



# K-RAIN RPS624 Professional Irrigation Controller User Guide

[Home](#) » [K-RAIN](#) » K-RAIN RPS624 Professional Irrigation Controller User Guide 

## Contents

- [1 K-RAIN RPS624 Professional Irrigation Controller](#)
- [2 Product Usage Instructions](#)
- [3 Introduction](#)
- [4 Pump Connection](#)
- [5 Power Supply](#)
- [6 Troubleshooting](#)
- [7 Operation](#)
- [8 Documents / Resources](#)
  - [8.1 References](#)
- [9 Related Posts](#)



**K-RAIN RPS624 Professional Irrigation Controller**



## Product Specifications

- Model: Professional Irrigation Controller
- Power Source: 9V Alkaline Battery
- Programs: Up to 5 programmable programs
- Stations: Up to 24 stations
- Start Times: Up to 4 start times per program

## Product Usage Instructions

### Initial Setup

#### CLOCK:

1. Turn the MAIN DIAL to CLOCK-CALENDAR.
2. Use the navigation buttons to adjust minutes, hours, and days.

#### CALENDAR:

1. Set the current YEAR, MONTH, and DATE.
2. Ensure AM/PM is correctly set.

#### SEASONAL ADJUSTMENT:

1. Adjust BUDGET % for each selected MONTH to control water run times.

#### ALL OFF:

To stop all watering and hold programs, turn the MAIN DIAL to ALL OFF.

## Operation

## **RUN A PROGRAM:**

1. Turn the MAIN DIAL to the desired PROGRAM.
2. Press the activation button to run the selected program instantly.
3. The running STATION and RUN TIME will be displayed once the program starts running.

## **STACKING START TIMES:**

- If multiple programs have the same START TIME, they will run sequentially.
- Delays may occur if a START TIME overlaps with another RUN TIME.

## **SYSTEM TEST:**

1. Turn the MAIN DIAL to SYSTEM TEST to initiate a test watering cycle on all stations.
2. Skip stations during the test by using the navigation buttons.

## **PUMP SETTINGS:**

1. Activate or deactivate pumps for specific stations or programs.

## **Auto Watering Setup**

### **START TIMES:**

1. Adjust START NO., hours, and minutes for each program's start times.
2. Cycle through programs and set up to four start times for each.

## **Frequently Asked Questions (FAQ)**

### **1. Q: How many start times can be set for each program?**

A: Each program can have up to four start times assigned.

### **2. Q: What happens if a START TIME overlaps with another RUN TIME?**

A: The system will delay the subsequent program accordingly to prevent conflicts.

### **3. Q: How many stations can be controlled by the irrigation controller?**

A: The controller can manage up to 24 stations for watering operations.

## **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.


## 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
  1. Drive a #8 screw into the wall, leaving approx. 4mm exposed  
Use a toggle bolt or masonry plug if necessary
  2. 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

3. Turn the MAIN DIAL to CLOCK-CALENDAR
  4. Press  three times so DATE is flashing
  5. Press **P** to enter CLOCK SPEED mode
  6. Use + or – to adjust
- The default clock speed is 00


## UPLOAD DATA TO CONTRACTOR MEMORY

1. Turn the MAIN DIAL to ALL OFF
2. Press both  and  at the same time, and the display will read LOAD UP and SAVE CONTRACTOR MEMORY
3. Press P to confirm

## DOWNLOAD DATA FROM CONTRACTOR MEMORY

1. Turn the MAIN DIAL to ALL OFF
2. Press  and the display will read LOAD and RECALL CONTRACTOR MEMORY
3. iii. Press P to confirm

