K RAIN RPS624 mkII

Professional Irrigation Controller
Quick Setup Guide

⚠ WARNING!

KEEP NEW OR USED BUTTON/COIN BATTERIES OUT OF REACH OF CHILDREN

The battery can cause severe or fatal injuries in 2 hours or less if it is swallowed or placed inside any part of the body. If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention

Contact the **Australian Poisons Information Centre** for 24/7 fast, expert advice: **13 11 26**

Refer to your local government guidelines on how to correctly dispose of button/coin batteries.

Initial Setup

1 CLOCK

i. Turn the **MAIN DIAL** to **CLOCK-CALENDAR**
ii. Use ▶ to scroll between minutes, hours and days
iii. Use ✚ or ▬ to adjust

2 CALENDAR

i. Turn the **MAIN DIAL** to **CLOCK-CALENDAR**
ii. Use ◀ to scroll between **YEAR**, **MONTH** and **DATE**
iii. Use ✚ or ▬ to adjust
✓ You must have the current time and date set to begin setting your watering, ensuring *AM/PM* is correct

Auto Watering Setup

3 START TIMES

i. Turn the **MAIN DIAL** to **START TIME**
✓ **PROGRAM 1** will be showing by default with the **START NO.** flashing
✓ Press Ⓟ to cycle through each **PROGRAM**
✓ Use ✚ or ▬ to change the **START NO.**
✓ Each **PROGRAM** can be assigned up to four **START** times
ii. Use ▶ to scroll between **START NO.**, hours and minutes
✓ Use ✚ or ▬ to adjust hours and minutes of each start time

4 WATERING DAYS

i. Turn the **MAIN DIAL** to **WATERING DAYS**
✓ **PROGRAM 1** will show by default with **MON** flashing
✓ Press Ⓟ to cycle through each **PROGRAM**
ii. Use ▬ to toggle **MON** *OFF*, or ✚ to toggle it *ON* as indicated by ◢
iii. Press ▶ to advance to **TUE** and repeat the previous steps, working through to **SUN**
✓ All days **MON** to **SUN** will be set to *ON* by default
MON TUE WED THU FRI SAT SUN
iv. Keep pressing ▶ after **SUN** to access **EVEN**, **ODD** and **ODD-31** day patterns, rather than weekly day selection
v. Press ▶ again after **ODD-31** to access **INTERVAL** day watering
vi. Use ✚ or ▬ to select how many days gap there will be between watering days
✓ The maximum interval available is 15 days

5 STATION RUN TIMES

i. Turn the **MAIN DIAL** to **STATION RUN TIMES**
✓ **PROGRAM 1** will be showing by default with **STATION 1** flashing
✓ Press Ⓟ to cycle through each **PROGRAM**
✓ Use ✚ or ▬ to cycle through **STATIONS 1** to **24**
ii. Press ▶ to access the **RUN TIME** minutes, wherein **OFF** will start flashing
✓ Use ✚ or ▬ to set the minutes
iii. Press ▶ again to access the **RUN TIME** hours, wherein **0** hours will start flashing
✓ Use ✚ or ▬ to set the hours
✓ If no minutes were set, **OFF** will continue to flash before setting the hours
iv. To save the **RUN TIME**, press ▶ again and **STATION 1** will resume flashing
✓ Press ✚ or ▬ to cycle through additional **STATIONS** and **RUN TIMES**

ADDITIONAL PROGRAMS

i. Turn the **MAIN DIAL** back to **START TIME**
✓ **PROGRAM 1** will be showing by default with **START 1** flashing
ii. Press Ⓟ to cycle through **PROGRAMS 2** to **5**
✓ Use ✚ or ▬ to cycle through **STARTS 1** to **4**
iii. Repeat Steps 3-5 above to set **START TIMES**, **WATERING DAYS** and **RUN TIMES** for each **STATION** and **PROGRAM** as desired
iv. Turn the **MAIN DIAL** back to **AUTO** after completing the setup to allow the **PROGRAMS** to run as per their scheduled details

