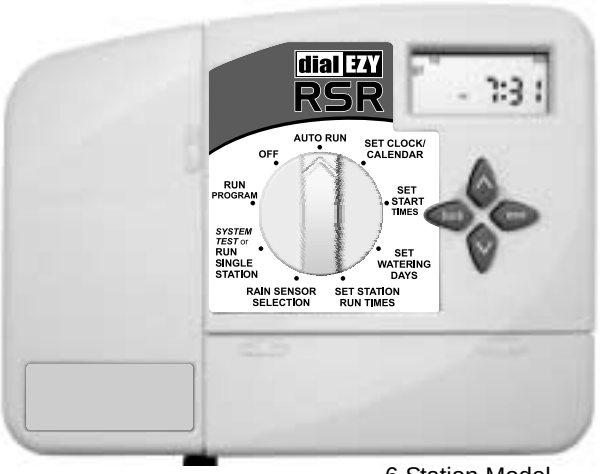
dial EZY RSR

IRRIGATION CONTROLLER



6 Station Model

INSTRUCTION MANUAL

SUITABLE FOR **INDOOR USE ONLY** OTHERWISE WARRANTY IS VOID

AUSTRALIAN QUALITY DESIGN & MANUFACTURE

CE N10372

3 YEAR WARRANTY

Table Of Contents

Features

This unit is available as a 6 station configuration.

Designed for residential and light commercial applications, this controller has four separate programs with up to sixteen possible start times a day. This ensures efficient watering of different garden or turf areas.

These different areas may require individual watering programs and often use different types of sprinklers.

Examples: Turf areas generally use pop-up sprinklers and require less frequent but heavier watering. However, flower beds use micro sprays and require more frequent watering. The valves (stations) which water similar garden areas are often *grouped together and put into the same program as they need to be watered on the same days*.

These stations (valves) will water in sequential order from the lowest number at the start time (or times) nominated and on the days selected. Maximum watering duration for a station (valve) is 12 hours and 59 minutes.

This controller has three types of watering day options. Either, interval watering from everyday to every 15th day, individual day selection per program, or a 365 day calendar for ODD/EVEN day watering.

An innovative feature of this controller is the **Rain Sensor Ready** (RSR) technology. This allows individual stations to be controlled by a rain sensor. In this way, garden areas that are subject to rain, can have their irrigation suspended during wet periods, while areas under cover can continue to be watered.

Glossary

INDOOR CONTROLLER MODEL

Battery Cover

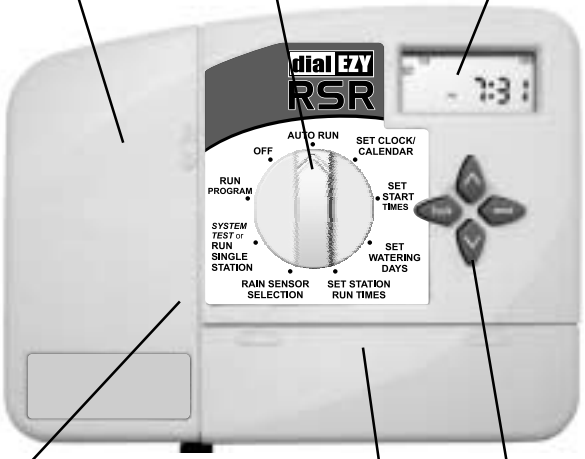
Remove cover to fit 9V block battery.

Selection Dial

Used for operations & programming.

LCD Display

Easy to read display.



Fuse Location

Remove cover to access.

Socket & Rubber Plug (RSR)

Rain Sensor Cable Socket.

Simple push in, pull out, plug & socket configuration.

Compatible with HOLMAN Rain Sensor (CRS1000BC)

Terminal Cover

Remove to access terminals for solenoid / valve wires.

Programming Buttons

Used for adjusting the programmed information.

Programming Instructions

Introduction

This controller has been designed with four separate programs, to allow different garden areas to have their own individual watering requirements.

