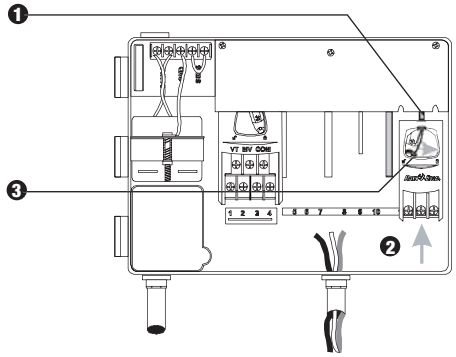
❷ 雨量检测或湿度传感器不应连接在这些端子之间，只可以与COM终端串联。

VII. 备用电池



❶ 拉开以取下。

VII. 安装模块（用于附加的阀门）

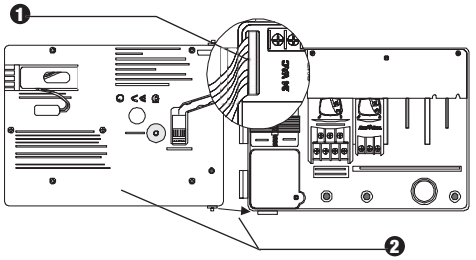


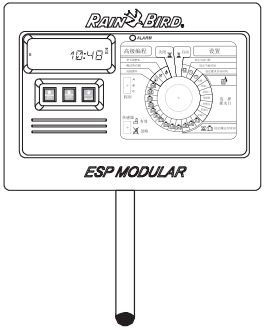
❶ 你可以将选择的模块安装在任何位置，并且可以在控制器运行时安装。

❷ 确认控制杆处于开锁位置，将模块插入任意空余的槽。

❸ 向右滑动控制杆，将模块锁定在正确位置。

IX. 完成安装

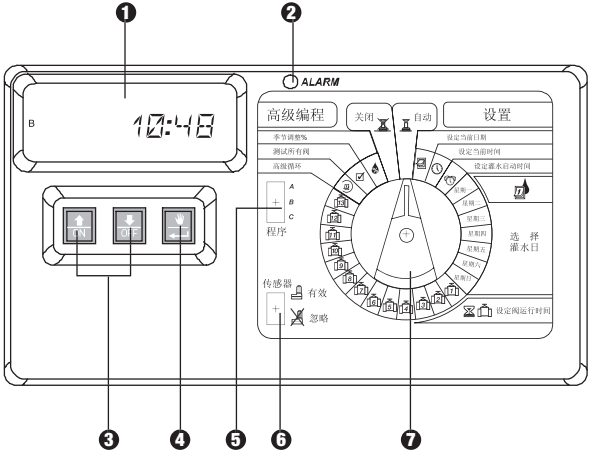




中文

控制和开关

右图可见ESP模块控制器上的控制装置、开关和指示器，包括



❶ LCD — 正常工作时显示时间；编程过程中显示所输入指令的结果；灌水过程中，显示正在灌水的阀门及其剩余的灌水时间。

❷ 报警LED — 当以下情况发生时开启:

- 灌水被传感器暂停工作
- 控制器发现阀门短路
- 编程出现错误

❸ 上-下，开-关键 — 用于向上或向下调节程序设置，或调节灌水日开或关

❹ 手动开始/确认键 — ✋（手动开始）用于手动开启灌水程序或站点阀门。↵（确认）用于按顺序通过编程的步骤或设置阀门。

❺ 程序滑动开关 — 用于选择灌水程序A，B或C

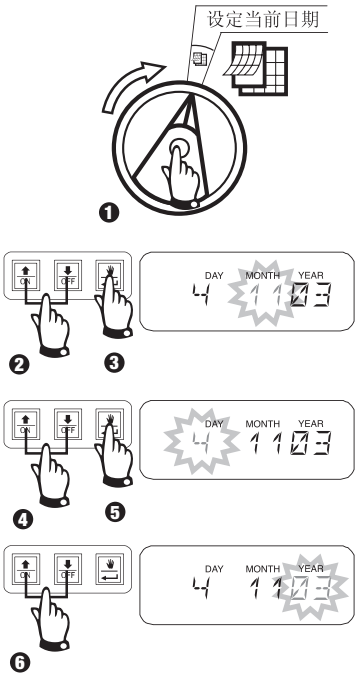
❻ 传感器旁路设置开关 — 用于告诉控制器遵照或忽略从可选择的传感器输入的信息。