Operation

A AUTO

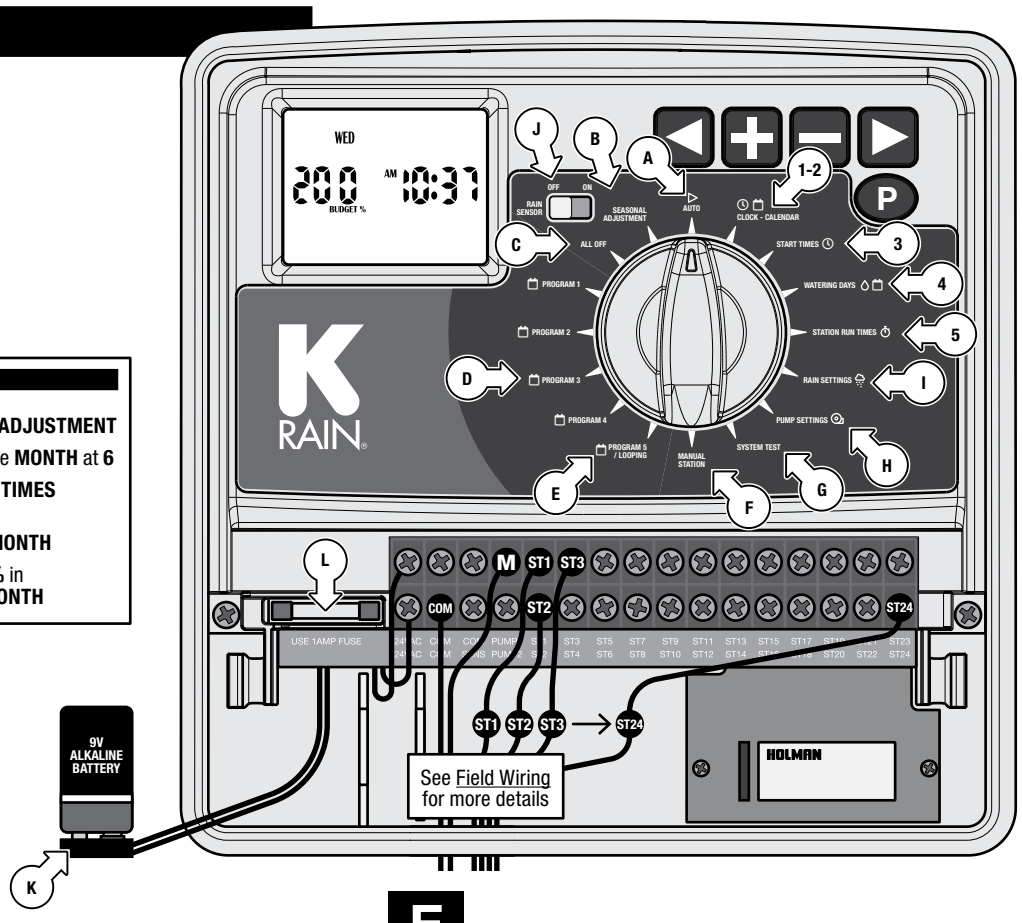
✓ Leave the **MAIN DIAL** on **AUTO** to run **PROGRAMS** as per setup

B SEASONAL ADJUSTMENT

i. Turn the **MAIN DIAL** to **SEASONAL ADJUSTMENT**
✓ **BUDGET %** will flash at **100**, with the **MONTH** at **6**
✓ **BUDGET %** is the factor which **RUN TIMES** are reduced during selected months
ii. Use ◀ or ▶ to scroll through each **MONTH**
iii. Use ✚ or ▬ to adjust the **BUDGET %** in increments of 10 for the selected **MONTH**

C ALL OFF

✓ To immediately stop any watering and hold all **PROGRAMS**, turn the **MAIN DIAL** to **ALL OFF**



D RUN A PROGRAM

i. To run a single program, turn the **MAIN DIAL** to the desired **PROGRAM**
✓ **OFF** will begin flashing once a **PROGRAM** is selected
ii. Press ✚ to activate the desired **PROGRAM**, or ▬ to deactivate
✓ **ON** will begin flashing once a **PROGRAM** is activated
✓ **OFF** will continue flashing if a **PROGRAM** has not been set
iii. Press ▶ to run the **PROGRAM** instantly
✓ The running **STATION** and **RUN TIME** will show once the program has started running
iv. To skip through **STATIONS** of the current **PROGRAM**, press ▶
✓ Once the **PROGRAM** has completed, the controller will revert back to **AUTO**, even if the **MAIN DIAL** has not been moved

STACKING START TIMES

✓ If the same **START TIME** is set across multiple **PROGRAMS**, they will run individually in sequential order, starting from **PROGRAM 1** through to **5**
✓ If a **START TIME** runs over another **RUN TIME**, it will be delayed accordingly