A program is basically a method of grouping stations (valves) with similar watering requirements to water on the same days. These stations will water in sequential order from the lowest number at the start time (or times) nominated and on the days selected.

The key elements when programming your controller are:

- **Grouping the stations.** (valves)

  Group together garden areas which have similiar watering requirements. Examples are: Turf Areas, Flower Beds, Pergola/Undercover Areas, or Vegetables. These different groups require individual settings.

- **Planning out your watering program.**

  Complete your individual watering planner, supplied at the back of this book.

- **Setting the current time and correct day of the week.**

- **Setting an automatic program.**

  Use the following 3 steps to program each group.

  1. **Set Start(s).**

     This sets the time of the day when the watering program will commence.

  2. **Set Watering Days.**

     These are the nominated days when the automatic system will be active.

  3. **Set Station Run Times.**

     This sets the watering duration required for each station (valve).

Programming Instructions

Programming Example

In this example, the lawn areas **, Program 1** (Group 1), are using pop-up sprinklers & require less frequent watering.

The vegetables are being watered using drippers on a longer run time, with the flower beds, pots, hanging baskets and pergola areas being watered using micro sprays. Two stations are not affected by rainfall, these are individually set to OFF. During rain, these stations are still watered, whilst the rest of the system is suspended.

VALVE NUMBER	
1	FRONT LAWN
2	FRONT LAWN
3	VEGETABLES
4	GARDEN BED (under eaves)
5	BACK LAWN
6	PERGOLA

PROGRAM	START TIME	WATERING INTERVAL	STATION	RUN TIME (minutes)	SENSOR ON/OFF
1	Start Time 1: 4:00 am	MONDAY	1	20	ON
			2	20	ON
	2nd Start Time:	WED	3		
	3rd Start Time:		4		
	4th Start Time:	FRIDAY	5	20	ON
			6		
2	Start Time 1: 6:00 am	EVERY DAY	1		
			2		
	2nd Start Time:		3	30	ON
	3rd Start Time:		4	10	OFF
	4th Start Time:		5		
			6	5	OFF
3	Start Time 1:		1		
			2		
	2nd Start Time:		3		
	3rd Start Time:		4		
	4th Start Time:		5		
			6		
4	Start Time 1:		1		
			2		
	2nd Start Time:		3		
	3rd Start Time:		4		
	4th Start Time:		5		
			6		

Programming Instructions

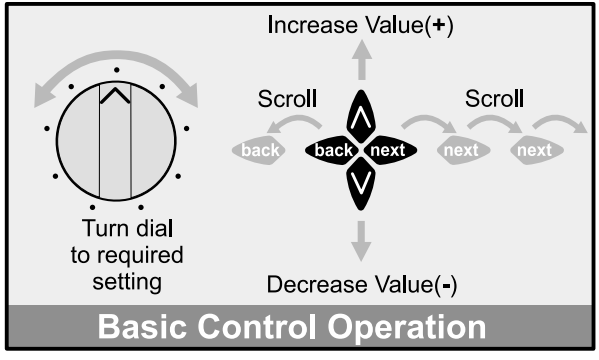
Other Functions

This controller can also manually run a selected program once, or an individual station can be set to run once from 1 minute up to 12 hours and 59 minutes. During winter the automatic programs can be suspended to prevent watering while it is raining. A test facility for checking the valves and sprinklers is also provided.

General tips for easy programming

Tips to help eliminate programming confusion.

- Complete the spare watering planner.
- When setting, one push of the button will increment one unit.
- Holding one button down will fast scroll through units.
- During programming, only the flashing values are able to be set, use the ∧ or ∨ buttons.
- Pressing next will scroll forward through the settings in an orderly sequence.
- Pressing back will scroll back to previous settings and settings can be changed.



Programming

Set Current Time & Correct Day

Turn the dial to ***Set Clock/Calendar*** position.