❼ 编程转柄 — 用于控制器打开和关闭，并用于编程。

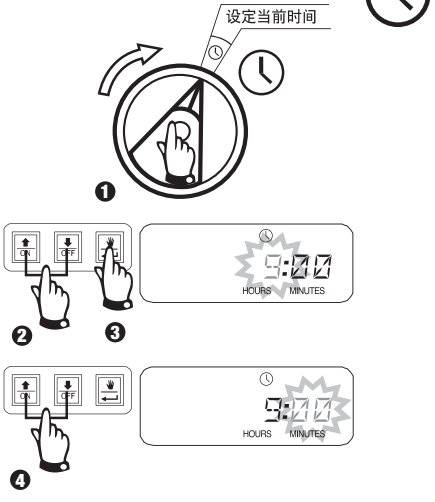
编程

中文

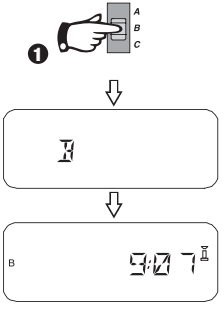
I. 设定当前日期



II. 设定当前时间



III. 选择程序



IV. 选择灌水循环

每个程序可运行四个灌水循环中的一个。选择需要的灌水循环并依照相应的用法说明。

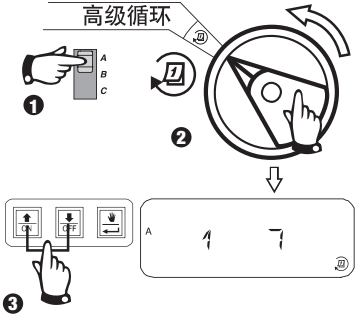
1 7: 选择按星期循环方式灌水你

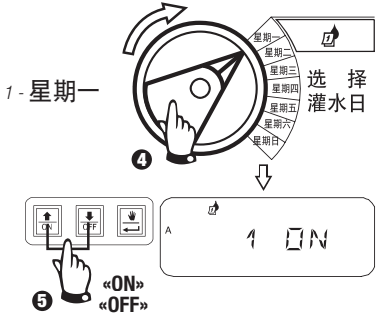
2 4 6: 按日历偶数天循环方式灌水

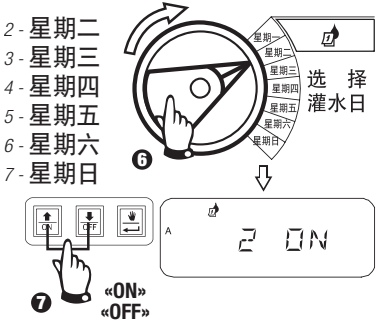
1 3 5: 按日历奇数天循环方式灌水

1 31: 按选定的每--天循环方式灌水（如: 每隔一天或每三天，等等）

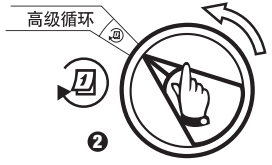
A. 1 7 按星期循环方式灌水你选择

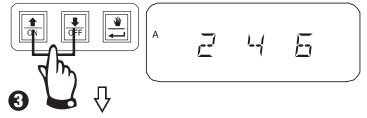






B. 2 4 6 / 1 3 5 （日历偶数/奇数日）



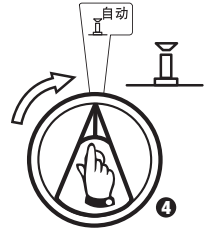


1 3 5 =

1 2 3 4 5 6 ...

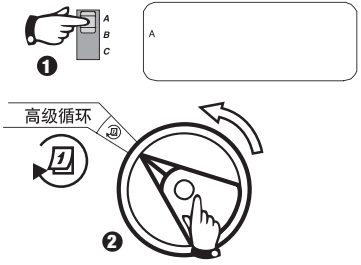
2 4 6 =

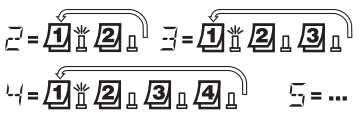
1 2 3 4 5 6 ...