E LOOPING SETUP

i. Turn the **MAIN DIAL** to **STATION RUN TIMES**
ii. Repeatedly press Ⓟ to access **PROGRAM 5** settings
iii. Set the **RUN TIMES** as desired for each **STATION** (see Step 5 above)
iv. After setting the **RUN TIMES**, press ▶ repeatedly until the display reads **LOOP OFF**
v. Press ✚ to enable looping
✓ The display will read **LOOP ON**
✓ Press ▶ to proceed to looping settings, where **NO LOOPS** (number of loops) will be flashing
vi. Use ✚ or ▬ to adjust the number of loops
vii. Press ▶ and **Hrs MIN** will flash
viii. Use ✚ or ▬ to toggle between **Hrs MIN** or **MIN SECS**
ix. Press ▶ to advance to **TIME BETWEEN LOOPS**
x. Use ✚ or ▬ to adjust the **MIN** or **SECS** between each loop
xi. Press ▶ and use ✚ or ▬ to adjust the **Hrs** or **MIN** between each loop
xii. Press ▶ again and use ✚ or ▬ to toggle between the **Hrs MIN** or **MIN SECS** time settings that were previously set
✓ This will also change times set for **PROGRAM 5** to **Hrs MIN** or **MIN SECS**
✓ The display will read **LOOP RUN** at this stage
xiii. Press ▶ to save your loop settings and return to **PROGRAM 5** controls

RUNNING AUTOMATIC LOOPING

i. Turn **MAIN DIAL** to **WATERING DAYS** and set desired active days for **PROGRAM 5** as per Step 4
ii. Turn **MAIN DIAL** to **START TIMES** and set the desired times for **PROGRAM 5** as per Step 3
iii. Turn the **MAIN DIAL** to **AUTO** to complete the process

F MANUAL STATION

i. To manually water a station, turn the **MAIN DIAL** to **MANUAL STATION**
✓ **STATION 1** will begin watering by default with a **RUN TIME** of 10 minutes
ii. Use ✚ or ▬ to select the desired **STATION**
iii. Press ▶ to access the **RUN TIME** minutes, using ✚ or ▬ to adjust accordingly
iv. Press ▶ again to access the **RUN TIME** in hours, using ✚ or ▬ to adjust accordingly
v. Once the manual **RUN TIME** has lapsed, the controller will revert back to **AUTO**, even if the **MAIN DIAL** has not been moved

SAVE MANUAL RUN TIMES

i. Turn the **MAIN DIAL** to **MANUAL STATION**
ii. Press ▶ to access the **RUN TIME** minutes, using ✚ or ▬ to adjust accordingly
iii. Press Ⓟ to save the set **RUN TIME**
ℹ This is will now be the default **RUN TIME** for all **STATIONS** in **MANUAL** watering

G SYSTEM TEST

i. Turn the **MAIN DIAL** to **SYSTEM TEST**
✓ **STATION 1** will begin watering by default with a **RUN TIME** of 2 minutes
✓ Once **RUN TIME** has lapsed, the controller will move on to **STATIONS 2** through to **24** with a default **RUN TIME** of 2 minutes
ii. Press ▶ to skip **STATIONS** during the **SYSTEM TEST**

H PUMP SETTINGS

i. Turn the **MAIN DIAL** to **PUMP SETTINGS**
✓ **PUMP A** will be active on **STATION 1** by default
ii. Use ◀ or ▶ to scroll **STATIONS**
iii. Use ▬ to deactivate pump when running the selected **STATION**
iv. Use ✚ to activate pump when running the selected **STATION**
v. Press Ⓟ to switch from **PUMP A** to **PUMP B** and follow the previous steps to set each **STATION**
vi. Press Ⓟ again to switch to **PUMP A** on **PROGRAM 1**
✓ This allows for pump activation to be assigned to **PROGRAMS** rather than **STATIONS**
vii. Use ◀ or ▶ to scroll **PROGRAMS**
viii. Press Ⓟ to switch to **PUMP B** on **PROGRAM 1**

I RAIN SETTINGS

i. To choose which **STATIONS** observe the rain sensor, turn **MAIN DIAL** to **RAIN SETTINGS**
✓ **STATION 1** will be **ON**
ii. Use ▶ to scroll **STATIONS**
iii. Use ▬ or ✚ to turn the rain sensor **OFF** or **ON** for each **STATION**