The hour will be flashing. Use ∧ or ∨ to adjust.

Note: AM / PM must be set correctly.

Press the next button and the “minutes” will flash.

Use ∧ or ∨ to adjust.

Press next and the “day of the week” will flash.

Use ∧ or ∨ to set correct day.

Set Calendar (Optional)

Note: The calendar only needs to be set when selecting ODD/EVEN day watering in areas where water restrictions may require this feature.

Press back button until the year, month and day are shown. The “year” will be flashing.

Use ∧ or ∨ to adjust, if required.

Press back button and the “month” will flash.

Use ∧ or ∨ to adjust.

Press back and the “day” will flash. Use ∧ or ∨ to adjust. *Tip*: To return to the clock, **press** next, or **turn** dial to another position.

Note: When in the “Auto” position “ODD” or “EVEN” will be shown.

Programming

Before proceeding, ensure your watering planner has been completed. From this, you should be aware of which stations are allocated to each program.

Note: Set one program at a time -This will ensure that all the values are entered correctly.

SETTING PROGRAM 1 - The program number can only be set/changed in the ***Set Start Times*** position.

Step 1. Set Start Times

All valves will activate in sequential order for each start time. **Turn** the dial to ***Set Start Times*** and ensure that “Prog 1” is flashing.

The display will show:

Press next & “Start 1” willl flash.

Press next & the “hour” will flash. Use ∧ or ∨ to adjust.

Note: AM / PM is set correctly.

Press next & the “minutes” will flash. Use ∧ or ∨ to adjust, if required. Each program has up to four start times and should you require a second start time,

Press next twice & “Start 1” will flash.

Advance to start 2 by pressing ∧.

The display will show.

Press next and proceed as per setting ***Start 1.***

Tip: To turn an active start time off, turn the dial to the ***Set Start times*** position, *Select* the start number required using the ∧ button and then **press** next until the “hour” is flashing. Use ∧ or ∨ until “OFF” is shown.

Tip: “OFF” position is between 12 and 1pm.

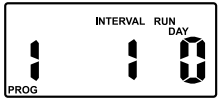
Programming

Step 2. Set Watering Days

This unit has interval watering or individual day selection from everyday to every 15th day or a 365 day calendar with odd/even day selection in areas where water restrictions require this feature.

Turn the dial to ***Set Watering Days***.

Interval Day Selection



The display will show:

"Interval 1" will be flashing.

This means that watering will occur every day.

To change the interval day, **press** the ∧ button.

Examples: Interval 2 means watering will take place every second day, 3 means watering will take place every third day etc.

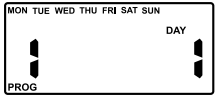
Interval watering can be set from everyday to every 15th day. The *Run Day* refers to the number of days before the next watering program will occur.

Individual Day Selection

Press the next button

This is the **selectable** day option.

The display will show:



This refers to Mon being Day 1. To turn Monday off, **press** ∨ button. To leave Monday active, leave as is and advance to Tuesday (day 2) by **pressing** the next button.

Again **press** the ∨ button to set the day off if required followed by next to advance. Continue until all seven days have been set "on" ∧ or "off" ∨ .

Programming

Odd / Even Day Selection (Optional)

In some regions, users are only allowed to water their gardens on, ODD dates if their house number is ODD, or on EVEN dates when their number is EVEN .

This controller allows this to be done simply by setting the relevant selection of ODD or EVEN and setting the current date into the controller. The controller will account for leap years.

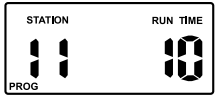
If you require the ODD / EVEN day option, simply **press** the next button until *"ODD"* is shown. **Press** the next button and *"EVEN"* will be shown. This feature may be required in areas where water restrictions are enforced.

Note: Remember to set the 365 day calendar when setting the clock, or this feature will be out of sequence.

Step 3. Set Station Run Times

This is the length of time that each station (valve) is set to water on a particular program. Maximum watering time is 12 hours 59 minutes for each station. A station can be assigned to 1 or 2 programs if required.