IV. 选择灌水循环（续）

C. 1 31（循环）



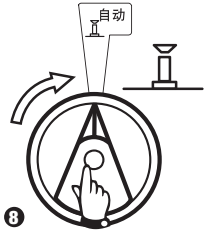


☑ = 灌水循环今天开始

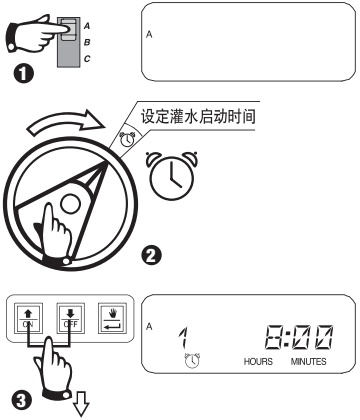
1 = 灌水循环明天开始

2 = 灌水循环从今天起2天后开始

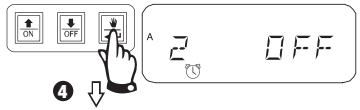
3, 4... = 灌水循环从今天起 ____ 天后开始



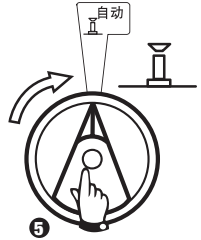
V. 设置程序灌水启动时间



要取消灌水启动时间，按⇧或⇩直到设置在23:45 和 0:00H之间的”OFF” 出现。



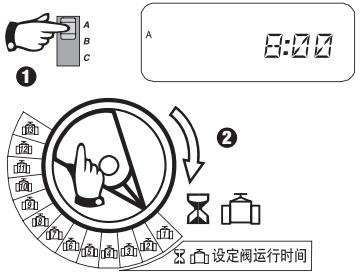
要为该程序设置另外的开始时间，按 ⮠ 显示下一个启动时间，按照需要重复。



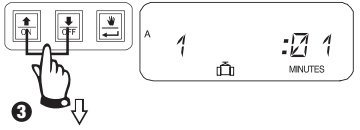
中文

VI. 设置阀门灌水运行时间

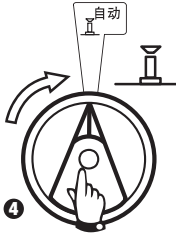
可以设置任何一个阀门运行0至6小时（前1小时以1分钟递增，剩余时间以10分钟递增）



注意：如果将转柄转到了没有安装模块的阀门编号上，“NO 5 – 8”，“NO 9 – 10”，“NO 11 – 13”信息会在显示器上出现



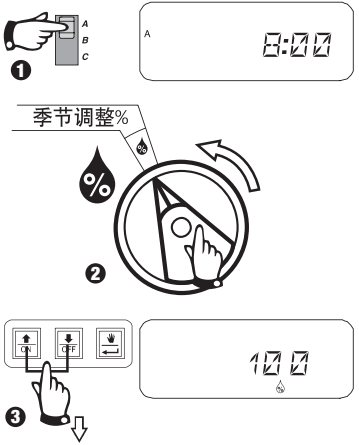
用向上或向下键调整运行时间。如果不想让阀门为选定的程序灌水，设置运行时间为 0。对于选定的程序，重复2–3。对于程序B或C，按需要重复1–3



警告：如果所有的阀门运行时间都设置为0，报警LED将打开。

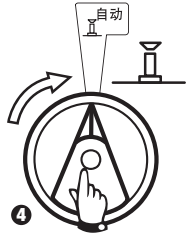
VII. 设置季节调整%（灌水比率）

此功能可以通过选择百分数整体增加或减少所有阀门的运行时间。可以从 0 到 200% 设置百分数。此设置将整体影响所有程序。



用来向上或向下调整时间，默认值为 100%。

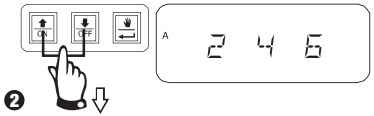
季节调整百分比是根据为每个阀门而编入程序的正常运行时间来计算的。例如：如果阀门1设置运行时间为 10 分钟，且你设定季节调整百分比为 120%，阀门1将工作 12 分钟。