RAIN SENSOR DELAY

i. To adjust the time (days) watering can resume after the sensor dries, turn the **MAIN DIAL** to **RAIN SETTINGS**
ii. Press ◀ for **RAIN DELAY**
iii. Use ✚ or ▬ to set how many days (maximum **9**) before watering resumes

J RAIN SENSOR

i. Slide the **RAIN SENSOR** switch to **OFF** to ignore any Rain Sensor data
ii. Slide the **RAIN SENSOR** switch to **ON** to resume saving water as per **RAIN SETTINGS**

K 9V ALKALINE BATTERY

✓ Permanent memory backs up data in the absence of power, except for internal clock
✓ Fitting a 9V Alkaline Battery will keep the internal clock running during power loss
✓ When the battery icon ▭ is low, replace the battery as soon as possible
✓ We recommend replacing the battery every 12 months

L FUSE

ℹ Use only 1 amp fuse M-205
✓ If the fuse has blown, or there is none installed, the display will flash **FUSE FAULT**

Handy Hints

ℹ A **PROGRAM** is a group of **STATIONS** with common **WATERING DAYS**
ℹ When a **PROGRAM** runs, each of its assigned **STATIONS** will run sequentially
ℹ Each **PROGRAM** can have up to four **START TIMES** per day
ℹ The same **STATION** can be used across multiple **PROGRAMS**
ℹ There are two *pump stations* or *master valves* that can be assigned to a **STATION** or **PROGRAM**

Field Wiring

- ***Hint:*** Strip approx. 6mm of insulation and place this under the loosened screw, tighten gently and check the cable is firmly held
- A maximum of 2 solenoid valves can be run off each output

i. Connect one cable from the terminals to each solenoid valve

ii. Complete the circuit by *looping* a common cable to all valves and connecting to the COMMON

Rain Sensor Connection

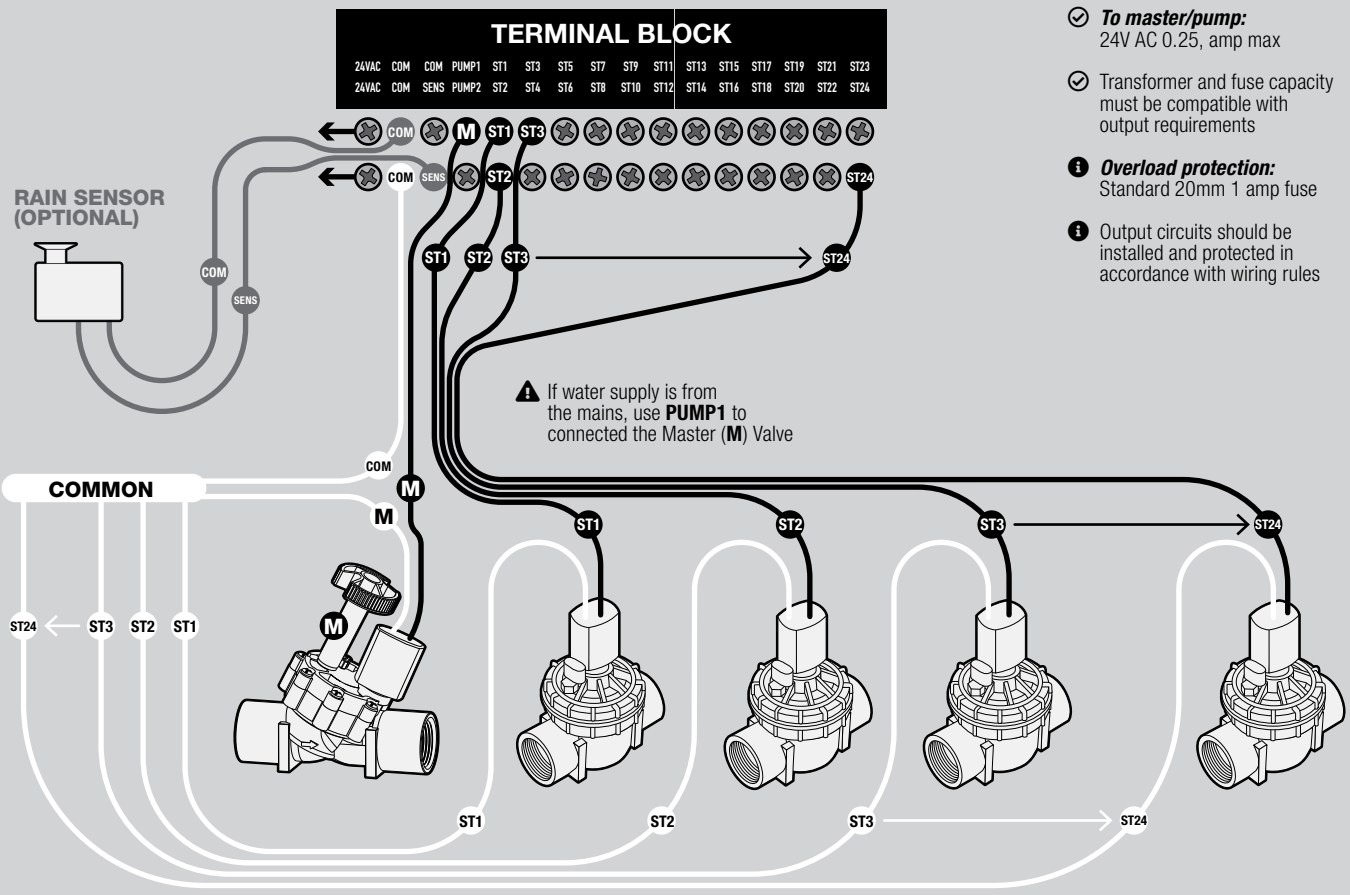
- A rain sensor detects rainfall and tells the controller to suspend watering, resuming after the sensor dries out
- It achieves this by severing the connection between controller and the solenoid valves
- This is wired between the **SENSOR TERMINAL** and the **COMMON** as shown below