Turn the dial to the ***Set Station Run Times*** position and the display will show the following:



This means station 1 has a default run time of 10 minutes in program 1. "Station 1" will be flashing.

Programming

Step 3. Set Station Run Times. (Continued)

To adjust the **Run time** in minutes **press** next, and use ∧ or ∨. To set the run time in hours, **press** next and "0" will appear and flash. To adjust use ∧ or ∨.

If not required, **press** next and advance to station 2 by pressing the ∧ button.

Continue until all the stations in Program 1 have been set with a run time, or if a station (or stations) are not required to be active in this particular program, ensure that the run time is set to "OFF".

Note: To set a station to **"OFF"**.

Use ∨ when the **"RUN TIME"** is flashing.

This completes the setting up procedure for automatic watering of Program 1.

Should you need a second program.

Turn the dial to "Set Start Times" and "Prog 1" will flash.

Press ∧ and change to program 2 position and follow the same 3 steps to set an automatic watering program.

1. **Set Starts**
2. **Set Watering Days**
3. **Set Station Run Times**

Tip: Remember to return the dial to the "Auto Run" position after completing the set up of an automatic program.

This will ensure that the automatic cycles will take place.

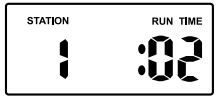
Manual Operations

System Test Facility

Turn the dial to ***System Test or Run Single Station*.**

(This is a dual function position)

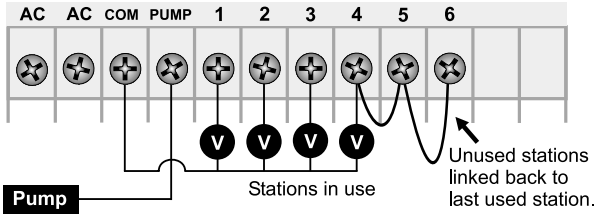
The display will show:



Use this feature to go & check that your valves & sprinklers are working correctly. The unit will run all stations in sequential order. The factory preset time of 2 minutes per station can NOT be adjusted.

IMPORTANT TIP: If the water supply is from a pump system, it is critical to ensure all outputs are connected to a valve. Any output NOT connected to a valve, should be linked back with a wire to the nearest output with a valve.

This prevents the pump running against a closed head.

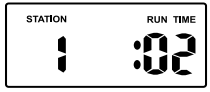


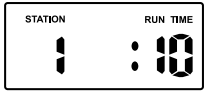
Run A Single Station

Turn the dial to ***System Test or Run Single Station.***

(This will be in the system test mode)

To manually run a single station once, **press** ∧ button to kick the unit into the other mode. The display will change from 2 minutes to 10 minutes.





To adjust the run time, use ∧ or ∨.

To advance to the next station **press** the next button.

Manual Operations (cont.)

Run A Program

To manually run a complete program once for the run times as set in the automatic schedule. **Turn** the dial to the ***Run Program*** position. “Prog 1” will be shown in the display. To run program 1, leave or advance to program 2 by **pressing** next . Note: if a rain switch is connected and the display shows “SEN WET”, the stations set to rain sensor “ON” will not activate. However, individual stations can be watered by using the ***Run Single Station*** facility.

Other Features

Stop

To stop an automatic or manual watering schedule, **turn** the dial to the ***Off*** position. Tip: For automatic watering, remember to **turn** the dial back to the ***Auto Run*** position. The ***Off*** position will stop any watering from occuring.

Stacking Start Times

Should you accidently set the same watering start time on more than one program, the controller will stack them in sequential order from the lowest number. All programmed start times will be watered, but the start times will be shunted along.

Automatic BackUp Program

When the battery is not fitted or is flat, there is a backup default program in program 1 watering every day at 12:00am for 10 minutes per station.

A standard 9 volt alkaline block battery should be fitted to the battery snap supplied to maintain the clock accuracy and hold the automatic programs during power outs.