警告：如果输入了默认值100%以外的数值，将以AUTO模式显示，表明运行时间的数值被调整了。

VIII. 设置停灌日

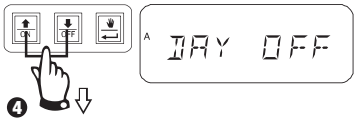
对于2 4 6（偶数）/ 1 3 5（奇数）/ 1 31（循环）的灌水循环方式，可设置一周内的任意一天为非灌水日来符合某些限制条件或其它要求。



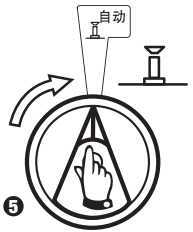
1 3 5／2 4 6／1 3 1

此特点适用2 4 6（偶数）/ 1 3 5（奇数）/ 1 31（循环）的灌水循环方式。

选择星期循环方式

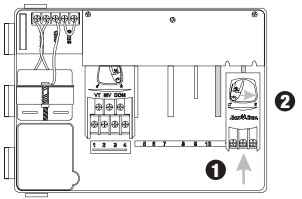


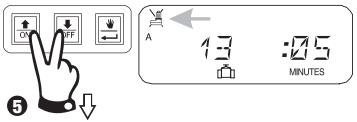
按“OFF”“关闭”键设置非灌水日。按 “ON”“开始”键恢复灌水。



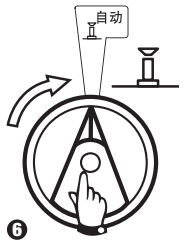
IX. 辅助阀门操作 13

辅助阀门端子（阀门13）能够作为正常的站点进行操作或通过编程使它不受激活的传感器信号影响。当以这种方法对其编程时，该辅助终端能用来连接非灌溉设备，如喷泉或景观照明。





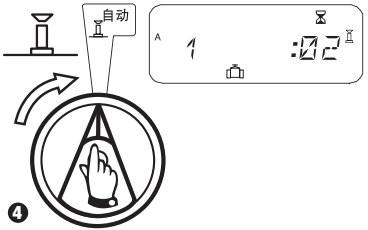
同时按⇧和⇩键直到显示，表明此阀门不受传感器影响。如果恢复，再同时按这两个键直到消失。