Electrical Connection

- Installation must be carried out in accordance with these instructions and all Local, State and Federal codes
- Disconnect all 240VAC power before commencing any wiring or valve connection
- Avoid connecting to a 240VAC supply also servicing motors (ie. pool pumps, refrigerators, etc.)

Power Supply

- This unit runs off a 240V 50Hz single phase outlet, drawing 30W at 240V AC
- ***Internal transformer:*** Reduces 240V AC to extra low voltage supply of 24V AC
- Fully compliant with AS/NZS 61558-2-6
- 1.25 amp low energy, high efficiency toroidal transformer for long life performance
- ***Input:*** 24V AC 50/60Hz
- ***Output:*** Max 1 amp
- ***To stations:*** 24V AC 50/60Hz. 0.75 amp max (up to 2 valves per station)
- ***To master/pump:*** 24V AC 0.25, amp max
- Transformer and fuse capacity must be compatible with output requirements
- ***Overload protection:*** Standard 20mm 1 amp fuse
- Output circuits should be installed and protected in accordance with wiring rules

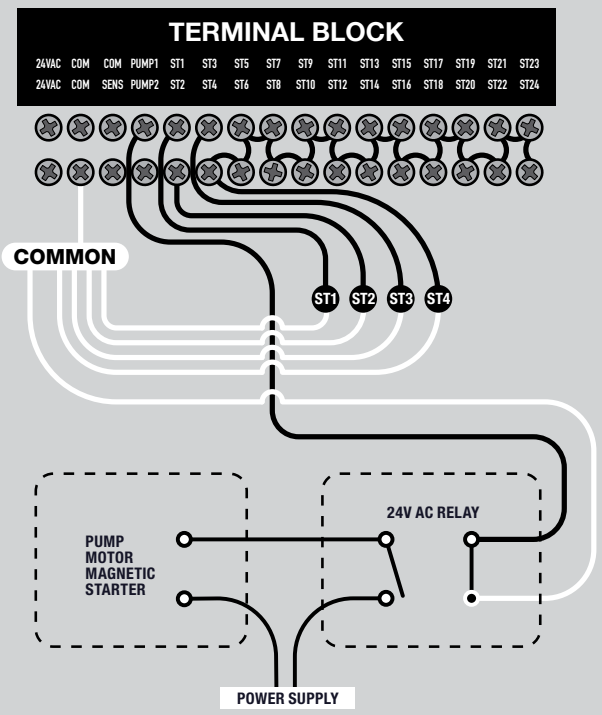


Troubleshooting

Symptom	Possible Cause	Suggestion
No display	Flat battery *or* no mains power *or* fuse blown	Install a charged battery. If the display still doesn't work, then check the transformer or the main power supply. If main power supply is working, check and replace the fuse if necessary
Station not working	Faulty solenoid coil *or* broken cable	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 or the cable may be broken
Fuse blows	Incorrect wiring *or* bad wiring joint	Check wiring and joints for a short circuit
No automatic start	Incorrect programming *or* blown fuse	If unit works manually check settings. Check fuse and field wiring
System watering at random	Too many start times entered	Check number of start times entered and when they are scheduled to water. Reset the unit if necessary
Multiple stations running at once	Looping program active *or* faulty driver triac	Check if looping program is active and in multi-station mode. Check wiring and swap faulty wires on terminal block with known working stations. If same outputs are still locked on, contact Customer Service
Pump start chattering	Faulty relay *or* pump contactor	Electrician to check voltage on relay or contactor
Display cracked or missing segments	Display damaged during transportation	Contact Customer Service for support
Rain Sensor input not working	**RAIN SENSOR** switch is **OFF** *or* faulty wiring	Ensure **RAIN SENSOR** switch is **ON** Test all wiring and ensure Rain Sensor is a normally closed type Check programming to ensure Rain Sensor is enabled

Pump Connection

- Do not attempt to drive a pump starter directly from the controller
- Pump start is provided by connecting one side of the coil from a suitable relay to the *MASTER VALVE/PUMP START* (**PUMP1**) 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 prevent running against a closed head if run times are incorrectly set