## CLEAR ALL PROGRAM DATA

1. Turn the MAIN DIAL to ALL OFF
2. Press  twice until the display reads CLR and CLEAR MEMORY

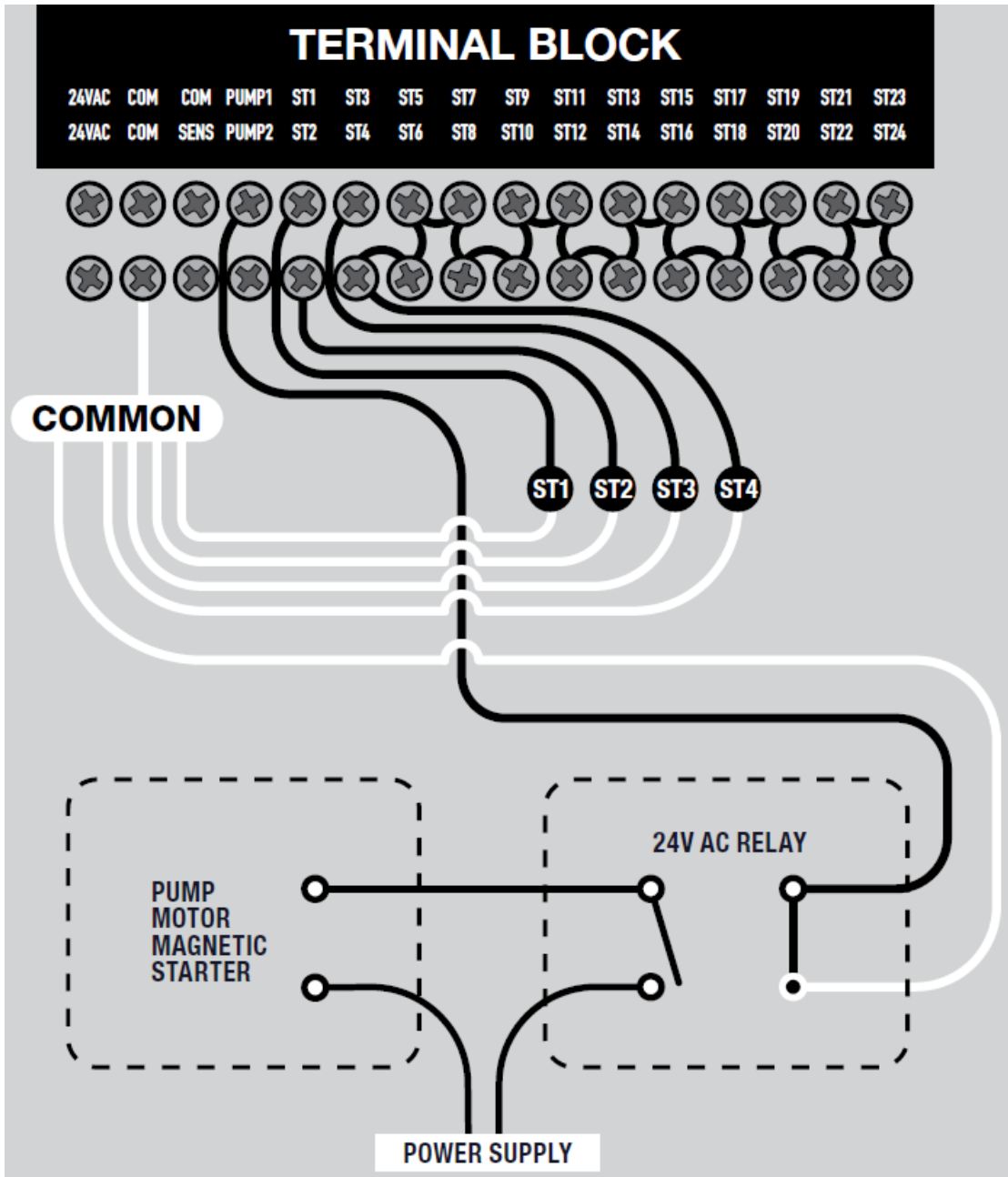
3. Press P to clear all program data

## **ADJUST DISPLAY CONTRAST**

1. Turn the MAIN DIAL to PUMP SETTINGS
2. Press P four times, or until the display reads CON 1
3. Use + or – to adjust the display contrast
4. Press P to save your desired contrast settings