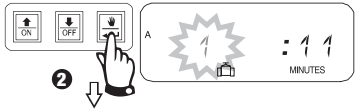
X. 检测所有阀门

此功能按照设置的阀门运行时间顺序地运行所有装配好的阀，默认值为2分钟。

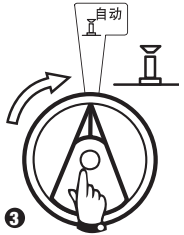
❸按键以开始
❷默认值为2分钟

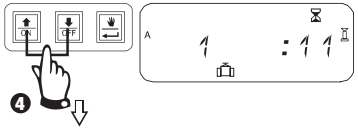


XI. 手动运行阀门



重复步骤1–2，手动启动附加的阀门。



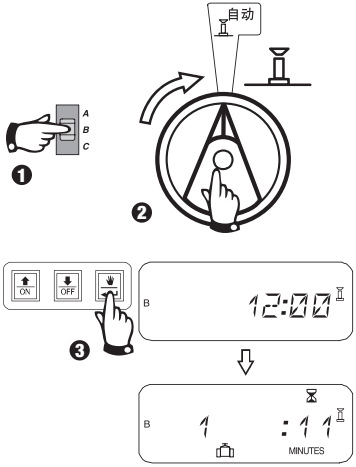


能够向上或向下手动调整运行时间。

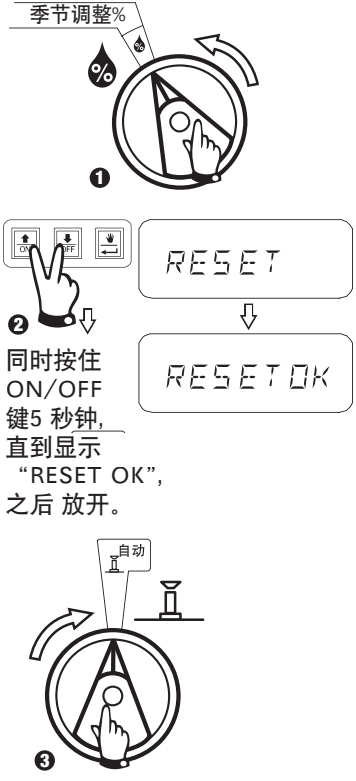
要取消，将转柄指向 3 秒钟。再将转柄转到。

手动灌水完成后，系统将显示当前时间。

XII. 手动运行程序



XIII. 清除所有程序信息



同时按住 ON/OFF 键5 秒钟, 直到显示 “RESET OK”, 之后 放开。

故障排除

故障表现	可能的原因	解决方法
程序没有自动执行	1. 转柄处于OFF位置。	将转柄设置在AUTO。
	2. 程序启动时间没有输入。	将转柄调至设定灌水启动时间并检查已输入程序的灌水启动时间。如果启动时间丢失，按照第 27 页说明输入。
	3. 今天可能不是程序中的灌水日。	选择程序并将转柄调至高级循环，检查程序中的灌水日。
	4. 长期停灌日功能起作用，正在防止灌水。	如果长期停灌日功能已正确设置，不需要修改。如果改变长期停灌日功能，见第 29 页。
	5. 程序的灌水比率设定为0%。	将灌水比率设置为大于 0%。见第 28 页指南。
显示器显示一个阀门正在工作，但没有在灌水。	6. 传感器系统正在防止灌水。	将传感器开关调至旁路设置，如果灌水恢复，则传感器工作正常，不需要修改。
	7. 没有传感器或跳线与控制器的传感器端子连接，并且传感器的开关已被设置为激活。	将传感器开关调至旁路设置状态。为避免将来发生此类情况，将提供的跳线安装在控制器的传感器端子上。
阀门没有工作	8. 没有设置阀运行时间。	将转柄调至出问题的电磁阀编号，并设置程序开关以检查每个程序中的该阀的运行时间。
	9. 螺线管或阀门接线由于短路而损坏该站点（面板上的报警发光二级管闪亮）。	显示器显示“# Err,”， # 为故障阀编号。确定并维修电路故障。如果“MV Err”出现，维修故障，将转柄调至自动，按确认键清除警报。

故障排除

故障表现	可能的原因	解决方法
	10. 传感器系统正防止灌水。	解决方法见原因的第6条。
	11. 该阀所属的程序没有设定启动时。	解决方法见原因的第2条。
	12. 电磁阀的程序中灌水比率设置为0% 。	解决方法见原因的第5条。
显示器部分或完全空白。	13. 电涌或雷击损坏了控制器的电子管。	推动位于前面板后面的重新启动键。如果电涌并未导致永久损坏，控制器将接受程序指令并正常工作。
在不该灌水时开始灌水。	14. 手动开始/确认键被按下。	取消已被手动启动的程序，将转柄调至 “关闭”位置3秒钟，然后将转柄重新设置在 “自动”位置。
	15. 可能输入了多余的启动时间。	将转柄调至 “设定灌水启动时间”位置检查是否程序中有多余的启动时间。见第 27 页关于设置和取消启动时间的说明。
	16. 程序可能发生重叠。	如果程序预定启动时间在另一程序正在运行时，将造成程序互相重叠。确保程序A,B和C所预定的启动时间与其它程序预定的时间不重叠。

故障排除

故障表现	可能的原因	解决方法
报警发光二级管闪亮	17. 没有启动时间<图标>	所有启动时间被去除，输入至少一个启动时间并将转柄调回自动位置。该发光二极管将关闭。
	18. 无运行时间	所有工作的电磁阀的默认10分钟运行时间被去除。为最少一个工作的电磁阀输入一个运行时间，并将转柄调回自动位置，该发光二极管将关闭。
	19. 灌水比率设在0%。	灌水比率的值被设置在零。输入一个灌水比率的值并将转柄调回到自动位置，该发光二极管将关闭。
	20. 站点短路。	螺线管或阀门接线短路损坏了该站点。解决方法见原因的第9条。