- If your water is being supplied directly from the main water supply, it is recommended to install an approved *MASTER VALVE*. This is connected to the *COMMON* (**C**) and *PUMP/MASTER VALVE* (**PUMP1**) terminals
- On the terminal block, the two **PUMP** outputs can open a *MASTER VALVE* or a *PUMP START* relay
- A **PUMP** output is active the entire time **STATIONS** are active
- *PUMP STARTS* can be allocated to an individual **STATION** or **PROGRAM**
- **PUMP1** is automatically **ON** for all **STATIONS** and **PROGRAMS**
- **PUMP2** is automatically OFF for all **STATIONS** and **PROGRAMS**



Mounting the Unit

- Position in a place convenient for valve wiring, near a 240V AC outlet
- Avoid areas in direct exposure to outdoor weather conditions
- Mount at eye level for ease of use

i. Drive a #8 screw into the wall, leaving approx. 4mm exposed

- Use a toggle bolt or masonry plug if necessary

ii. Hang the unit from the key at the back

- ***Optional:*** Remove terminal cover to add additional screws through the holes in the lower corners for stability

Other Features

CLOCK SPEED ADJUSTMENT

iii. Turn the **MAIN DIAL** to **CLOCK-CALENDAR**

iv. Press ◀ three times so **DATE** is flashing

v. Press P to enter **CLOCK SPEED** mode

vi. Use + or − to adjust

- The default clock speed is **00**

UPLOAD DATA TO CONTRACTOR MEMORY

i. Turn the **MAIN DIAL** to **ALL OFF**

ii. Press both ◀ and ▶ at the same time, and the display will read **LOAD UP** and **SAVE CONTRACTOR MEMORY**

iii. Press P to confirm

DOWNLOAD DATA FROM CONTRACTOR MEMORY

i. Turn the **MAIN DIAL** to **ALL OFF**

ii. Press ▶ and the display will read **LOAD** and **RECALL CONTRACTOR MEMORY**

iii. Press P to confirm

CLEAR ALL PROGRAM DATA

i. Turn the **MAIN DIAL** to **ALL OFF**

ii. Press ▶ twice until the display reads **CLR** and **CLEAR MEMORY**

iii. Press P to clear all program data

ADJUST DISPLAY CONTRAST

i. Turn the **MAIN DIAL** to **PUMP SETTINGS**

ii. Press P four times, or until the display reads **CON 1**

iii. Use + or − to adjust the display contrast

iv. Press P to save your desired contrast settings

User Guide 2020

RPS624 mkII

Professional Irrigation Controller

Introduction

The ***RPS624 Professional Irrigation Controller*** covers a wide range of applications from residential and commercial turf, to light agriculture and professional nursery.

This controller is available in 6, 9, 12, and 24-station configurations with:

- Up to five watering programs to manage all stations
- Up to four start times per day for each program

This also includes:

- 7-day watering schedules with individual day selection per program
- 365-day calendar for odd/even day watering
- Selectable interval watering schedules from every day to every 15th day
- Seasonal adjustment for saving water in wetter months
- Rain sensor compatibility for saving water in wet weather

Individual stations can be allocated to one or all programs and can have a run time of one minute to 12 hours 59 minutes.

K-Rain® Australia: Supplied and Serviced by Holman Industries
11 Walters Dr, Osborne Park WA 6017
info@k-rain.com.au
www.k-rain.com.au