Tip: The display has a warning indicator to let you know when the battery is low or not fitted. The word *BAT* is displayed under the AM / PM indicator in the clock mode.

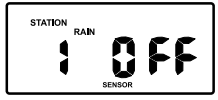
Other Features

Rain Sensor Ready

This feature should only be used when a rain sensor has been connected. The controller comes pre-fitted with a socket, ready to take the “HOLMAN” Rain Sensor (P/N CRS1000BC, not included) which has also been pre-fitted with a plug. Simply push the plug into the socket and mount the rain switch, exposing it to direct weather.

Turn the dial to ***Rain Sensor Selection*** to enable individual stations to be rain sensor “ON” or “OFF”

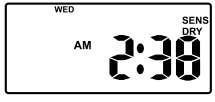
The display will show:



Note: all stations are set to “OFF” at first power up.

The stations set to “OFF” will water automatically at all times and the stations set to “ON” will be controlled by the rain sensor. Eg: The stations set to “ON” will not water automatically with the rain sensor in the “WET” mode. To set individual stations to “ON” press ∧ button and advance by pressing next . Continue until all stations are set “ON” for rain sensor control or “OFF”.

In the “Auto” position, the display will show:



TIP: If the display is showing “ SENS WET” and you need to override the rain switch, pull the plug connected to the “HOLMAN” Rain sensor.

Note: Both the “System Test” and “Run Single Station” will work on all stations regardless of wether the sensor is wet or dry.

Other Features

Rain Sensor Ready (cont.)

DELAY FEATURE - When using the Rain Sensor Ready feature, in conjunction with the rain sensor. It is possible to set a delay in the controller to stop the automatic programs from activating too quickly.

This feature is applicable to the stations nominated to be controlled by the sensor. EG: Set to rain sensor “ON”, and will only occur when the rain sensor is “WET”.

The reason for this feature is that the rain sensor itself can dry out due to strong winds or warm temperatures. Often the sensor will dry out in 24 hours or less and the automatic watering cycles will start. The soil may still be too wet in clay or loam situations and it may be desirable to increase the delay time. This can be set at the controller.

The delay can be set from 24 hours up to 96 hours and will prevent any automatic starts from occurring for the nominated delay period. At the end of the nominated delay time, the controller will check the rain sensor again and if it is still reading “SENS WET”, the delay time will override the automatic watering programs and prevent any start time from ocurring. This will continue until the rain sensor is “DRY” and then the automatic programs will start at the next available start time.

This delay is locked in the controller memory and will activate any time the Rain Sensor is in the “WET” mode.

NOTE: Stations set at rain sensor “OFF” will continue to water automatically, and any station can be watered manually in “system test” or “rain single station” mode.

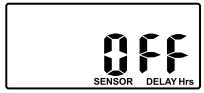
Other Features

Rain Sensor Ready (cont.)

DELAY FEATURE - SETTING RAIN SENSOR DELAY.

Turn the dial to ***Rain Sensor Selection*.**

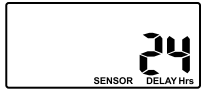
Press the back button.



The display will show **OFF**.

This means there is ***NO*** delay set for the rain sensor.

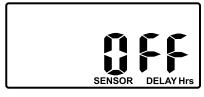
The sensor delay will increment in 24 hr blocks, so to set the required delay, **press** ∧ button & 24 “Sensor Delay Hrs” will be shown in the display:



If a 48 hr sensor delay is required, **press** ∧ again, a maximum of 96 hours, (4 days), can be set.

To cancel or clear a rain sensor delay:

Turn the dial to ***Rain Sensor Selection***, **press** the back button, followed by the ∨ button.



The display will show **OFF** Sensor Delay Hrs.

If a delay period has been set & the rain switch is ***WET***, the controller display will show “SEN WET” and will show the remaining delay time in hours.

This will continue to override the rain sensor until the delay time has finished counting down, or unless you clear the delay feature.