## **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

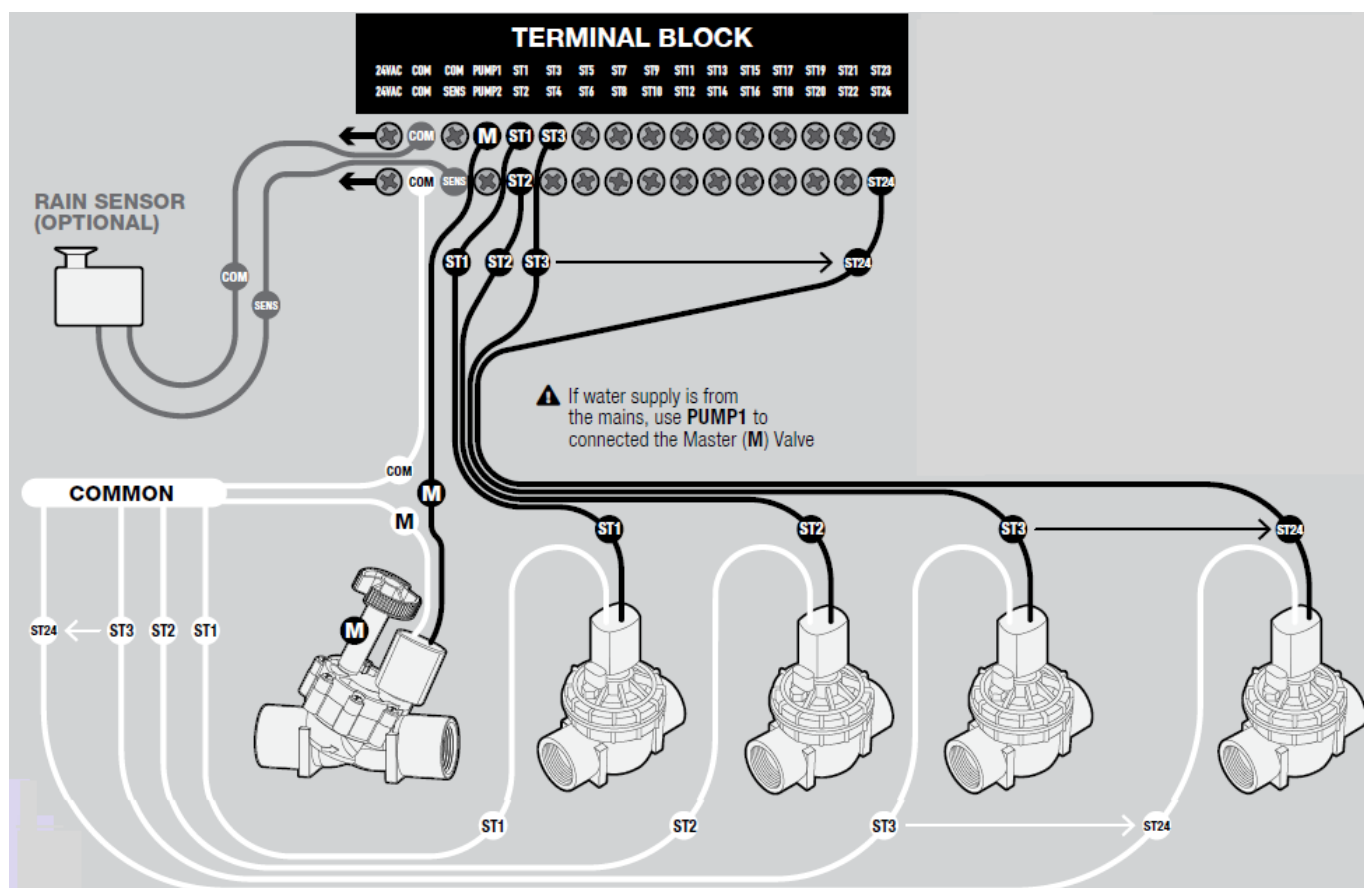


## Field Wiring

- 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
  1. Connect one cable from the terminals to each solenoid valve
  2. 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 L
- Output: Max 1 amp L
- **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 <i>or</i> no mains power <i>or</i> 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 <i>or</i> 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 <i>or</i> bad wiring joint	Check wiring and joints for a short circuit
No automatic start	Incorrect programming <i>or</i> 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 <i>or</i> 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 <u>Customer Service</u>
Pump start chattering	Faulty relay <i>or</i> pump contactor	Electrician to check voltage on relay or contactor
Display cracked or missing segments	Display damaged during transportation	Contact <u>Customer Service</u> for support
Rain Sensor input not working	RAIN SENSOR switch is OFF <i>or</i> 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



## K-Rain® Australia: Supplied and Serviced by Holman Industries


11 Walters Dr, Osborne Park WA 6017

[info@k-rain.com.au](mailto:info@k-rain.com.au)


[www.k-rain.com.au](http://www.k-rain.com.au)

### Initial Setup


#### 1. CLOCK

1. Turn the MAIN DIAL to CLOCK-CALENDAR
2. Use  to scroll between minutes, hours and days
3. Use + or – to adjust






#### 2. CALENDAR

1. Turn the MAIN DIAL to CLOCK-CALENDAR
2. Use  to scroll between YEAR, MONTH and DATE
3. Use + or – to adjust
  - You must have the current time and date set to begin setting your watering, ensuring AM/PM is correct


#### 3. START TIMES



1. Turn the MAIN DIAL to START TIME
  - PROGRAM 1 will be showing by default with the START NO. flashing
  - Press P to cycle through each PROGRAM
  - Use + or – to change the START NO.
  - Each PROGRAM can be assigned up to four START times
2. Use  to scroll between START NO., hours and minutes
  - Use + or – to adjust hours and minutes of each start time