RAIN BIRD®

Controls Mfg. Division

Declaration of Conformity

Application of Council Directives: 89/336/EEC
73/23/EEC

Standards To Which Conformity Is Declared	**EN55022 Class B, AS/NZ3548** **EN61000-3-2** **EN61000-3-3** **EN50082-1: 1998** **EN61000-4-2** **EN61000-4-3** **ENV50204** **EN61000-4-4** **EN61000-4-6** **EN61000-4-8** **EN61000-4-11**
	EN 60335-1: 1995 Safety of household and similar electrical appliances
Manufacturer:	**Rain Bird Corporation - Controls Mfg. Division – USA** **7590 Britannia Court,San Diego, CA 92154** **(619) 661-4400**
Importer:	**Rain Bird Europe, S.A.R.L. - France** **BP72000** **13792 Aix-en-Provence Cedex 3** **(33) 442 24 44 61** **Rain Bird Australia Pty Ltd.** **ACN 004 644 446** **P.O Box 11 Harrisville Qld. 4307**
Equipment Description:	**Irrigation Controller**
Equipment Class:	**Generic-Res, Comm, L.I.**
Model Number:	ESP-4M, ESP-4Mi, IESP-4M, IESP-4Mi

I the undersigned, hereby declare that the equipment specified above, conforms to the above Directive(s) and Standard(s).

Tijuana B. C., Mexico
Place

Signature

John Rafael Zwick
Full Name

General Manager
Position

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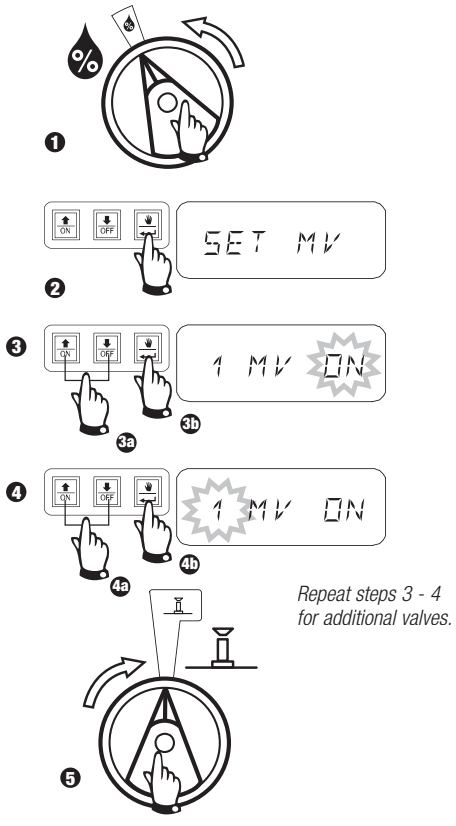
P/N 636292A

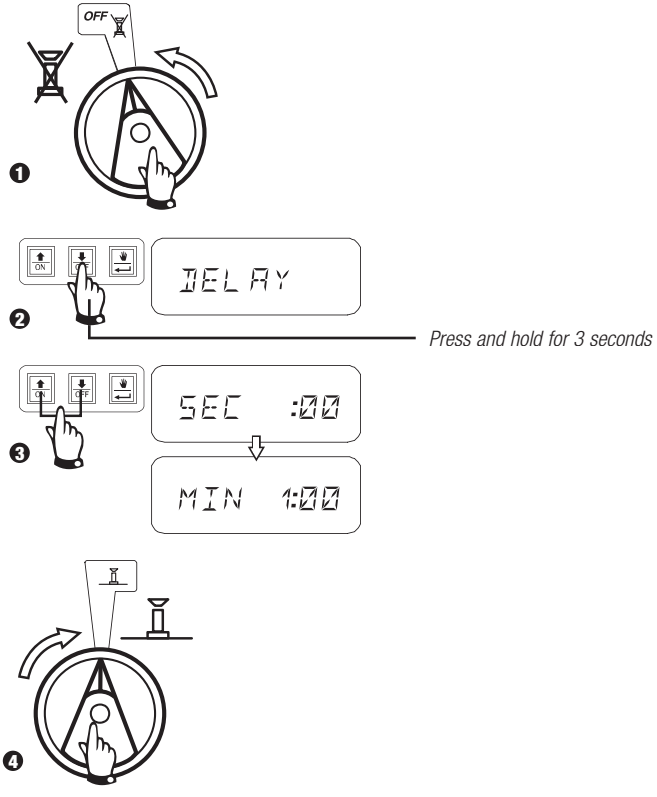
English

SET MASTER VALVE / PUMP OPERATION



Repeat steps 3 - 4 for additional valves.