Other Features

Rain Off Mode

To stop the automatic watering cycles during winter, **turn** the dial to the ***Off*** position. The word *"Off"* will appear in the display. This means the automatic programs will not come on, but the programmed information is still retained in the memory. To reactivate the automatic schedule, **turn** the dial back to the ***Auto Run*** position.

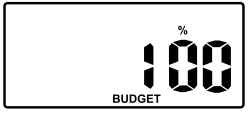
NOTE: If a rain sensor has been connected, the stations set to rain sensor control, will be turned OFF automatically, when the sensor is wet.

Water Budgeting

The automatic station run times can be adjusted by percentage as the seasons change. This will save time and money as the run times can be adjusted quickly in spring, winter and autumn to reduce the amount of water used.

Ensure that the dial is in the ***Auto Run*** position and then **press** the back and next buttons simultaneously.

The display will show:



Displayed is the word *"Budget"* and *"100%"*.

This represents the current automatic watering run times as being 100%. The percentage budget can be set in 25% increments from 25% up to 150%.

Example: 50% reduces watering by half.

To adjust in 25% increments, use ∧ or ∨ buttons.

To return to the clock **press** the back and next buttons simultaneously. The display will show the word *Budget* to indicate that the water budgeting feature is in use.

Installation Instructions

Mounting The Controller

This controller unit is an INDOOR MODEL and MUST not be exposed to rain or water ingress.

(If the controller needs to be outdoors, you can purchase a HOLMAN outdoor weatherproof box, P/N COBOX, to mount the controller inside.This box is available from your irrigation supplier.)

Install the controller near a 240V AC mains outlet, preferably located in a house, garage or other covered area. For ease of operation, eye level placement is recommended.

Drive one #8 screw into the wall, leaving about 4mm of the screw exposed. If necessary, use a toggle bolt or masonary shield.

Hang the controller from the key slot located in the back of the case. Make sure the head is properly seated inside the controller case. Additional screws may be inserted through the holes in the lower corners of the controller case.

Electrical Hook-Up

WARNING

1 **All electrical work must be carried out in accordance with these instructions following all applicable Local, State and Federal codes, or warranty will be void.**

2 **Disconnect mains power supply before maintenance work to controller or valves and when connecting and disconnecting field wiring and pump or master valve hook-ups.**

Installation Instructions

Field Wiring Connections

PREPARATION

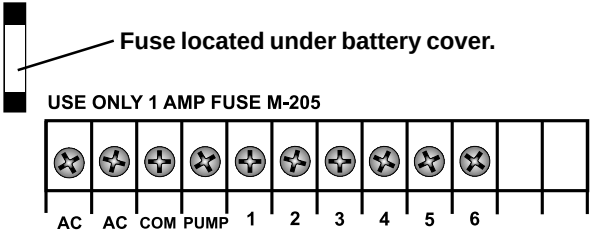
1 Prepare wires for hook-up by cutting the wires to the correct length and stripping approximately 6.0mm (¼ inch) of insulation from the end to be connected to the controller.

2 Ensure terminal block screws are loosened sufficiently to permit easy access for wire ends. Insert stripped wire ends into the clamp aperture and tighten screws. *Do not over* tighten as this may damage the terminal block.

3 A maximum of 0.5 Amps may be supplied by any output. Check the inrush current of your solenoid coils before connecting more than two valves to any one station.

Terminal Block Layout

The terminal block is laid out as follows:



GLOSSARY	
AC	24VAC Power Supply
COM	Common valve wire input
PUMP	Master valve or pump start active wire
ST1 to ST6	Station (Valve) active wire connection

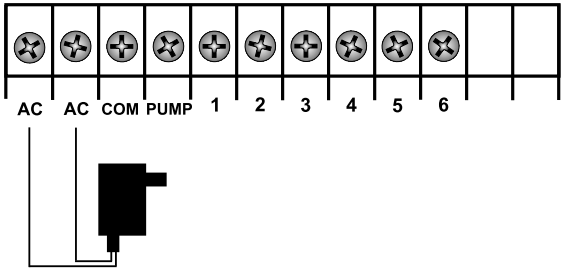
Installation Instructions

Power Supply Connections

The controller itself can run off a 240V AC to 24V AC external transformer..