#### 4. WATERING DAYS

1. Turn the MAIN DIAL to WATERING DAYS
  - PROGRAM 1 will show by default with MON flashing
  - Press P to cycle through each PROGRAM
2. Use – to toggle MON OFF, or + to toggle it ON as indicated by 
3. 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 
4. Keep pressing  after SUN to access EVEN, ODD and ODD-31 day patterns, rather than weekly day selection
5. Press  again after ODD-31 to access INTERVAL day watering
6. 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

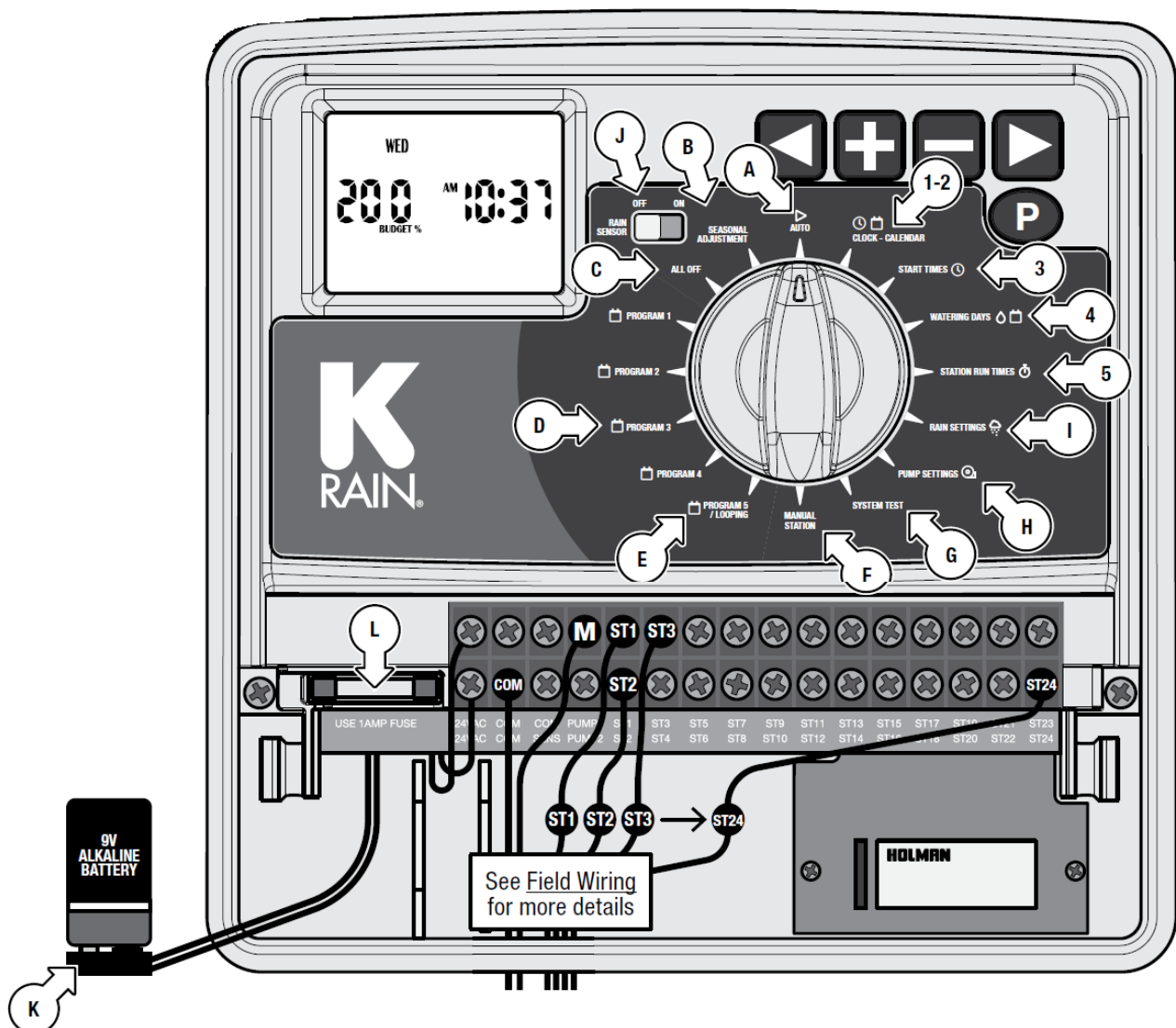
1. Turn the MAIN DIAL to STATION RUN TIMES
  - PROGRAM 1 will be showing by default with STATION 1 flashing
  - Press P to cycle through each PROGRAM
  - Use + or – to cycle through STATIONS 1 to 24
2. Press  to access the RUN TIME minutes, wherein OFF will start flashing