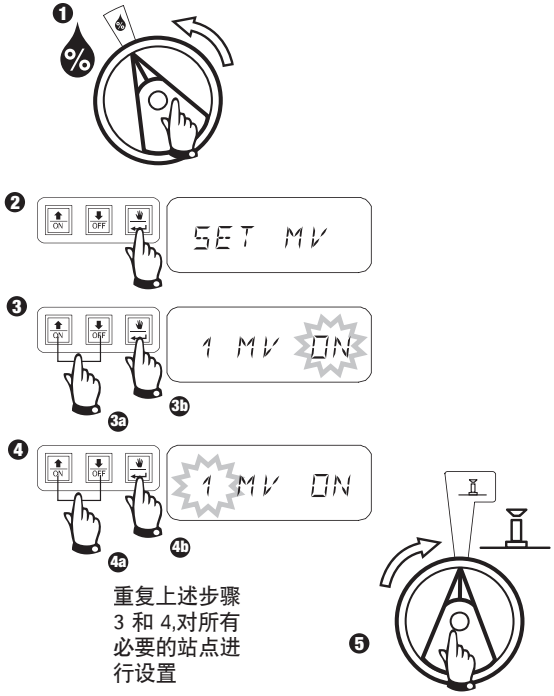
PROGRAM DELAY BETWEEN STATION



中文

设置泵/主控制阀的操作

控制器的主模块 0 上有一个主控制阀（MV）端子。有些系统要将一个升压泵连接到主控制阀终端并需要在某些地区启用,而其它系统则不必这样。缺省设置表示所有站点的主控制阀电路都位于 “ON”（打开）位置。要对主控制阀电路/泵的操作进行编程,请

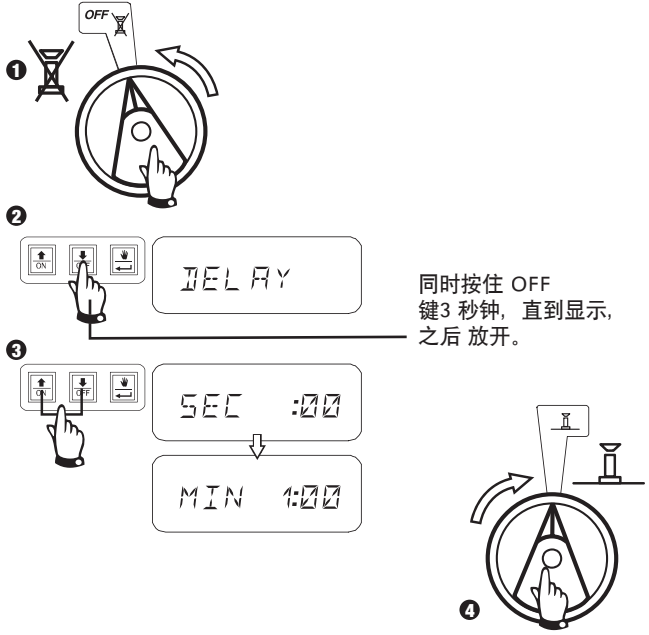


重复上述步骤 3 和 4,对所有必要的站点进行设置

可编程的站点间延时

此功能使用户可以增加从一个站点关闭到下一个站点打开之间的时间延迟。对于那些恢复时间慢的泵站系统或控制阀关闭慢的系统来说,这项功能非常有用。

用户可以设置一个通用于所有程序的站点间延迟时间。延时设定值的范围是 0 秒(缺省值)到 9 个小时。5 分钟之内的延时可以 1 秒种为增量进行设定,更长的延时设定值增量则为 1 分钟。



雨鸟ESP模块控制器安装、编程和操作指南