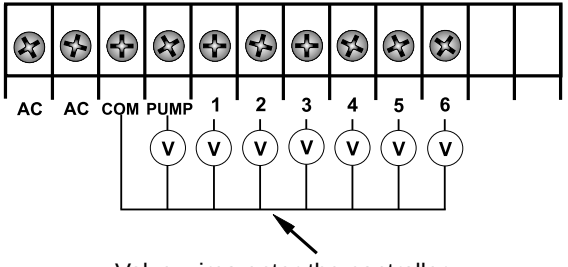
It is recommended that the transformer is not connected to a 240V AC supply which is also servicing or supplying motors (i.e. Air conditioners, pool pumps, refrigerators, etc.) Lighting circuits are suitable as a power source.

Connections to the unit are as follows:



Connection Of Valves

Up to two 24VAC Solenoid Valves can be connected to each station output and wired back to the common (COM) thus:



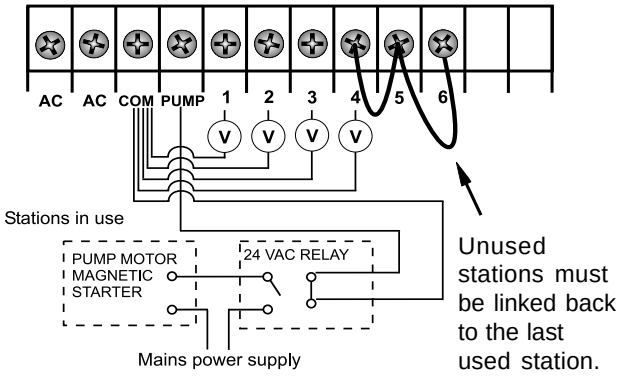
Installation Instructions

Pump Hook-Up Connections

Do not attempt to drive a pump starter directly from the controller. Pump start is provided by connecting one side of the coil of a suitable relay to the Master Valve/Pump Start output of the controller and the other side to the controller common.

For systems supplied with water from a pump, unused stations must be connected back to the last used station to eliminate the possibilty of the pump running against a closed head. Failure to do so could lead to pump damage.

The diagram shows an 6 station controller with 4 active stations (valves):



Electrical Characteristics

Power Supply

MAINS SUPPLY

This unit can run off a 50Hz external transformer, (plugpack), with an output of 24VAC 50Hz @ 1 Amp.

Plug Pack Model

The correct wiring installation for the 24VAC plug pack is shown on page 19. The plug pack model is only suitable for indoor installation.

Electrical Outputs

ELECTRICAL POWER SUPPLY

- Input: 24Volts AC 50Hz.
- Electrical Outputs: Maximum of 1.0 AMP

  To Solenoid Valves: 24 VAC 50/60 Hz 0.5 AMPs max.

  To the Master Valve/Pump Start: 24VAC 0.25 AMPs maximum.

Note:

Transformer and fuse capacity must be compatible with output requirements.

- Overload protection: Standard 20mm 1 Amp fuse.
- Power failure: 9 Volt block type battery maintains clock and programs for up to 4 weeks.
- The output circuits should be installed and protected in accordance with wiring rules.

Servicing The Controller

The controller should always be serviced by an authorized agent.

Follow these steps:

1. Turn mains power off to the controller.
2. Disconnect 24 Volt power leads from the plug pack at the controller 24VAC terminals.
3. Clearly mark or identify all valve wires according to the terminals they are connected to, (1 to 6). This allows you to easily wire them back to the controller, maintaining your valve watering sequence.
4. Disconnect valve wires from the terminal block.
5. Remove the complete unit from the wall.
6. Carefully wrap the complete unit in protective wrapping and pack in a suitable box. Return to your service agent or the manufacturer.