- Use + or – to set the minutes
3. 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
  4. 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

1. Turn the MAIN DIAL back to START TIME
  - PROGRAM 1 will be showing by default with START 1 flashing
2. Press P to cycle through PROGRAMS 2 to 5
  - Use + or – to cycle through STARTS 1 to 4
3. Repeat Steps 3-5 above to set START TIMES, WATERING DAYS and RUN TIMES for each STATION and PROGRAM as desired
4. 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

1. 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
2. Use  or  to scroll through each MONTH
3. 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







1. To run a single program, turn the MAIN DIAL to the desired PROGRAM
  - OFF will begin flashing once a PROGRAM is selected
2. 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
3. Press  to run the PROGRAM instantly
  - The running STATION and RUN TIME will show once the program has started running
4. 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



1. Turn the MAIN DIAL to STATION RUN TIMES
2. Repeatedly press P to access PROGRAM 5 settings
3. Set the RUN TIMES as desired for each STATION (see Step 5 above)
4. After setting the RUN TIMES, press  repeatedly until the display reads LOOP OFF
5. 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
- 6. Use + or – to adjust the number of loops
- 7. Press  and Hrs MIN will flash
- 8. Use + or – to toggle between Hrs MIN or MIN SECS
- 9. Press  to advance to TIME BETWEEN LOOPS
- 10. Use + or – to adjust the MIN or SECS between each loop
- 11. Press  and use + or – to adjust the Hrs or MIN between each loop
- 12. 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
- 13. Press  to save your loop settings and return to PROGRAM 5 controls


## **RUNNING AUTOMATIC LOOPING**

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

## **F MANUAL STATION**

1. 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
2. Use + or – to select the desired STATION
3. Press  to access the RUN TIME minutes, using + or – to adjust accordingly
4. Press  again to access the RUN TIME in hours, using + or – to adjust accordingly
5. 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**





1. Turn the MAIN DIAL to MANUAL STATION
2. Press  to access the RUN TIME minutes, using + or – to adjust accordingly
3. Press P to save the set RUN TIME
  - This is will now be the default RUN TIME for all STATIONS in MANUAL watering

## **G SYSTEM TEST**


1. 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

2. Press  to skip STATIONS during the SYSTEM TEST


## **H PUMP SETTINGS**

1. Turn the MAIN DIAL to PUMP SETTINGS
  - PUMP A will be active on STATION 1 by default
2. Use  or  to scroll STATIONS
3. Use – to deactivate pump when running the selected STATION
4. Use + to activate pump when running the selected STATION
5. Press P to switch from PUMP A to PUMP B and follow the previous steps to set each STATION
6. Press P again to switch to PUMP A on PROGRAM 1
  - This allows for pump activation to be assigned to PROGRAMS rather than STATIONS
7. Use  or  to scroll PROGRAMS
8. Press P to switch to PUMP B on PROGRAM 1

## **I RAIN SETTINGS**

1. To choose which STATIONS observe the rain sensor, turn MAIN DIAL to RAIN SETTINGS
  - STATION 1 will be ON
2. Use  to scroll STATIONS
3. Use + or – to turn the rain sensor OFF or ON for each STATION


## **RAIN SENSOR DELAY**

1. To adjust the time (days) watering can resume after the sensor dries, turn the MAIN DIAL to RAIN SETTINGS
2. Press  for RAIN DELAY
3. Use + or – to set how many days (maximum 9) before watering resumes

## **J RAIN SENSOR**

1. Slide the RAIN SENSOR switch to OFF to ignore any Rain Sensor data
2. 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**

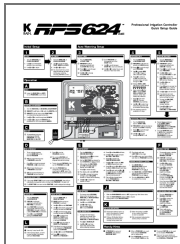
- Use only 1 amp fuse M-205

- If the fuse has blown, or there is none installed, the display will flash FUSE FAULT

## Handy Hints

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

## Documents / Resources



[K-RAIN RPS624 Professional Irrigation Controller](#) [pdf] User Guide  
RPS624, RPS624 Professional Irrigation Controller, Professional Irrigation Controller, Irrigation Controller, Controller

## References

- [🌐 Rain - Maintaining Web Applications Efficiently - Jason Hendry](#)
- [K-Rain Australia - The Landscaper's Choice](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.