   Note: Tampering with the unit will cancel the Guarantee
7. Replace your controller by reversing this procedure.

Fault Finding Guide

Symptom	Possible Cause	Suggestion
No display.	Faulty transformer. Fuse blown.	Check fuse. Check field wiring. Check transformer.
Single Station not working.	Faulty solenoid coil.	Swap faulty station wire on controller terminal block with known working station wire. If the faulty valve still does not work on the known working connection then the solenoid coil is faulty. The panel may need to be repaired.
Fuse blows.	Incorrect wiring or bad wiring joint.	Check wiring and joints.
No automatic start.	Incorrect programming or blown fuse.	If unit works manually check programming. Check fuse and field wiring.
Buttons on keypad not responding.	Short on keypad or Programming not correct.	Check instruction book to ensure programming correct. If keypad still not responding return panel to supplier or manufacturer.
System coming on at random.	Short on keypad or too many start times entered on automatic programs.	Check number of start times entered on each program. If programming is correct return panel to supplier or manufacturer.
More than 1 station coming on at once.	Damaged main output driver chip.	Check wiring and swap faulty station wire(s) on controller terminal block with known working station wire. If the same outputs are still locked on, return panel to supplier or manufacturer.
Pump start chattering.	Faulty relay or pump contactor.	Electrician to check voltage on pump relay or contactor.
Display cracked or missing segments.	Display damaged during transportation.	Return panel to supplier or manufacturer.

Spare Watering Planner

VALVE NUMBER	
1	
2	
3	
4	
5	
6	

PROGRAM	START TIME	WATERING INTERVAL	STATION	RUN TIME (minutes)	SENSOR ON/OFF
1	**Start Time 1:**		1		
			2		
	2nd Start Time:		3		
			4		
	3rd Start Time:		5		
			6		
	4th Start Time:				
2	**Start Time 1:**		1		
			2		
	2nd Start Time:		3		
			4		
	3rd Start Time:		5		
			6		
	4th Start Time:				
3	**Start Time 1:**		1		
			2		
	2nd Start Time:		3		
			4		
	3rd Start Time:		5		
			6		
	4th Start Time:				
4	**Start Time 1:**		1		
			2		
	2nd Start Time:		3		
			4		
	3rd Start Time:		5		
			6		
	4th Start Time:				

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	3rd Start Time:		5		
			6		
	4th Start Time:				
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			2		
	2nd Start Time:		3		
			4		
	3rd Start Time:		5		
			6		
	4th Start Time:				
4	**Start Time 1:**		1		
			2		
	2nd Start Time:		3		
			4		
	3rd Start Time:		5		
			6		
	4th Start Time:				

Your Guarantee

The manufacturer Guarantee to the original purchaser that any product supplied by the manufacturer will be free from defects in materials and workmanship for a period of three years from the date of purchase. Any product found to have defects in material or workmanship within the period of this Guarantee shall be repaired or replaced by the manufacturer **FREE OF CHARGE**.

The guarantor does not guarantee the fitness for a particular purpose of its products and does not make any guarantee, expressed or implied, other than the guarantee contained herein. The guarantor shall not be liable for any loss from use of the product or incidental or consequential damages including damages to other parts of any installation of which this product is part.

The guarantee shall not apply to any equipment which is found to have been improperly installed, set up or used in any way not in accordance with the instructions supplied with this equipment, or to have been modified, repaired or altered in any way without the express written consent of the company. This guarantee shall not apply to any batteries or accessories used in the equipment covered under this guarantee or to any damage which may be caused by such batteries.

If the Controller develops a fault, the product or panel must be returned in adequate packing with:

1 A copy of your original invoice.

2 A description of any fault.

It is the purchasers responsibility to return the Controller to the manufacturer or their agent by pre-paid freight.

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